

# PDS4 Data Dictionary - Abridged - V.0.5.0.0.g

PDS4 Data Design Working Group

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Generated from the PDS4 Information Model Version 0.5.0.0.g

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### 1. **Introduction**

The Planetary Data System (PDS) PDS4 Data Dictionary defines the organization and components of PDS4 product labels. Components of a product label include classes and their attributes.

### 2. **Audience**

The PDS4 Data Dictionary - Abridged - has been abstracted from the unabridged version with the needs of data providers and data end users in mind. It contains full definitions but not all the fine detail or repetition necessary to support the underlying Information Model.

### 3. **Acknowledgements**

The PDS4 Data Dictionary and the PDS4 Information Model is a joint effort involving representatives from each of the PDS nodes functioning as the PDS4 Data Design Working Group.

### 4. **Scope**

The PDS4 Data Dictionary defines the common and discipline level classes and attributes used to create PDS4 product labels. It also

defines the meta-attributes (i.e. attributes about attributes) used to define attributes. This abridged version includes only one entry for each attribute where the unabridged version includes an entry for each use of an attribute in a class.

## 5. Related Documents

- a. Controlling Documents
  - PDS4 Information Model Specification - The PDS4 Information Model is used as the source for class, attribute, and data type definitions. The model is presented in document format as the PDS4 Information Model Specification.
  - ISO/IEC 11179:3 Registry Metamodel and Basic Attributes Specification, 2003. - The ISO/IEC 11179 specification provides the schema for the PDS4 data dictionary.
- b. Reference Documents
  - Planetary Science Data Dictionary - The online version of the PDS3 data dictionary was used as the source for a few data elements being carried over from the PDS3 data standards.

## 6. Terminology

This document uses very specific engineering terminology to describe the various structures involved. It is particularly important that readers who have absorbed the PDS Standards Reference bear in mind that terms which are familiar in that context can have very different meanings in the present document.

Following are some definitions of essential terms used throughout this document.

- An *attribute* is a property or characteristic that provides a unit of information. For example, 'color' and 'length' are possible attributes.
  - A *class* is a set of attributes (including a name) which defines a family. A class is generic — a template from which individual members of the family may be constructed.
  - A *conceptual object* is an object which is intangible (and, because it is intangible, does not fit into a digital archive). Examples of 'conceptual objects' include the Cassini mission and NASA's strategic plan for solar system exploration. Note that a PDF describing the Cassini mission is a digital object, not a conceptual object (nor a component of a conceptual object).
  - A *data element* is a unit of data for which the definition, identification, representation and *permissible values* are specified by means of a set of attributes. For example, the concept of a *calibration\_lamp\_state\_flag* is used in the PDS archive to indicate whether the lamp used for onboard camera calibration was turned on or off during the capture of an image. The *data element* aspect of this concept is the named attribute (or data element) *calibration\_lamp\_state\_flag*.
  - A *data object* is constructed from a *class*. It is a specific instance of a *class*. A *data object* can be one of three types, digital, conceptual, or physical.
  - A *digital object* is an object which is real data — for example, a binary image of a redwood tree or an ASCII table of atmospheric composition versus altitude.
  - *Formal* as used in the definition of attributes that are names indicates that an established procedure was involved in creating the name.
  - A *unique identifier* is a special type of identifier used to provide a reference number which is unique in a context.
  - *Local* indicates a local scope where scope is an enclosing context where values and expressions are associated.
  - *Logical* as used in the definition of logical identifier indicates that the identifier logically groups a set of objects.
  - A *physical object* is an object which is physical or tangible (and, therefore, does not itself fit into a digital archive). Examples of 'physical objects' include the planet Saturn and the Venus Express magnetometer. Note that an ASCII file describing Saturn is a digital object, not a physical object (nor a component of a physical object).
  - A *resource* is the target (referent) of any Uniform Resource Identifier; the thing to which a URI points.
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## 7. PDS4 Class Definitions - Fri Oct 28 10:17:55 PDT 2011

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### • Collection\_Volume\_PDS3

description: **A Collection Volume PDS3 product captures the PDS3 volume information.**

role: **Concrete**

#### • Data\_Standards Occurs 1 Times

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: *value*

attribute: **std\_ref\_version\_id** value: *value*

#### • End Data\_Standards

#### • Identification\_Area\_Product Occurs 1 Times

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: **value**  
attribute: **product\_class** value: **value**  
attribute: **title** value: **value**  
attribute: **alternate\_title** value: **value** Optional  
attribute: **alternate\_id** value: **value** Optional  
attribute: **last\_modification\_date\_time** value: **value** Optional  
attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional  
attribute: **instrument\_name** value: **value** Optional  
attribute: **instrument\_host\_name** value: **value** Optional  
attribute: **keywords** value: **value** Optional  
attribute: **full\_name** value: **value** Optional  
attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **alternate\_designation** value: **value** Optional  
attribute: **lid\_reference** value: **value** Optional  
attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional  
attribute: **lidvid\_reference** value: **value** Optional  
attribute: **reference\_association\_type** value: **has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target**

- **End Reference\_Entry\_Context**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **doi** value: **value** Optional  
attribute: **reference\_text** value: **value** Optional  
attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- End Cross\_Reference\_Area\_Context

- **Volume\_PDS3 Occurs 1 Times**

description: **The Volume\_PDS3 class is used to capture the volume information from the PDS3 Data Set Catalog.**

role: **Concrete**

attribute: **archive\_status** value: **ARCHIVED, ARCHIVED\_ACCUMULATING, IN\_LIEN\_RESOLUTION, IN\_LIEN\_RESOLUTION\_ACCUMULATING, IN\_PEER\_REVIEW, IN\_PEER\_REVIEW\_ACCUMULATING, IN\_QUEUE, IN\_QUEUE\_ACCUMULATING, LOCALLY\_ARCHIVED, LOCALLY\_ARCHIVED\_ACCUMULATING, PRE\_PEER\_REVIEW, PRE\_PEER\_REVIEW\_ACCUMULATING, SAFED, SUPERSEDED**

attribute: **description** value: **value** Optional

attribute: **archive\_status\_note** value: **value**

attribute: **curating\_node\_id** value: **value** Optional

attribute: **medium\_type** value: **value**

attribute: **publication\_date** value: **value**

attribute: **volume\_de\_fullname** value: **value**

attribute: **volume\_format** value: **value**

attribute: **volume\_id** value: **value**

attribute: **volume\_name** value: **value**

attribute: **volume\_set\_id** value: **value**

attribute: **volume\_size** value: **value**

attribute: **volume\_version\_id** value: **value**

- End Volume\_PDS3
  - End Collection\_Volume\_PDS3
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- **Collection\_Volume\_Set\_PDS3**

description: **A Collection Volume Set PDS3 product captures the PDS3 volume set information.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional

attribute: **last\_modification\_date\_time** value: **value** Optional

attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional

attribute: **instrument\_name** value: **value** Optional

attribute: **instrument\_host\_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: **value** Optional

attribute: **investigation\_name** value: **value** Optional

attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** Optional

attribute: **lid\_reference** value: **value** Optional

attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target**

- **End Reference\_Entry\_Context**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area\_Context**

- **Volume\_Set\_PDS3 Occurs 1 Times**

description: **The Volume\_Set\_PDS3 class is used to capture the volume set information from the PDS3 Data Set Catalog.**

role: **Concrete**

attribute: **description** value: **value** Optional

attribute: **volume\_series\_name** value: **value**

attribute: **volume\_set\_id** value: **value**

attribute: **volume\_set\_name** value: **value**

attribute: **volumes** value: **value**

- **End Volume\_Set\_PDS3**

- **End Collection\_Volume\_Set\_PDS3**

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- **Delivery\_Manifest**

description: **The Delivery\_Manifest class defines a two column table for file references. The table structure is compatible with the output from an MD5 checksum utility.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **2**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**  
attribute: **reference\_association\_type** value: **has\_member** Optional

- **Table\_Record\_Manifest Occurs 1 Times**

description: **The Table Record Manifest class defines the record for an MD5 checksum manifest table.**  
role: **Concrete**

- **Table\_Field\_Checksum Occurs 1 Times**

description: **The Table Field Checksum class defines a table field that provides a file checksum.**  
role: **Concrete**

attribute: **name** value: **MD5\_checksum**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_MD5\_Checksum**  
attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional

- **End Table\_Field\_Checksum**

- **Table\_Field\_File\_Specification\_Name Occurs 1 Times**

description: **The Table\_Field\_File\_Specification\_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**  
role: **Concrete**

attribute: **name** value: **file\_specification\_name**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **2** Optional  
attribute: **data\_type** value: **ASCII\_File\_Specification\_Name**  
attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional

- **End Table\_Field\_File\_Specification\_Name**

- **End Table\_Record\_Manifest**

- **End Delivery\_Manifest**

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- **Detector**

description: **The Detector class provides a description of a physical object that collects data.**  
role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value**

- **End Detector**

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- **Header**

description: **The Header class describes a data object header.**  
role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **bytes** value: **value**  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF,**

## VICAR

attribute: **offset** value: *value*

- End Header

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- **Header\_Binary**

description: **The Header Binary class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **name** value: *value* <sup>Optional</sup>

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **bytes** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **external\_standard\_id** value: **FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR**

attribute: **offset** value: *value*

- End Header\_Binary

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- **Local\_DD**

description: **The Local\_DD class provides a form for collecting class and attribute definitions for a data dictionary.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **full\_name** value: *value*

attribute: **last\_modification\_date\_time** value: *value*

attribute: **pds4\_merge\_flag** value: **F, T**

- **DD\_Attribute - Occurs 1 to \* Times**

description: **The DD\_Attribute class defines an attribute for a data dictionary.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **version\_id** value: *value*

attribute: **name** value: *value*

attribute: **steward\_id** value: **atm, geo, img, naif, ops, pds, ppi, rings, rs, sbn** <sup>Optional</sup>

attribute: **name\_space\_id** value: *value* <sup>Optional</sup>

attribute: **submitter\_id** value: *value* <sup>Optional</sup>

attribute: **definition** value: *value*

- **Terminological\_Entry - Occurs 0 to \* Times**

description: **The terminological\_entry class provides the name (designation) and definition of the attribute in a specified natural language.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **definition** value: *value*

attribute: **language** value: **English**

attribute: **preferred\_flag** value: *value*

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* <sup>Optional</sup>

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **doi** value: *value* <sup>Optional</sup>

attribute: **reference\_text** value: *value* <sup>Optional</sup>

attribute: **url** value: *value* <sup>Optional</sup>

- End Bibliographic\_Reference

- End Terminological\_Entry

- **DD\_Value\_Domain - Occurs 0 to 1 Times**

description: The DD\_Value\_Domain class defines the value domain for a data dictionary attribute.

role: **Concrete**

attribute: **enumeration\_flag** value: F, T

attribute: **specified\_unit\_id** value: *value* <sup>Optional</sup>

attribute: **value\_data\_type** value: ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID

attribute: **formation\_rule** value: *value* <sup>Optional</sup>

attribute: **minimum\_characters** value: *value* <sup>Optional</sup>

attribute: **maximum\_characters** value: *value* <sup>Optional</sup>

attribute: **minimum\_value** value: *value* <sup>Optional</sup>

attribute: **maximum\_value** value: *value* <sup>Optional</sup>

attribute: **pattern** value: *value* <sup>Optional</sup>

attribute: **unit\_of\_measure\_type** value: UnitOfMeasure\_AmountOfSubstance, UnitOfMeasure\_Angle, UnitOfMeasure\_AngularVelocity, UnitOfMeasure\_Area, UnitOfMeasure\_Frequency, UnitOfMeasure\_Length, UnitOfMeasure\_MapScale, UnitOfMeasure\_Mass, UnitOfMeasure\_Misc, UnitOfMeasure\_None, UnitOfMeasure\_OpticalPathLength, UnitOfMeasure\_Pressure, UnitOfMeasure\_Radiance, UnitOfMeasure\_Rates, UnitOfMeasure\_SolidAngle, UnitOfMeasure\_Storage, UnitOfMeasure\_Temperature, UnitOfMeasure\_Time, UnitOfMeasure\_Velocity, UnitOfMeasure\_Voltage, UnitOfMeasure\_Volume <sup>Optional</sup>

- **DD\_Permissible\_Value - Occurs 0 to \* Times**

description: The DD\_Permissible\_Value class lists permissible values and their meanings.

role: **Concrete**

attribute: **value** value: *value*

attribute: **value\_meaning** value: *value* <sup>Optional</sup>

attribute: **value\_begin\_date** value: *value*

attribute: **value\_end\_date** value: *value*

- End DD\_Permissible\_Value

- End DD\_Value\_Domain

- End DD\_Attribute

- **DD\_Class - Occurs 0 to \* Times**

description: The DD\_Class class defines a user class, a collection of attributes in a data dictionary.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **version\_id** value: *value* <sup>Optional</sup>

attribute: **name** value: *value*

attribute: **steward\_id** value: atm, geo, img, naif, ops, pds, ppi, rings, rs, sbn <sup>Optional</sup>

attribute: **name\_space\_id** value: *value* <sup>Optional</sup>

attribute: **definition** value: *value* <sup>Optional</sup>

- **DD\_Association - Occurs 0 to \* Times**

description: The DD\_Association class defines the association between two classes or a class and an attribute in a data dictionary.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **constant\_value** value: *value* <sup>Optional</sup>

attribute: **maximum\_occurrences** value: *value*

attribute: **minimum\_occurrences** value: *value*

attribute: **reference\_association\_type** value: attribute\_of, subclass\_of

- End DD\_Association

- **DD\_Association - Occurs 0 to \* Times**

description: The DD\_Association class defines the association between two classes or a class and an attribute in a data dictionary.

role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **constant\_value** value: *value* Optional  
attribute: **maximum\_occurrences** value: *value*  
attribute: **minimum\_occurrences** value: *value*  
attribute: **reference\_association\_type** value: *attribute\_of, subclass\_of*

- End DD\_Association
- **Terminological\_Entry - Occurs 0 to \* Times**

description: **The terminological\_entry class provides the name (designation) and definition of the attribute in a specified natural language.**

role: **Concrete**  
attribute: **name** value: *value*  
attribute: **definition** value: *value*  
attribute: **language** value: **English**  
attribute: **preferred\_flag** value: *value*

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **doi** value: *value* Optional  
attribute: **reference\_text** value: *value* Optional  
attribute: **url** value: *value* Optional

- End Bibliographic\_Reference
  - End Terminological\_Entry
  - End DD\_Class
  - End Local\_DD
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- **Product\_Archive\_Bundle**

description: **A product archive bundle is a product that references primary collections.**  
role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**  
role: **Concrete**  
attribute: **dd\_version\_id** value: *value*  
attribute: **std\_ref\_version\_id** value: *value*

- End Data\_Standards

- **Identification\_Area\_Bundle Occurs 1 Times**

description: **The bundle identification area consists of attributes that identify and name a bundle.**

role: **Concrete**  
attribute: **logical\_identifier** value: *value*  
attribute: **version\_id** value: *value*  
attribute: **product\_class** value: *value*  
attribute: **title** value: *value*  
attribute: **alternate\_title** value: *value* Optional  
attribute: **alternate\_id** value: *value* Optional  
attribute: **last\_modification\_date\_time** value: *value* Optional  
attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**  
role: **Concrete**

attribute: **target\_name** value: **value** <sup>Optional</sup>  
attribute: **instrument\_name** value: **value** <sup>Optional</sup>  
attribute: **instrument\_host\_name** value: **value** <sup>Optional</sup>  
attribute: **keywords** value: **value** <sup>Optional</sup>  
attribute: **full\_name** value: **value** <sup>Optional</sup>  
attribute: **investigation\_name** value: **value** <sup>Optional</sup>  
attribute: **observing\_system\_name** value: **value** <sup>Optional</sup>

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **name** value: **value**  
attribute: **alternate\_designation** value: **value** <sup>Optional</sup>  
attribute: **lid\_reference** value: **value** <sup>Optional</sup>  
attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Bundle**

- **Cross\_Reference\_Area\_Bundle - Occurs 0 to 1 Times**

description: **The bundle cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry - Occurs 0 to \* Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>  
attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>  
attribute: **reference\_association\_type** value: **has\_association, member\_of**

- **End Reference\_Entry**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** <sup>Optional</sup>  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **doi** value: **value** <sup>Optional</sup>  
attribute: **reference\_text** value: **value** <sup>Optional</sup>  
attribute: **url** value: **value** <sup>Optional</sup>

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area\_Bundle**

- **File\_Area\_Text - Occurs 0 to 3 Times**

description: **The File Area Text class describes a file that contains a text stream object.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** <sup>Optional</sup>  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **creation\_date\_time** value: **value** <sup>Optional</sup>  
attribute: **file\_name** value: **value**

attribute: **file\_size** value: **value** Optional  
attribute: **maximum\_record\_bytes** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **records** value: **value** Optional

- End File

- **Stream\_Text Occurs 1 Times**

description: **The Stream text class defines a text file.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **value**  
attribute: **offset** value: **value**

- End Stream\_Text
- End File\_Area\_Text

- **Archive\_Bundle Occurs 1 Times**

description: **The archive bundle class describes a collection of products.**  
role: **Concrete**  
attribute: **start\_date\_time** value: **value**  
attribute: **stop\_date\_time** value: **value**  
attribute: **description** value: **value**

- **Citation Occurs 1 Times**

description: **The Citation class provides text to be used for quoting an artifact as an authoritative source.**  
role: **Concrete**  
attribute: **citation\_text** value: **value**  
attribute: **author\_list** value: **value**

- End Citation
- End Archive\_Bundle

- **Bundle\_Member\_Entry - Occurs 1 to \* Times**

description: **The Bundle Member Entry class provides a member reference to a collection.**  
role: **Concrete**  
attribute: **file\_specification\_name** value: **value**  
attribute: **lid\_reference** value: **value** Optional  
attribute: **lidvid\_reference** value: **value** Optional  
attribute: **reference\_association\_type** value: **has\_browse\_collection, has\_calibration\_collection, has\_context\_collection, has\_data\_collection, has\_document\_collection, has\_geometry\_collection, has\_member\_collection, has\_miscellaneous\_collection, has\_spice\_collection, has\_xml\_schema\_collection**

- End Bundle\_Member\_Entry
  - End Product\_Archive\_Bundle
- 

- **Product\_Array\_2D\_Image**

description: **The Product Array 2D Image class defines a product consisting of at least one Array 2D Image and other associated data objects and metadata.**  
role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**  
role: **Concrete**  
attribute: **dd\_version\_id** value: **value**  
attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate\_title** value: *value* Optional

attribute: **alternate\_id** value: *value* Optional

attribute: **last\_modification\_date\_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional

attribute: **instrument\_name** value: *value* Optional

attribute: **instrument\_host\_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full\_name** value: *value* Optional

attribute: **investigation\_name** value: *value* Optional

attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **alternate\_designation** value: *value* Optional

attribute: **lid\_reference** value: *value* Optional

attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference\_text** value: *value* Optional

attribute: **url** value: *value* Optional

- **End Bibliographic\_Reference**

- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: *value* Optional

attribute: **name** value: *value* Optional

attribute: **description** value: *value*

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **name** value: *value*

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: *value* <sup>Optional</sup>

attribute: **lidvid\_reference** value: *value* <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: *value* <sup>Optional</sup>

attribute: **lidvid\_reference** value: *value* <sup>Optional</sup>

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- **End Reference\_Entry\_Product**

- **End Cross\_Reference\_Area\_Product**

- **Observation\_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission\_Area - Occurs 0 to \* Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission\_Area**

- **Node\_Area - Occurs 0 to \* Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node\_Area**

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **start\_date\_time** value: *value*

attribute: **stop\_date\_time** value: *value*

attribute: **local\_mean\_solar\_time** value: *value* <sup>Optional</sup>

attribute: **local\_true\_solar\_time** value: *value* <sup>Optional</sup>

attribute: **mission\_phase\_name** value: *value* <sup>Optional</sup>  
attribute: **orbit\_number** value: *value* <sup>Optional</sup>  
attribute: **planet\_day\_number** value: *value* <sup>Optional</sup>  
attribute: **solar\_longitude** value: *value* <sup>Optional</sup>  
attribute: **spacecraft\_clock\_count\_partition** value: *value* <sup>Optional</sup>  
attribute: **spacecraft\_clock\_start\_count** value: *value* <sup>Optional</sup>  
attribute: **spacecraft\_clock\_stop\_count** value: *value* <sup>Optional</sup>

- **Geometry - Occurs 0 to \* Times**

description: **The Geometry class groups objects associated with geometry information.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*

- **Vector - Occurs 0 to \* Times**

description: **The Vector class provides the components of either a velocity or position vector.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **name** value: *value*  
attribute: **description** value: *value*  
attribute: **type** value: **POSITION, VELOCITY**  
attribute: **vector\_components** value: *value*

- **Vector\_Component - Occurs 1 to \* Times**

description: **The Vector\_Component class provides a component of a vector.**  
role: **Concrete**  
attribute: **name** value: *value* <sup>Optional</sup>  
attribute: **description** value: *value* <sup>Optional</sup>  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>  
attribute: **value** value: *value*

- **End Vector\_Component**

- **End Vector**

- **End Geometry**

- **End Observation\_Area**

- **File\_Area\_Observational - Occurs 1 to \* Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged\_data\_objects contained within the file.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value* <sup>Optional</sup>  
attribute: **comment** value: *value* <sup>Optional</sup>  
attribute: **creation\_date\_time** value: *value* <sup>Optional</sup>  
attribute: **file\_name** value: *value*  
attribute: **file\_size** value: *value* <sup>Optional</sup>  
attribute: **maximum\_record\_bytes** value: *value* <sup>Optional</sup>  
attribute: **md5\_checksum** value: *value* <sup>Optional</sup>  
attribute: **records** value: *value* <sup>Optional</sup>

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: 2  
attribute: **axis\_index\_order** value: FIRST\_INDEX\_FASTEST  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: BINARY  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 2 Times**

description: The **Array Axis** class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: The **Axis\_Display** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The **Band\_Bin\_Set** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: The **Image\_2D\_Display** class provides attributes to enable the display of a 2D image.

role: **Concrete**

attribute: **first\_line** value: *value* <sup>Optional</sup>

attribute: **first\_line\_sample** value: *value* <sup>Optional</sup>

attribute: **line\_display\_direction** value: DOWN, LEFT, RIGHT, UP

attribute: **sample\_display\_direction** value: DOWN, LEFT, RIGHT, UP

- **End Image\_2D\_Display**

- **Array\_Element Occurs 1 Times**

description: The **Array Element** class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Image**

- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Array\_2D\_Map**

- **Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Spectrum class is an extension of array\_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Spectrum**

- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Image class is an extension of array\_base and defines a three dimensional image.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_3D\_Image

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* <sup>Optional</sup>

attribute: **invalid\_constant** value: *value* <sup>Optional</sup>

attribute: **missing\_constant** value: *value* <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: *value* <sup>Optional</sup>

attribute: **saturated\_constant** value: *value* <sup>Optional</sup>

attribute: **unknown\_constant** value: *value* <sup>Optional</sup>

- End Special\_Constants

- End Array\_3D\_Movie

- **Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Spectrum class is an extension of array\_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**  
attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_3D\_Spectrum

- **Delimited\_Table - Occurs 0 to \* Times**

description: **The Delimited\_Table class defines a simple table (spreadsheet) with delimited fields and records.**

role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x2C, 0x3B, 0x7C**  
attribute: **fields** value: **value**  
attribute: **maximum\_record\_length** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: **value**

- **Delimited\_Record Occurs 1 Times**

description: **The Delimited Record class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.**

role: **Concrete**

- **Delimited\_Field - Occurs 1 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**  
attribute: **name** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **maximum** value: **value** <sup>Optional</sup>  
attribute: **mean** value: **value** <sup>Optional</sup>  
attribute: **median** value: **value** <sup>Optional</sup>  
attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>  
attribute: **invalid\_constant** value: **value** <sup>Optional</sup>  
attribute: **missing\_constant** value: **value** <sup>Optional</sup>  
attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>  
attribute: **saturated\_constant** value: **value** <sup>Optional</sup>  
attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Record**

- **End Delimited\_Table**

- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: **The Delimited\_Table\_Grouped class defines a simple table (spreadsheet) that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**  
attribute: **fields** value: **value**  
attribute: **maximum\_record\_length** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: **value**

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: **The Delimited Record Grouped class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.**

role: **Concrete**

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Grouped Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** <sup>Optional</sup>

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: The **Delimited Field Sequence** class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Delimited\_Field - Occurs 0 to \* Times**

description: The **Delimited Field** class is a component of the delimited table (spreadsheet) record class and defines a field of the record.

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: The **Field Statistics** class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: The **Special Constants** class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Field\_Sequence**

- **End Delimited\_Grouped\_Sequence**

- **End Delimited\_Record\_Grouped**

- **End Delimited\_Table\_Grouped**

- **Header - Occurs 0 to \* Times**

description: The **Header** class describes a data object header.

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR  
attribute: **offset** value: *value*

- End Header

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: BINARY  
attribute: **external\_standard\_id** value: FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR  
attribute: **offset** value: *value*

- End Header\_Binary

- **Parsable\_Byte\_Stream - Occurs 0 to \* Times**

description: **The Parsable Byte Stream class defines byte streams that have standard parsing rules. The Parsable Byte Stream class is the parent class for all parsable byte streams.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Parsable\_Byte\_Stream

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Stream\_Text

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: BINARY  
attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**  
role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: **value**

attribute: **sampling\_parameter\_interval** value: **value**

attribute: **sampling\_parameter\_name** value: *value*  
attribute: **sampling\_parameter\_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional  
attribute: **sampling\_parameter\_unit** value: *value*

- End Uniformly\_Sampled
- End Table\_Binary
- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**  
role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: *value* Optional

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**  
role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: *value*  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: *value* Optional  
attribute: **data\_type** value: **Bit**  
attribute: **field\_location** value: *value*  
attribute: **field\_length** value: *value*  
attribute: **field\_format** value: *value* Optional  
attribute: **minimum\_scaled\_value** value: *value* Optional  
attribute: **maximum\_scaled\_value** value: *value* Optional  
attribute: **bit\_mask** value: *value* Optional  
attribute: **bits** value: *value*  
attribute: **scaling\_factor** value: *value* Optional  
attribute: **start\_bit** value: *value*  
attribute: **value\_offset** value: *value* Optional  
attribute: **unit** value: *value* Optional

- End Table\_Binary\_Grouped\_Bit\_Field
- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**  
 attribute: **name** value: **value**  
 attribute: **description** value: **value** Optional  
 attribute: **field\_number** value: **value** Optional  
 attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**  
 attribute: **field\_location** value: **value**  
 attribute: **field\_length** value: **value**  
 attribute: **field\_format** value: **value** Optional  
 attribute: **minimum\_scaled\_value** value: **value** Optional  
 attribute: **maximum\_scaled\_value** value: **value** Optional  
 attribute: **scaling\_factor** value: **value** Optional  
 attribute: **value\_offset** value: **value** Optional  
 attribute: **unit** value: **value** Optional

- End Table\_Binary\_Grouped\_Field
- End Table\_Binary\_Field\_Sequence
- End Table\_Binary\_Grouped\_Sequence
- End Table\_Record\_Binary\_Grouped
- End Table\_Binary\_Grouped
- **Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**

role: **Concrete**  
 attribute: **local\_identifier** value: **value**  
 attribute: **comment** value: **value** Optional  
 attribute: **encoding\_type** value: **CHARACTER**  
 attribute: **fields** value: **value**  
 attribute: **offset** value: **value**  
 attribute: **record\_length** value: **value**  
 attribute: **records** value: **value**

- **Table\_Record\_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**

role: **Concrete**

- **Table\_Character\_Field - Occurs 1 to \* Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**  
 attribute: **name** value: **value**  
 attribute: **description** value: **value** Optional  
 attribute: **field\_number** value: **value** Optional  
 attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
 attribute: **field\_location** value: **value**  
 attribute: **field\_length** value: **value**  
 attribute: **field\_format** value: **value** Optional  
 attribute: **minimum\_scaled\_value** value: **value** Optional  
 attribute: **maximum\_scaled\_value** value: **value** Optional  
 attribute: **scaling\_factor** value: **value** Optional  
 attribute: **value\_offset** value: **value** Optional  
 attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Character\_Field**

- **End Table\_Record\_Character**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: **value**

attribute: **sampling\_parameter\_interval** value: **value**

attribute: **sampling\_parameter\_name** value: **value**

attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional

attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- **End Table\_Character**

- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**

role: **Concrete**

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**  
attribute: **repetitions** value: **value** Optional

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**  
role: **Concrete**

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Table\_Character\_Grouped\_Field**

- **End Table\_Character\_Field\_Sequence**

- **End Table\_Character\_Grouped\_Sequence**

- **End Table\_Record\_Character\_Grouped**

- **End Table\_Character\_Grouped**

- **End File\_Area\_Observational**

- **End Product\_Array\_2D\_Image**

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- **Product\_Array\_3D\_Image**

description: **The Product Array 3D Image class defines a product consisting of at least one Array 3D image and other associated data objects and metadata.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional  
attribute: **last\_modification\_date\_time** value: **value** Optional  
attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional  
attribute: **instrument\_name** value: **value** Optional  
attribute: **instrument\_host\_name** value: **value** Optional  
attribute: **keywords** value: **value** Optional  
attribute: **full\_name** value: **value** Optional  
attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **alternate\_designation** value: **value** Optional  
attribute: **lid\_reference** value: **value** Optional  
attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**  
role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **doi** value: **value** Optional  
attribute: **reference\_text** value: **value** Optional  
attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- **End Reference\_Entry\_Product**

- **End Cross\_Reference\_Area\_Product**

- **Observation\_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission\_Area - Occurs 0 to \* Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission\_Area**

- **Node\_Area - Occurs 0 to \* Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node\_Area**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **start\_date\_time** value: **value**

attribute: **stop\_date\_time** value: **value**

attribute: **local\_mean\_solar\_time** value: **value** <sup>Optional</sup>

attribute: **local\_true\_solar\_time** value: **value** <sup>Optional</sup>

attribute: **mission\_phase\_name** value: **value** <sup>Optional</sup>

attribute: **orbit\_number** value: **value** <sup>Optional</sup>

attribute: **planet\_day\_number** value: **value** <sup>Optional</sup>

attribute: **solar\_longitude** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_count\_partition** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_start\_count** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_stop\_count** value: **value** <sup>Optional</sup>

- **Geometry - Occurs 0 to \* Times**

description: **The Geometry class groups objects associated with geometry information.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**

- **Vector - Occurs 0 to \* Times**

description: **The Vector class provides the components of either a velocity or position vector.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **name** value: **value**  
attribute: **description** value: **value**  
attribute: **type** value: **POSITION, VELOCITY**  
attribute: **vector\_components** value: **value**

- **Vector\_Component - Occurs 1 to \* Times**

description: **The Vector\_Component class provides a component of a vector.**  
role: **Concrete**  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional  
attribute: **value** value: **value**

- **End Vector\_Component**

- **End Vector**

- **End Geometry**

- **End Observation\_Area**

- **File\_Area\_Observational - Occurs 1 to \* Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged\_data\_objects contained within the file.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value** Optional  
attribute: **comment** value: **value** Optional  
attribute: **creation\_date\_time** value: **value** Optional  
attribute: **file\_name** value: **value**  
attribute: **file\_size** value: **value** Optional  
attribute: **maximum\_record\_bytes** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **records** value: **value** Optional

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: **The Image\_2D\_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**

attribute: **first\_line** value: *value* <sup>Optional</sup>

attribute: **first\_line\_sample** value: *value* <sup>Optional</sup>

attribute: **line\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image\_2D\_Display**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Image**

- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble,**

IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- End Special\_Constants

- End Array\_2D\_Map

- **Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Spectrum class is an extension of array\_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* <sup>Optional</sup>

attribute: **invalid\_constant** value: *value* Optional  
attribute: **missing\_constant** value: *value* Optional  
attribute: **not\_applicable\_constant** value: *value* Optional  
attribute: **saturated\_constant** value: *value* Optional  
attribute: **unknown\_constant** value: *value* Optional

- **End Special\_Constants**
- **End Array\_2D\_Spectrum**
- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Image class is an extension of array\_base and defines a three dimensional image.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **axes** value: **3**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**  
attribute: **scaling\_factor** value: *value* Optional  
attribute: **value\_offset** value: *value* Optional  
attribute: **unit** value: *value* Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_3D\_Image**

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The **Band\_Bin\_Set** class is a placeholder for a soon forthcoming Imaging class.  
role: **Concrete**

- End Band\_Bin\_Set

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: The **Array Element** class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The **Object Statistics** class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: The **Special Constants** class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- **End Array\_3D\_Movie**

- **Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: The **Array 3D Spectrum** class is an extension of **array\_base** and defines a three dimensional

## spectrum.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: 3

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_3D\_Spectrum

- **Delimited\_Table - Occurs 0 to \* Times**

description: **The Delimited\_Table class defines a simple table (spreadsheet) with delimited fields and records.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x2C, 0x3B, 0x7C**  
attribute: **fields** value: **value**  
attribute: **maximum\_record\_length** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: **value**

- **Delimited\_Record Occurs 1 Times**

description: **The Delimited Record class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.**

role: **Concrete**

- **Delimited\_Field - Occurs 1 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Record**

- **End Delimited\_Table**

- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: **The Delimited\_Table\_Grouped class defines a simple table (spreadsheet) that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **CSV, OTHER**

attribute: **field\_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**

attribute: **fields** value: **value**

attribute: **maximum\_record\_length** value: **value**

attribute: **offset** value: **value**

attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**

attribute: **records** value: **value**

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: **The Delimited Record Grouped class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.**

role: **Concrete**

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Grouped Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Field Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Delimited\_Field - Occurs 0 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Field\_Sequence**

- **End Delimited\_Grouped\_Sequence**

- **End Delimited\_Record\_Grouped**

- **End Delimited\_Table\_Grouped**

- **Header - Occurs 0 to \* Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **bytes** value: **value**

attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR  
attribute: **offset** value: *value*

- End Header

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: BINARY  
attribute: **external\_standard\_id** value: FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR  
attribute: **offset** value: *value*

- End Header\_Binary

- **Parsable\_Byte\_Stream - Occurs 0 to \* Times**

description: **The Parsable Byte Stream class defines byte streams that have standard parsing rules. The Parsable Byte Stream class is the parent class for all parsable byte streams.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Parsable\_Byte\_Stream

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Stream\_Text

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: BINARY  
attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**  
role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: **value**

attribute: **sampling\_parameter\_interval** value: **value**

attribute: **sampling\_parameter\_name** value: **value**

attribute: **sampling\_parameter\_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional

attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- End Table\_Binary

- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **encoding\_type** value: **BINARY**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**

role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** <sup>Optional</sup>

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **field\_number** value: **value** <sup>Optional</sup>

attribute: **data\_type** value: **Bit**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** <sup>Optional</sup>

attribute: **minimum\_scaled\_value** value: **value** <sup>Optional</sup>

attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>

attribute: **bit\_mask** value: **value** <sup>Optional</sup>

attribute: **bits** value: **value**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **start\_bit** value: **value**

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- End Table\_Binary\_Grouped\_Bit\_Field

- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **field\_number** value: **value** <sup>Optional</sup>

attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16,**

ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- End Table\_Binary\_Grouped\_Field
- End Table\_Binary\_Field\_Sequence
- End Table\_Binary\_Grouped\_Sequence
- End Table\_Record\_Binary\_Grouped
- End Table\_Binary\_Grouped
- Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base

description: The Table Character class is an extension of table base and defines a simple character table.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

- Table\_Record\_Character Occurs 1 Times

description: The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.

role: **Concrete**

- Table\_Character\_Field - Occurs 1 to \* Times

description: The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- Field\_Statistics - Occurs 0 to 1 Times

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- End Field\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Table\_Character\_Field

- End Table\_Record\_Character

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**  
attribute: **last\_sampling\_parameter\_value** value: **value**  
attribute: **sampling\_parameter\_interval** value: **value**  
attribute: **sampling\_parameter\_name** value: **value**  
attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional  
attribute: **sampling\_parameter\_unit** value: **value**

- End Uniformly\_Sampled

- End Table\_Character

- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**

role: **Concrete**

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**  
role: **Concrete**

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Table\_Character\_Grouped\_Field**

- **End Table\_Character\_Field\_Sequence**

- **End Table\_Character\_Grouped\_Sequence**

- **End Table\_Record\_Character\_Grouped**

- **End Table\_Character\_Grouped**

- **End File\_Area\_Observational**

- **End Product\_Array\_3D\_Image**

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- **Product\_Array\_3D\_Movie**

description: **The Product Array 3D Movie defines a product consisting of at least one array 3D movie and other associated data objects and metadata.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional

attribute: **last\_modification\_date\_time** value: **value** Optional

attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional

attribute: **instrument\_name** value: **value** Optional

attribute: **instrument\_host\_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: **value** Optional

attribute: **investigation\_name** value: **value** Optional

attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** Optional

attribute: **lid\_reference** value: **value** Optional

attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- **End Reference\_Entry\_Product**

- **End Cross\_Reference\_Area\_Product**

- **Observation\_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission\_Area - Occurs 0 to \* Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission\_Area**

- **Node\_Area - Occurs 0 to \* Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node\_Area**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **start\_date\_time** value: **value**

attribute: **stop\_date\_time** value: **value**

attribute: **local\_mean\_solar\_time** value: **value** <sup>Optional</sup>

attribute: **local\_true\_solar\_time** value: **value** <sup>Optional</sup>

attribute: **mission\_phase\_name** value: **value** <sup>Optional</sup>

attribute: **orbit\_number** value: **value** <sup>Optional</sup>

attribute: **planet\_day\_number** value: **value** <sup>Optional</sup>

attribute: **solar\_longitude** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_count\_partition** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_start\_count** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_stop\_count** value: **value** <sup>Optional</sup>

- **Geometry - Occurs 0 to \* Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

- **Vector - Occurs 0 to \* Times**

description: **The Vector class provides the components of either a velocity or position vector.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **name** value: **value**  
attribute: **description** value: **value**  
attribute: **type** value: **POSITION, VELOCITY**  
attribute: **vector\_components** value: **value**

- **Vector\_Component - Occurs 1 to \* Times**

description: **The Vector\_Component class provides a component of a vector.**  
role: **Concrete**  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional  
attribute: **value** value: **value**

- **End Vector\_Component**

- **End Vector**

- **End Geometry**

- **End Observation\_Area**

- **File\_Area\_Observational - Occurs 1 to \* Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged\_data\_objects contained within the file.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value** Optional  
attribute: **comment** value: **value** Optional  
attribute: **creation\_date\_time** value: **value** Optional  
attribute: **file\_name** value: **value**  
attribute: **file\_size** value: **value** Optional  
attribute: **maximum\_record\_bytes** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **records** value: **value** Optional

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**  
role: **Concrete**  
attribute: **axis\_name** value: **value**

attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: **The Image\_2D\_Display class provides attributes to enable the display of a 2D image.**  
role: **Concrete**

attribute: **first\_line** value: *value* <sup>Optional</sup>

attribute: **first\_line\_sample** value: *value* <sup>Optional</sup>

attribute: **line\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

- End Image\_2D\_Display

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>  
attribute: **invalid\_constant** value: **value** <sup>Optional</sup>  
attribute: **missing\_constant** value: **value** <sup>Optional</sup>  
attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>  
attribute: **saturated\_constant** value: **value** <sup>Optional</sup>  
attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Array\_2D\_Image**

- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8,**

### UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- End Array\_Element

### • Cartography - Occurs 0 to 1 Times

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

### • Object\_Statistics - Occurs 0 to 1 Times

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

### • Special\_Constants - Occurs 0 to 1 Times

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_2D\_Map

### • Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base

description: **The Array 2D Spectrum class is an extension of array\_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

### • Array\_Axis Occurs 2 Times

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: The **Axis\_Display** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The **Band\_Bin\_Set** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: The **Array Element** class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The **Object Statistics** class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: The **Special Constants** class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: *value* Optional  
attribute: **not\_applicable\_constant** value: *value* Optional  
attribute: **saturated\_constant** value: *value* Optional  
attribute: **unknown\_constant** value: *value* Optional

- **End Special\_Constants**
- **End Array\_2D\_Spectrum**
- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Image class is an extension of array\_base and defines a three dimensional image.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **axes** value: **3**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**  
attribute: **scaling\_factor** value: *value* Optional  
attribute: **value\_offset** value: *value* Optional  
attribute: **unit** value: *value* Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_3D\_Image

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set
- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- End Special\_Constants
- End Array\_3D\_Movie

- **Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Spectrum class is an extension of array\_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: *value* <sup>Optional</sup>  
attribute: **axes** value: **3**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_3D\_Spectrum

- **Delimited\_Table - Occurs 0 to \* Times**

description: **The Delimited\_Table class defines a simple table (spreadsheet) with delimited fields and records.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x2C, 0x3B, 0x7C**  
attribute: **fields** value: **value**  
attribute: **maximum\_record\_length** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: **value**

- **Delimited\_Record Occurs 1 Times**

description: **The Delimited Record class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.**

role: **Concrete**

- **Delimited\_Field - Occurs 1 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Record**

- **End Delimited\_Table**

- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: **The Delimited\_Table\_Grouped class defines a simple table (spreadsheet) that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **CSV, OTHER**

attribute: **field\_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**

attribute: **fields** value: **value**

attribute: **maximum\_record\_length** value: **value**

attribute: **offset** value: **value**

attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**

attribute: **records** value: **value**

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: **The Delimited Record Grouped class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.**

role: **Concrete**

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Grouped Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Field Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Delimited\_Field - Occurs 0 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Field\_Sequence**

- **End Delimited\_Grouped\_Sequence**

- **End Delimited\_Record\_Grouped**

- **End Delimited\_Table\_Grouped**

- **Header - Occurs 0 to \* Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **bytes** value: **value**

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2,**

PDS3, TIFF, VICAR  
attribute: **offset** value: *value*

- End Header

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **external\_standard\_id** value: **FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR**  
attribute: **offset** value: *value*

- End Header\_Binary

- **Parsable\_Byte\_Stream - Occurs 0 to \* Times**

description: **The Parsable Byte Stream class defines byte streams that have standard parsing rules. The Parsable Byte Stream class is the parent class for all parsable byte streams.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Parsable\_Byte\_Stream

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Stream\_Text

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**  
role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**  
role: **Concrete**  
attribute: **name** value: *value*

attribute: **description** value: *value* Optional  
 attribute: **field\_number** value: *value* Optional  
 attribute: **data\_type** value: ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8  
 attribute: **field\_location** value: *value*  
 attribute: **field\_length** value: *value*  
 attribute: **field\_format** value: *value* Optional  
 attribute: **minimum\_scaled\_value** value: *value* Optional  
 attribute: **maximum\_scaled\_value** value: *value* Optional  
 attribute: **scaling\_factor** value: *value* Optional  
 attribute: **value\_offset** value: *value* Optional  
 attribute: **unit** value: *value* Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
 attribute: **description** value: *value* Optional  
 attribute: **maximum** value: *value* Optional  
 attribute: **mean** value: *value* Optional  
 attribute: **median** value: *value* Optional  
 attribute: **minimum** value: *value* Optional  
 attribute: **standard\_deviation** value: *value* Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* Optional  
 attribute: **invalid\_constant** value: *value* Optional  
 attribute: **missing\_constant** value: *value* Optional  
 attribute: **not\_applicable\_constant** value: *value* Optional  
 attribute: **saturated\_constant** value: *value* Optional  
 attribute: **unknown\_constant** value: *value* Optional

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: *value*  
 attribute: **last\_sampling\_parameter\_value** value: *value*  
 attribute: **sampling\_parameter\_interval** value: *value*  
 attribute: **sampling\_parameter\_name** value: *value*  
 attribute: **sampling\_parameter\_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional  
 attribute: **sampling\_parameter\_unit** value: *value*

- **End Uniformly\_Sampled**

- **End Table\_Binary**

- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding\_type** value: **BINARY**

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record\_length** value: *value*

attribute: **records** value: *value*

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.

role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: *value* Optional

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* Optional

attribute: **field\_number** value: *value* Optional

attribute: **data\_type** value: **Bit**

attribute: **field\_location** value: *value*

attribute: **field\_length** value: *value*

attribute: **field\_format** value: *value* Optional

attribute: **minimum\_scaled\_value** value: *value* Optional

attribute: **maximum\_scaled\_value** value: *value* Optional

attribute: **bit\_mask** value: *value* Optional

attribute: **bits** value: *value*

attribute: **scaling\_factor** value: *value* Optional

attribute: **start\_bit** value: *value*

attribute: **value\_offset** value: *value* Optional

attribute: **unit** value: *value* Optional

- **End Table\_Binary\_Grouped\_Bit\_Field**

- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* Optional

attribute: **field\_number** value: *value* Optional

attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle,**

SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- End Table\_Binary\_Grouped\_Field
- End Table\_Binary\_Field\_Sequence
- End Table\_Binary\_Grouped\_Sequence
- End Table\_Record\_Binary\_Grouped
- End Table\_Binary\_Grouped
- Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base

description: The Table Character class is an extension of table base and defines a simple character table.  
role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- Table\_Record\_Character Occurs 1 Times

description: The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.  
role: **Concrete**

- Table\_Character\_Field - Occurs 1 to \* Times

description: The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- Field\_Statistics - Occurs 0 to 1 Times

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** <sup>Optional</sup>  
attribute: **mean** value: **value** <sup>Optional</sup>  
attribute: **median** value: **value** <sup>Optional</sup>  
attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**  
role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>  
attribute: **invalid\_constant** value: **value** <sup>Optional</sup>  
attribute: **missing\_constant** value: **value** <sup>Optional</sup>  
attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>  
attribute: **saturated\_constant** value: **value** <sup>Optional</sup>  
attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**
- **End Table\_Character\_Field**
- **End Table\_Record\_Character**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**  
role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**  
attribute: **last\_sampling\_parameter\_value** value: **value**  
attribute: **sampling\_parameter\_interval** value: **value**  
attribute: **sampling\_parameter\_name** value: **value**  
attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** <sup>Optional</sup>  
attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**
- **End Table\_Character**

- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**  
role: **Concrete**

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**  
attribute: **repetitions** value: **value** <sup>Optional</sup>

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Table\_Character\_Grouped\_Field**

- **End Table\_Character\_Field\_Sequence**

- **End Table\_Character\_Grouped\_Sequence**

- **End Table\_Record\_Character\_Grouped**

- **End Table\_Character\_Grouped**

- **End File\_Area\_Observational**

- **End Product\_Array\_3D\_Movie**

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- **Product\_Array\_3D\_Spectrum**

description: **The Product Array 3D Spectrum class defines a product consisting of at least one Array 3D spectrum and other associated data objects and metadata..**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional

attribute: **last\_modification\_date\_time** value: **value** Optional

attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using**

**keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional

attribute: **instrument\_name** value: **value** Optional

attribute: **instrument\_host\_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: **value** Optional

attribute: **investigation\_name** value: **value** Optional

attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** Optional

attribute: **lid\_reference** value: **value** Optional

attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**
- **End Observing\_System\_Component**
- **End Observing\_System**

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- **End Reference\_Entry\_Product**
- **End Cross\_Reference\_Area\_Product**

- **Observation\_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission\_Area - Occurs 0 to \* Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission\_Area**

- **Node\_Area - Occurs 0 to \* Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node\_Area**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **start\_date\_time** value: **value**

attribute: **stop\_date\_time** value: **value**

attribute: **local\_mean\_solar\_time** value: **value** <sup>Optional</sup>

attribute: **local\_true\_solar\_time** value: **value** <sup>Optional</sup>

attribute: **mission\_phase\_name** value: **value** <sup>Optional</sup>

attribute: **orbit\_number** value: **value** <sup>Optional</sup>

attribute: **planet\_day\_number** value: **value** <sup>Optional</sup>

attribute: **solar\_longitude** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_count\_partition** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_start\_count** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_stop\_count** value: **value** <sup>Optional</sup>

- **Geometry - Occurs 0 to \* Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

- **Vector - Occurs 0 to \* Times**

description: **The Vector class provides the components of either a velocity or position vector.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **name** value: **value**  
attribute: **description** value: **value**  
attribute: **type** value: **POSITION, VELOCITY**  
attribute: **vector\_components** value: **value**

- **Vector\_Component - Occurs 1 to \* Times**

description: **The Vector\_Component class provides a component of a vector.**  
role: **Concrete**  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional  
attribute: **value** value: **value**

- **End Vector\_Component**

- **End Vector**

- **End Geometry**

- **End Observation\_Area**

- **File\_Area\_Observational - Occurs 1 to \* Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged\_data\_objects contained within the file.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value** Optional  
attribute: **comment** value: **value** Optional  
attribute: **creation\_date\_time** value: **value** Optional  
attribute: **file\_name** value: **value**  
attribute: **file\_size** value: **value** Optional  
attribute: **maximum\_record\_bytes** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **records** value: **value** Optional

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**  
role: **Concrete**  
attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: The **Axis\_Display** class is a placeholder for a soon forthcoming Imaging class.  
role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The **Band\_Bin\_Set** class is a placeholder for a soon forthcoming Imaging class.  
role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: The **Image\_2D\_Display** class provides attributes to enable the display of a 2D image.  
role: **Concrete**

attribute: **first\_line** value: *value* Optional

attribute: **first\_line\_sample** value: *value* Optional

attribute: **line\_display\_direction** value: DOWN, LEFT, RIGHT, UP

attribute: **sample\_display\_direction** value: DOWN, LEFT, RIGHT, UP

- End Image\_2D\_Display

- **Array\_Element Occurs 1 Times**

description: The **Array Element** class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: *value* Optional

attribute: **value\_offset** value: *value* Optional

attribute: **unit** value: *value* Optional

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The **Object Statistics** class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* Optional

attribute: **maximum** value: *value* Optional

attribute: **md5\_checksum** value: *value* Optional

attribute: **mean** value: *value* Optional

attribute: **median** value: *value* Optional

attribute: **minimum** value: *value* Optional

attribute: **sample\_bit\_mask** value: *value* Optional

attribute: **standard\_deviation** value: *value* Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Array\_2D\_Image**

- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Map**

- **Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Spectrum class is an extension of array\_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**
- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**
- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**
- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**
- **End Array\_2D\_Spectrum**

- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: The Array 3D Image class is an extension of array\_base and defines a three dimensional image.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The Object Statistics class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* Optional  
attribute: **maximum** value: *value* Optional  
attribute: **md5\_checksum** value: *value* Optional  
attribute: **mean** value: *value* Optional  
attribute: **median** value: *value* Optional  
attribute: **minimum** value: *value* Optional  
attribute: **sample\_bit\_mask** value: *value* Optional  
attribute: **standard\_deviation** value: *value* Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* Optional  
attribute: **invalid\_constant** value: *value* Optional  
attribute: **missing\_constant** value: *value* Optional  
attribute: **not\_applicable\_constant** value: *value* Optional  
attribute: **saturated\_constant** value: *value* Optional  
attribute: **unknown\_constant** value: *value* Optional

- End Special\_Constants

- End Array\_3D\_Image

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **axes** value: **3**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**
- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**
- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Object\_Statistics**
- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**
- **End Array\_3D\_Movie**
- **Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Spectrum class is an extension of array\_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases**

that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants
- End Array\_3D\_Spectrum

- **Delimited\_Table - Occurs 0 to \* Times**

description: The **Delimited\_Table** class defines a simple table (spreadsheet) with delimited fields and records.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **CSV, OTHER**

attribute: **field\_delimiter** value: **0x2C, 0x3B, 0x7C**

attribute: **fields** value: **value**

attribute: **maximum\_record\_length** value: **value**

attribute: **offset** value: **value**

attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**

attribute: **records** value: **value**

- **Delimited\_Record Occurs 1 Times**

description: The **Delimited Record** class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.

role: **Concrete**

- **Delimited\_Field - Occurs 1 to \* Times**

description: The **Delimited Field** class is a component of the delimited table (spreadsheet) record class and defines a field of the record.

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: The **Field Statistics** class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: *value* Optional  
attribute: **standard\_deviation** value: *value* Optional

- End Field\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: The **Special Constants** class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: *value* Optional  
attribute: **invalid\_constant** value: *value* Optional  
attribute: **missing\_constant** value: *value* Optional  
attribute: **not\_applicable\_constant** value: *value* Optional  
attribute: **saturated\_constant** value: *value* Optional  
attribute: **unknown\_constant** value: *value* Optional

- End Special\_Constants

- End Delimited\_Field

- End Delimited\_Record

- End Delimited\_Table

- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: The **Delimited\_Table\_Grouped** class defines a simple table (spreadsheet) that allows repeating groups of fields.

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**  
attribute: **fields** value: *value*  
attribute: **maximum\_record\_length** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: *value*

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: The **Delimited Record Grouped** class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.

role: **Concrete**

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: The **Delimited Grouped Sequence** class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: *value* Optional

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: The **Delimited Field Sequence** class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Delimited\_Field - Occurs 0 to \* Times**

description: The **Delimited Field** class is a component of the delimited table (spreadsheet) record class and defines a field of the record.

role: **Concrete**

attribute: **name** value: *value*  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: *value* Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC,**

ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Field\_Sequence**

- **End Delimited\_Grouped\_Sequence**

- **End Delimited\_Record\_Grouped**

- **End Delimited\_Table\_Grouped**

- **Header - Occurs 0 to \* Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **bytes** value: **value**

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR**

attribute: **offset** value: **value**

- **End Header**

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**

role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **name** value: **value** <sup>Optional</sup>  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **bytes** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **external\_standard\_id** value: **FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR**  
attribute: **offset** value: **value**

- **End Header\_Binary**

- **Parsable\_Byte\_Stream - Occurs 0 to \* Times**

description: **The Parsable Byte Stream class defines byte streams that have standard parsing rules. The Parsable Byte Stream class is the parent class for all parsable byte streams.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **value**  
attribute: **offset** value: **value**

- **End Parsable\_Byte\_Stream**

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **value**  
attribute: **offset** value: **value**

- **End Stream\_Text**

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **field\_number** value: **value** <sup>Optional</sup>  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed,**

ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: **value**

attribute: **sampling\_parameter\_interval** value: **value**

attribute: **sampling\_parameter\_name** value: **value**

attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional

attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- **End Table\_Binary**

- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **BINARY**

attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**  
role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: *value* <sup>Optional</sup>

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**  
role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **field\_number** value: *value* <sup>Optional</sup>

attribute: **data\_type** value: **Bit**

attribute: **field\_location** value: *value*

attribute: **field\_length** value: *value*

attribute: **field\_format** value: *value* <sup>Optional</sup>

attribute: **minimum\_scaled\_value** value: *value* <sup>Optional</sup>

attribute: **maximum\_scaled\_value** value: *value* <sup>Optional</sup>

attribute: **bit\_mask** value: *value* <sup>Optional</sup>

attribute: **bits** value: *value*

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **start\_bit** value: *value*

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Table\_Binary\_Grouped\_Bit\_Field**

- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **field\_number** value: *value* <sup>Optional</sup>

attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field\_location** value: *value*

attribute: **field\_length** value: *value*

attribute: **field\_format** value: *value* <sup>Optional</sup>

attribute: **minimum\_scaled\_value** value: *value* <sup>Optional</sup>

attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- End Table\_Binary\_Grouped\_Field
  - End Table\_Binary\_Field\_Sequence
  - End Table\_Binary\_Grouped\_Sequence
  - End Table\_Record\_Binary\_Grouped
  - End Table\_Binary\_Grouped
- **Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**

role: **Concrete**

- **Table\_Character\_Field - Occurs 1 to \* Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **field\_number** value: **value** <sup>Optional</sup>  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** <sup>Optional</sup>  
attribute: **minimum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **maximum** value: **value** <sup>Optional</sup>  
attribute: **mean** value: **value** <sup>Optional</sup>  
attribute: **median** value: **value** <sup>Optional</sup>  
attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- End Field\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Table\_Character\_Field**

- **End Table\_Record\_Character**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: **value**

attribute: **sampling\_parameter\_interval** value: **value**

attribute: **sampling\_parameter\_name** value: **value**

attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** <sup>Optional</sup>

attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- **End Table\_Character**

- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**

role: **Concrete**

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** <sup>Optional</sup>

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**

attribute: **name** value: **value**  
 attribute: **description** value: **value** Optional  
 attribute: **field\_number** value: **value** Optional  
 attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
 attribute: **field\_location** value: **value**  
 attribute: **field\_length** value: **value**  
 attribute: **field\_format** value: **value** Optional  
 attribute: **minimum\_scaled\_value** value: **value** Optional  
 attribute: **maximum\_scaled\_value** value: **value** Optional  
 attribute: **scaling\_factor** value: **value** Optional  
 attribute: **value\_offset** value: **value** Optional  
 attribute: **unit** value: **value** Optional

- End Table\_Character\_Grouped\_Field
  - End Table\_Character\_Field\_Sequence
  - End Table\_Character\_Grouped\_Sequence
  - End Table\_Record\_Character\_Grouped
  - End Table\_Character\_Grouped
  - End File\_Area\_Observational
  - End Product\_Array\_3D\_Spectrum
- 

## • Product\_Attribute\_Definition

description: **The Product Attribute Definition provides an attribute definition in XML encoding.**  
 role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**  
 role: **Concrete**  
 attribute: **dd\_version\_id** value: **value**  
 attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards

- **Identification\_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**  
 role: **Concrete**  
 attribute: **logical\_identifier** value: **value**  
 attribute: **version\_id** value: **value**  
 attribute: **product\_class** value: **value**  
 attribute: **title** value: **value**  
 attribute: **alternate\_title** value: **value** Optional  
 attribute: **alternate\_id** value: **value** Optional  
 attribute: **last\_modification\_date\_time** value: **value** Optional  
 attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**  
 role: **Concrete**  
 attribute: **target\_name** value: **value** Optional  
 attribute: **instrument\_name** value: **value** Optional  
 attribute: **instrument\_host\_name** value: **value** Optional  
 attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: *value* Optional  
attribute: **investigation\_name** value: *value* Optional  
attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **alternate\_designation** value: *value* Optional

attribute: **lid\_reference** value: *value* Optional

attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area**

- **Cross\_Reference\_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**

role: **Concrete**

- **Observing\_System - Occurs 0 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: *value* Optional

attribute: **name** value: *value* Optional

attribute: **description** value: *value*

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: *value* Optional

attribute: **lidvid\_reference** value: *value* Optional

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry - Occurs 0 to \* Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: *value* Optional

attribute: **lidvid\_reference** value: **value** Optional  
attribute: **reference\_association\_type** value: **has\_association, member\_of**

- End Reference\_Entry
- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **doi** value: **value** Optional  
attribute: **reference\_text** value: **value** Optional  
attribute: **url** value: **value** Optional

- End Bibliographic\_Reference
- End Cross\_Reference\_Area

- **DD\_Attribute\_Full Occurs 1 Times**

description: **The DD\_Attribute\_Full class provides a more complete definition of an attribute in the data dictionary.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **version\_id** value: **value**  
attribute: **class\_name** value: **value**  
attribute: **name** value: **value**  
attribute: **registration\_authority\_id** value: **0001\_NASA\_PDS\_1**  
attribute: **steward\_id** value: **atm, geo, img, naif, ops, pds, mpi, rings, rs, sbn**  
attribute: **name\_space\_id** value: **value**  
attribute: **registered\_by** value: **value**  
attribute: **submitter\_id** value: **value**  
attribute: **definition** value: **value**  
attribute: **attribute\_concept** value: **DEC\_ADDRESS, DEC\_ANGLE, DEC\_ATTRIBUTE, DEC\_BIT, DEC\_CHECKSUM, DEC\_COLLECTION, DEC\_CONSTANT, DEC\_COSINE, DEC\_COUNT, DEC\_DELIMITER, DEC\_DESCRIPTION, DEC\_DEVIATION, DEC\_DIRECTION, DEC\_DISTANCE, DEC\_DOI, DEC\_DURATION, DEC\_FACTOR, DEC\_FLAG, DEC\_FORMAT, DEC\_GROUP, DEC\_HOME, DEC\_ID, DEC\_LATITUDE, DEC\_LENGTH, DEC\_LIST, DEC\_LOCATION, DEC\_LOGICAL, DEC\_LONGITUDE, DEC\_MASK, DEC\_MAXIMUM, DEC\_MEAN, DEC\_MEDIAN, DEC\_MINIMUM, DEC\_NAME, DEC\_NOTE, DEC\_NUMBER, DEC\_OFFSET, DEC\_ORDER, DEC\_PARALLEL, DEC\_PASSWORD, DEC\_PATH, DEC\_PATTERN, DEC\_PIXEL, DEC\_QUATERNION, DEC\_RADIUS, DEC\_RATIO, DEC\_REFERENCE, DEC\_RESOLUTION, DEC\_ROLE, DEC\_ROTATION, DEC\_SCALE, DEC\_SEQUENCE, DEC\_SET, DEC\_SIZE, DEC\_STATUS, DEC\_SUMMARY, DEC\_SYNTAX, DEC\_TEMPERATURE, DEC\_TEXT, DEC\_TITLE, DEC\_TYPE, DEC\_UNIT, DEC\_VALUE, DEC\_VECTOR**

- **Terminological\_Entry - Occurs 1 to \* Times**

description: **The terminological\_entry class provides the name (designation) and definition of the attribute in a specified natural language.**

role: **Concrete**

attribute: **name** value: **value**  
attribute: **definition** value: **value**  
attribute: **language** value: **English**  
attribute: **preferred\_flag** value: **value**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **doi** value: **value** Optional  
attribute: **reference\_text** value: **value** Optional  
attribute: **url** value: **value** Optional

- End Bibliographic\_Reference
- End Terminological\_Entry

- **DD\_Value\_Domain\_Full - Occurs 0 to 1 Times**

description: The **DD\_Value\_Domain\_Full** class provides a more complete definition of a attribute's value domain.

role: **Concrete**

attribute: **enumeration\_flag** value: **F, T**

attribute: **specified\_unit\_id** value: **value** <sup>Optional</sup>

attribute: **value\_data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **formation\_rule** value: **value** <sup>Optional</sup>

attribute: **minimum\_characters** value: **value** <sup>Optional</sup>

attribute: **maximum\_characters** value: **value** <sup>Optional</sup>

attribute: **minimum\_value** value: **value** <sup>Optional</sup>

attribute: **maximum\_value** value: **value** <sup>Optional</sup>

attribute: **pattern** value: **value** <sup>Optional</sup>

attribute: **unit\_of\_measure\_type** value: **UnitOfMeasure\_AmountOfSubstance, UnitOfMeasure\_Angle, UnitOfMeasure\_AngularVelocity, UnitOfMeasure\_Area, UnitOfMeasure\_Frequency, UnitOfMeasure\_Length, UnitOfMeasure\_MapScale, UnitOfMeasure\_Mass, UnitOfMeasure\_Misc, UnitOfMeasure\_None, UnitOfMeasure\_OpticalPathLength, UnitOfMeasure\_Pressure, UnitOfMeasure\_Radiance, UnitOfMeasure\_Rates, UnitOfMeasure\_SolidAngle, UnitOfMeasure\_Storage, UnitOfMeasure\_Temperature, UnitOfMeasure\_Time, UnitOfMeasure\_Velocity, UnitOfMeasure\_Voltage, UnitOfMeasure\_Volume** <sup>Optional</sup>

attribute: **conceptual\_domain** value: **CD\_BOOLEAN, CD\_INTEGER, CD\_NAME, CD\_NUMERIC, CD\_REAL, CD\_SHORT\_STRING, CD\_TEXT, CD\_TIME, CD\_TYPE**

- **DD\_Permissible\_Value - Occurs 0 to \* Times**

description: The **DD\_Permissible\_Value** class lists permissible values and their meanings.

role: **Concrete**

attribute: **value** value: **value**

attribute: **value\_meaning** value: **value** <sup>Optional</sup>

attribute: **value\_begin\_date** value: **value**

attribute: **value\_end\_date** value: **value**

- **End DD\_Permissible\_Value**

- **End DD\_Value\_Domain\_Full**

- **End DD\_Attribute\_Full**

- **End Product\_Attribute\_Definition**

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- **Product\_Browse**

description: The **Product Browse** class defines a product consisting of one encoded byte stream digital object.

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: The **Data Standards** class indicates the controlling standards for this product.

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: The **product identification area** consists of attributes that identify and name a data product.

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** <sup>Optional</sup>

attribute: **alternate\_id** value: **value** <sup>Optional</sup>

attribute: **last\_modification\_date\_time** value: **value** Optional  
attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional  
attribute: **instrument\_name** value: **value** Optional  
attribute: **instrument\_host\_name** value: **value** Optional  
attribute: **keywords** value: **value** Optional  
attribute: **full\_name** value: **value** Optional  
attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **alternate\_designation** value: **value** Optional  
attribute: **lid\_reference** value: **value** Optional  
attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**  
role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **doi** value: **value** Optional  
attribute: **reference\_text** value: **value** Optional  
attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- **End Reference\_Entry\_Product**

- **End Cross\_Reference\_Area\_Product**

- **File\_Area Occurs 1 Times**

description: **The File Area class describes a file and one or more tagged\_data\_objects contained within the file.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** <sup>Optional</sup>

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **creation\_date\_time** value: **value** <sup>Optional</sup>

attribute: **file\_name** value: **value**

attribute: **file\_size** value: **value** <sup>Optional</sup>

attribute: **maximum\_record\_bytes** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **records** value: **value** <sup>Optional</sup>

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: The **Array Axis** class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: The **Axis\_Display** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The **Band\_Bin\_Set** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: The **Image\_2D\_Display** class provides attributes to enable the display of a 2D image.

role: **Concrete**

attribute: **first\_line** value: *value* <sup>Optional</sup>

attribute: **first\_line\_sample** value: *value* <sup>Optional</sup>

attribute: **line\_display\_direction** value: DOWN, LEFT, RIGHT, UP

attribute: **sample\_display\_direction** value: DOWN, LEFT, RIGHT, UP

- **End Image\_2D\_Display**

- **Array\_Element Occurs 1 Times**

description: The **Array Element** class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The **Object Statistics** class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* Optional  
attribute: **md5\_checksum** value: *value* Optional  
attribute: **mean** value: *value* Optional  
attribute: **median** value: *value* Optional  
attribute: **minimum** value: *value* Optional  
attribute: **sample\_bit\_mask** value: *value* Optional  
attribute: **standard\_deviation** value: *value* Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* Optional  
attribute: **invalid\_constant** value: *value* Optional  
attribute: **missing\_constant** value: *value* Optional  
attribute: **not\_applicable\_constant** value: *value* Optional  
attribute: **saturated\_constant** value: *value* Optional  
attribute: **unknown\_constant** value: *value* Optional

- End Special\_Constants

- End Array\_2D\_Image

- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an**

element of the array.

role: **Concrete**

attribute: **data\_type** value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* <sup>Optional</sup>

attribute: **invalid\_constant** value: *value* <sup>Optional</sup>

attribute: **missing\_constant** value: *value* <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: *value* <sup>Optional</sup>

attribute: **saturated\_constant** value: *value* <sup>Optional</sup>

attribute: **unknown\_constant** value: *value* <sup>Optional</sup>

- **End Special\_Constants**

- **End Array\_2D\_Map**

- **Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Spectrum class is an extension of array\_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases**

that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: *value* <sup>Optional</sup>

attribute: **invalid\_constant** value: *value* <sup>Optional</sup>

attribute: **missing\_constant** value: *value* <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: *value* <sup>Optional</sup>

attribute: **saturated\_constant** value: *value* <sup>Optional</sup>

attribute: **unknown\_constant** value: *value* <sup>Optional</sup>

- **End Special\_Constants**
- **End Array\_2D\_Spectrum**
- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: The Array 3D Image class is an extension of array\_base and defines a three dimensional image.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**  
role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_3D\_Image**

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The **Band\_Bin\_Set** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: The **Array Element** class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The **Object Statistics** class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: The **Special Constants** class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- End Special\_Constants

- End Array\_3D\_Movie

- **Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Spectrum class is an extension of array\_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* Optional  
attribute: **md5\_checksum** value: *value* Optional  
attribute: **mean** value: *value* Optional  
attribute: **median** value: *value* Optional  
attribute: **minimum** value: *value* Optional  
attribute: **sample\_bit\_mask** value: *value* Optional  
attribute: **standard\_deviation** value: *value* Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* Optional  
attribute: **invalid\_constant** value: *value* Optional  
attribute: **missing\_constant** value: *value* Optional  
attribute: **not\_applicable\_constant** value: *value* Optional  
attribute: **saturated\_constant** value: *value* Optional  
attribute: **unknown\_constant** value: *value* Optional

- **End Special\_Constants**

- **End Array\_3D\_Spectrum**

- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: **The Delimited\_Table\_Grouped class defines a simple table (spreadsheet) that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**  
attribute: **fields** value: *value*  
attribute: **maximum\_record\_length** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: *value*

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: **The Delimited Record Grouped class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.**

role: **Concrete**

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Grouped Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: *value* Optional

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Field Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Delimited\_Field - Occurs 0 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: **value** Optional  
 attribute: **field\_number** value: **value** Optional  
 attribute: **data\_type** value: ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID  
 attribute: **field\_length** value: **value**  
 attribute: **field\_format** value: **value** Optional  
 attribute: **minimum\_scaled\_value** value: **value** Optional  
 attribute: **maximum\_scaled\_value** value: **value** Optional  
 attribute: **scaling\_factor** value: **value** Optional  
 attribute: **value\_offset** value: **value** Optional  
 attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
 attribute: **description** value: **value** Optional  
 attribute: **maximum** value: **value** Optional  
 attribute: **mean** value: **value** Optional  
 attribute: **median** value: **value** Optional  
 attribute: **minimum** value: **value** Optional  
 attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
 attribute: **invalid\_constant** value: **value** Optional  
 attribute: **missing\_constant** value: **value** Optional  
 attribute: **not\_applicable\_constant** value: **value** Optional  
 attribute: **saturated\_constant** value: **value** Optional  
 attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Field\_Sequence**

- **End Delimited\_Grouped\_Sequence**

- **End Delimited\_Record\_Grouped**

- **End Delimited\_Table\_Grouped**

- **Encoded\_Image - Occurs 0 to \* Times**

description: **The Encoded Image class, a subclass of Encoded Byte stream is used for ancillary images in standard formats, such as JPEG.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
 attribute: **comment** value: **value** Optional  
 attribute: **encoding\_type** value: **BINARY**  
 attribute: **external\_standard\_id** value: **GIF, JPEG, PDF, PNG, TIFF**  
 attribute: **offset** value: **value**

- **End Encoded\_Image**

- **File\_PDF - Occurs 0 to \* Times**

description: **The File PDF class describes a PDF encoded byte stream.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **BINARY**  
attribute: **external\_standard\_id** value: **PDF**  
attribute: **offset** value: *value*

- End File\_PDF

- **Header - Occurs 0 to \* Times**

description: **The Header class describes a data object header.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR**  
attribute: **offset** value: *value*

- End Header

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **external\_standard\_id** value: **FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR**  
attribute: **offset** value: *value*

- End Header\_Binary

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Stream\_Text

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **field\_number** value: **value** <sup>Optional</sup>

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** <sup>Optional</sup>

attribute: **minimum\_scaled\_value** value: **value** <sup>Optional</sup>

attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: *value*  
attribute: **sampling\_parameter\_interval** value: *value*  
attribute: **sampling\_parameter\_name** value: *value*  
attribute: **sampling\_parameter\_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC <sup>Optional</sup>  
attribute: **sampling\_parameter\_unit** value: *value*

- End Uniformly\_Sampled
- End Table\_Binary
- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* <sup>Optional</sup>  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**

role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: *value* <sup>Optional</sup>

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: *value*  
attribute: **description** value: *value* <sup>Optional</sup>  
attribute: **field\_number** value: *value* <sup>Optional</sup>  
attribute: **data\_type** value: **Bit**  
attribute: **field\_location** value: *value*  
attribute: **field\_length** value: *value*  
attribute: **field\_format** value: *value* <sup>Optional</sup>  
attribute: **minimum\_scaled\_value** value: *value* <sup>Optional</sup>  
attribute: **maximum\_scaled\_value** value: *value* <sup>Optional</sup>  
attribute: **bit\_mask** value: *value* <sup>Optional</sup>  
attribute: **bits** value: *value*  
attribute: **scaling\_factor** value: *value* <sup>Optional</sup>  
attribute: **start\_bit** value: *value*  
attribute: **value\_offset** value: *value* <sup>Optional</sup>  
attribute: **unit** value: *value* <sup>Optional</sup>

- End Table\_Binary\_Grouped\_Bit\_Field
- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Field class is a component of the**

**table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Table\_Binary\_Grouped\_Field**
- **End Table\_Binary\_Field\_Sequence**
- **End Table\_Binary\_Grouped\_Sequence**
- **End Table\_Record\_Binary\_Grouped**
- **End Table\_Binary\_Grouped**
- **Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

- **Table\_Record\_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**

role: **Concrete**

- **Table\_Character\_Field - Occurs 1 to \* Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **maximum** value: **value** <sup>Optional</sup>  
attribute: **mean** value: **value** <sup>Optional</sup>  
attribute: **median** value: **value** <sup>Optional</sup>  
attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>  
attribute: **invalid\_constant** value: **value** <sup>Optional</sup>  
attribute: **missing\_constant** value: **value** <sup>Optional</sup>  
attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>  
attribute: **saturated\_constant** value: **value** <sup>Optional</sup>  
attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Table\_Character\_Field**

- **End Table\_Record\_Character**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**  
attribute: **last\_sampling\_parameter\_value** value: **value**  
attribute: **sampling\_parameter\_interval** value: **value**  
attribute: **sampling\_parameter\_name** value: **value**  
attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** <sup>Optional</sup>  
attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- **End Table\_Character**

- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**

role: **Concrete**

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Table\_Character\_Grouped\_Field**

- **End Table\_Character\_Field\_Sequence**

- **End Table\_Character\_Grouped\_Sequence**

- **End Table\_Record\_Character\_Grouped**

- **End Table\_Character\_Grouped**

- **End File\_Area**

- **End Product\_Browse**

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- **Product\_Bundle**

description: **Product Bundle is a cluster product and has a table of references to one or more collections.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- **End Data\_Standards**

- **Identification\_Area\_Bundle Occurs 1 Times**

description: **The bundle identification area consists of attributes that identify and name a bundle.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: *value*  
attribute: **title** value: *value*  
attribute: **alternate\_title** value: *value* Optional  
attribute: **alternate\_id** value: *value* Optional  
attribute: **last\_modification\_date\_time** value: *value* Optional  
attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional  
attribute: **instrument\_name** value: *value* Optional  
attribute: **instrument\_host\_name** value: *value* Optional  
attribute: **keywords** value: *value* Optional  
attribute: **full\_name** value: *value* Optional  
attribute: **investigation\_name** value: *value* Optional  
attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional  
attribute: **name** value: *value*  
attribute: **alternate\_designation** value: *value* Optional  
attribute: **lid\_reference** value: *value* Optional  
attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Bundle**

- **Cross\_Reference\_Area\_Bundle - Occurs 0 to 1 Times**

description: **The bundle cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry - Occurs 0 to \* Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: *value* Optional  
attribute: **lidvid\_reference** value: *value* Optional  
attribute: **reference\_association\_type** value: *has\_association, member\_of*

- **End Reference\_Entry**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **doi** value: *value* Optional  
attribute: **reference\_text** value: *value* Optional  
attribute: **url** value: *value* Optional

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area\_Bundle**

- **Bundle\_Member\_Entry - Occurs 1 to \* Times**

description: **The Bundle Member Entry class provides a member reference to a collection.**

role: **Concrete**

attribute: **file\_specification\_name** value: **value**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **has\_browse\_collection, has\_calibration\_collection, has\_context\_collection, has\_data\_collection, has\_document\_collection, has\_geometry\_collection, has\_member\_collection, has\_miscellaneous\_collection, has\_spice\_collection, has\_xml\_schema\_collection**

- End Bundle\_Member\_Entry
  - End Product\_Bundle
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## • Product\_Collection

description: **A Collection product has a table of references to one or more standard products. The references are stored in a Table\_Character called the Inventory.**

role: **Abstract**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards

- **Identification\_Area\_Collection Occurs 1 Times**

description: **The collection identification area consists of attributes that identify and name a collection.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional

attribute: **contains\_primary\_member** value: **value**

attribute: **last\_modification\_date\_time** value: **value** Optional

attribute: **type** value: **Browse, Calibration, Context, Data, Document, Geometry, Miscellaneous, SPICE, XML\_Schema**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional

attribute: **instrument\_name** value: **value** Optional

attribute: **instrument\_host\_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: **value** Optional

attribute: **investigation\_name** value: **value** Optional

attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** Optional

attribute: **lid\_reference** value: **value** Optional

attribute: **type** value: **value**

- End Name\_Resolution
  - End Subject\_Area
- End Identification\_Area\_Collection
- Cross\_Reference\_Area\_Collection - Occurs 0 to 1 Times

description: **The collection cross reference area provides references to associated registered products.**  
 role: **Concrete**

- Observing\_System - Occurs 0 to \* Times

description: **The Observing System class describes the entire suite used to collect the data.**  
 role: **Concrete**

attribute: **local\_identifier** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

- Observing\_System\_Component - Occurs 1 to \* Times

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- End Reference\_Entry\_Observing\_System\_Component
      - End Observing\_System\_Component
  - End Observing\_System

- Reference\_Entry\_Collection - Occurs 0 to \* Times

description: **The Reference Entry Collection class provides a collection specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **has\_associated\_collection, has\_investigation\_collection, has\_node\_collection, has\_publication\_collection, has\_target\_collection, has\_update\_collection**

- End Reference\_Entry\_Collection

- Bibliographic\_Reference - Occurs 0 to \* Times

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional  
attribute: **reference\_text** value: **value** Optional  
attribute: **url** value: **value** Optional

- End Bibliographic\_Reference
- End Cross\_Reference\_Area\_Collection
- **File\_Area\_Inventory\_LIDVID\_Primary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Primary class describes a file and an inventory with references to primary members. The references are product LIDVIDs.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**

attribute: **local\_identifier** value: **value** Optional  
attribute: **comment** value: **value** Optional  
attribute: **creation\_date\_time** value: **value** Optional  
attribute: **file\_name** value: **value**  
attribute: **file\_size** value: **value** Optional  
attribute: **maximum\_record\_bytes** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **records** value: **value** Optional

- End File
- **Inventory\_LIDVID\_Primary Occurs 1 Times - Base\_Class:Table\_Base**

description: **The Inventory LIDVID Primary class defines the inventory for primary members of a collection.**

role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **2**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**  
attribute: **reference\_association\_type** value: **has\_member\_LIDVID\_Primary**

- **Table\_Record\_Inventory\_LIDVID\_Primary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Primary class defines the inventory record for a primary member.**  
role: **Concrete**

- **Table\_Field\_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**  
attribute: **name** value: **LIDVID**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **1**  
attribute: **data\_type** value: **ASCII\_LIDVID**  
attribute: **field\_location** value: **1**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional

- End Table\_Field\_LIDVID
- **Table\_Field\_File\_Specification\_Name Occurs 1 Times**

description: **The Table\_Field\_File\_Specification\_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**  
role: **Concrete**

attribute: **name** value: **file\_specification\_name**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **2** Optional  
attribute: **data\_type** value: **ASCII\_File\_Specification\_Name**  
attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional

- **End Table\_Field\_File\_Specification\_Name**
- **End Table\_Record\_Inventory\_LIDVID\_Primary**
- **End Inventory\_LIDVID\_Primary**
- **End File\_Area\_Inventory\_LIDVID\_Primary**
  
- **File\_Area\_Inventory\_LIDVID\_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDVIDs.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**

attribute: **local\_identifier** value: **value** Optional  
attribute: **comment** value: **value** Optional  
attribute: **creation\_date\_time** value: **value** Optional  
attribute: **file\_name** value: **value**  
attribute: **file\_size** value: **value** Optional  
attribute: **maximum\_record\_bytes** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **records** value: **value** Optional

- **End File**
  
- **Inventory\_LIDVID\_Secondary Occurs 1 Times - Base\_Class:Table\_Base**

description: **The Inventory LIDVID Secondary class defines the inventory for secondary members of a collection. The references are LIDVIDs.**  
role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **1**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**  
attribute: **reference\_association\_type** value: **has\_member\_LIDVID\_Secondary**

- **Table\_Record\_Inventory\_LIDVID\_Secondary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Secondary class defines the inventory record for a secondary member. The reference is a LIDVID.**  
role: **Concrete**

- **Table\_Field\_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**  
role: **Concrete**

attribute: **name** value: **LIDVID**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **1**  
attribute: **data\_type** value: **ASCII\_LIDVID**  
attribute: **field\_location** value: **1**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional

- **End Table\_Field\_LIDVID**

- **End Table\_Record\_Inventory\_LIDVID\_Secondary**
- **End Inventory\_LIDVID\_Secondary**
- **End File\_Area\_Inventory\_LIDVID\_Secondary**

- **File\_Area\_Inventory\_LID\_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDs.**  
 role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
 role: **Concrete**

attribute: **local\_identifier** value: **value** Optional  
 attribute: **comment** value: **value** Optional  
 attribute: **creation\_date\_time** value: **value** Optional  
 attribute: **file\_name** value: **value**  
 attribute: **file\_size** value: **value** Optional  
 attribute: **maximum\_record\_bytes** value: **value** Optional  
 attribute: **md5\_checksum** value: **value** Optional  
 attribute: **records** value: **value** Optional

- **End File**

- **Inventory\_LID\_Secondary Occurs 1 Times - Base\_Class:Table\_Base**

description: **The Inventory LID Secondary class defines the inventory for secondary members of a collection. The references are LIDs.**  
 role: **Concrete**

attribute: **local\_identifier** value: **value**  
 attribute: **comment** value: **value** Optional  
 attribute: **encoding\_type** value: **CHARACTER**  
 attribute: **fields** value: **1**  
 attribute: **offset** value: **value**  
 attribute: **record\_length** value: **value**  
 attribute: **records** value: **value**  
 attribute: **reference\_association\_type** value: **has\_member\_LID\_Secondary**

- **Table\_Record\_Inventory\_LID\_Secondary Occurs 1 Times**

description: **The Table Record Inventory LID Secondary class defines the inventory record for a secondary member. The reference is a LID.**  
 role: **Concrete**

- **Table\_Field\_LID Occurs 1 Times**

description: **The Table\_Field\_LID class defines a table field that provides the logical identifier for a product.**

role: **Concrete**  
 attribute: **name** value: **LID**  
 attribute: **description** value: **value** Optional  
 attribute: **field\_number** value: **1** Optional  
 attribute: **data\_type** value: **ASCII\_LID**  
 attribute: **field\_location** value: **1**  
 attribute: **field\_length** value: **value**  
 attribute: **field\_format** value: **value** Optional

- **End Table\_Field\_LID**

- **End Table\_Record\_Inventory\_LID\_Secondary**

- **End Inventory\_LID\_Secondary**

- **End File\_Area\_Inventory\_LID\_Secondary**

- **End Product\_Collection**

- **Product\_Collection\_Data**

description: **A Data collection is a product that has a table of references to one or more standard digital products.**  
role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**  
role: **Concrete**  
attribute: **dd\_version\_id** value: *value*  
attribute: **std\_ref\_version\_id** value: *value*

- **End Data\_Standards**

- **Identification\_Area\_Collection Occurs 1 Times**

description: **The collection identification area consists of attributes that identify and name a collection.**  
role: **Concrete**  
attribute: **logical\_identifier** value: *value*  
attribute: **version\_id** value: *value*  
attribute: **product\_class** value: *value*  
attribute: **title** value: *value*  
attribute: **alternate\_title** value: *value* Optional  
attribute: **alternate\_id** value: *value* Optional  
attribute: **contains\_primary\_member** value: *value*  
attribute: **last\_modification\_date\_time** value: *value* Optional  
attribute: **type** value: **Browse, Calibration, Context, Data, Document, Geometry, Miscellaneous, SPICE, XML\_Schema**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**  
role: **Concrete**

attribute: **target\_name** value: *value* Optional  
attribute: **instrument\_name** value: *value* Optional  
attribute: **instrument\_host\_name** value: *value* Optional  
attribute: **keywords** value: *value* Optional  
attribute: **full\_name** value: *value* Optional  
attribute: **investigation\_name** value: *value* Optional  
attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value*  
attribute: **alternate\_designation** value: *value* Optional  
attribute: **lid\_reference** value: *value* Optional  
attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Collection**

- **Cross\_Reference\_Area\_Collection - Occurs 0 to 1 Times**

description: **The collection cross reference area provides references to associated registered products.**  
role: **Concrete**

- **Observing\_System - Occurs 0 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value*

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry\_Collection - Occurs 0 to \* Times**

description: **The Reference Entry Collection class provides a collection specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **has\_associated\_collection, has\_investigation\_collection, has\_node\_collection, has\_publication\_collection, has\_target\_collection, has\_update\_collection**

- **End Reference\_Entry\_Collection**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **doi** value: **value** <sup>Optional</sup>

attribute: **reference\_text** value: **value** <sup>Optional</sup>

attribute: **url** value: **value** <sup>Optional</sup>

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area\_Collection**

attribute: **processing\_level\_id** value: **CLB, DRV, RAW, RDC** <sup>Optional</sup>

- **File\_Area\_Inventory\_LIDVID\_Primary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Primary class describes a file and an inventory with references to primary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** <sup>Optional</sup>

attribute: **comment** value: *value* Optional  
attribute: **creation\_date\_time** value: *value* Optional  
attribute: **file\_name** value: *value*  
attribute: **file\_size** value: *value* Optional  
attribute: **maximum\_record\_bytes** value: *value* Optional  
attribute: **md5\_checksum** value: *value* Optional  
attribute: **records** value: *value* Optional

- **End File**

- **Inventory\_LIDVID\_Primary Occurs 1 Times - Base\_Class:Table\_Base**

description: **The Inventory LIDVID Primary class defines the inventory for primary members of a collection.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **2**  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*  
attribute: **reference\_association\_type** value: **has\_member\_LIDVID\_Primary**

- **Table\_Record\_Inventory\_LIDVID\_Primary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Primary class defines the inventory record for a primary member.**

role: **Concrete**

- **Table\_Field\_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

attribute: **name** value: **LIDVID**  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: **1**  
attribute: **data\_type** value: **ASCII\_LIDVID**  
attribute: **field\_location** value: **1**  
attribute: **field\_length** value: *value*  
attribute: **field\_format** value: *value* Optional

- **End Table\_Field\_LIDVID**

- **Table\_Field\_File\_Specification\_Name Occurs 1 Times**

description: **The Table\_Field\_File\_Specification\_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**

role: **Concrete**

attribute: **name** value: **file\_specification\_name**  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: **2** Optional  
attribute: **data\_type** value: **ASCII\_File\_Specification\_Name**  
attribute: **field\_location** value: *value*  
attribute: **field\_length** value: *value*  
attribute: **field\_format** value: *value* Optional

- **End Table\_Field\_File\_Specification\_Name**

- **End Table\_Record\_Inventory\_LIDVID\_Primary**

- **End Inventory\_LIDVID\_Primary**

- **End File\_Area\_Inventory\_LIDVID\_Primary**

- **File\_Area\_Inventory\_LIDVID\_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** <sup>Optional</sup>

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **creation\_date\_time** value: **value** <sup>Optional</sup>

attribute: **file\_name** value: **value**

attribute: **file\_size** value: **value** <sup>Optional</sup>

attribute: **maximum\_record\_bytes** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **records** value: **value** <sup>Optional</sup>

- **End File**

- **Inventory\_LIDVID\_Secondary Occurs 1 Times - Base\_Class:Table\_Base**

description: **The Inventory LIDVID Secondary class defines the inventory for secondary members of a collection. The references are LIDVIDs.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **1**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

attribute: **reference\_association\_type** value: **has\_member\_LIDVID\_Secondary**

- **Table\_Record\_Inventory\_LIDVID\_Secondary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Secondary class defines the inventory record for a secondary member. The reference is a LIDVID.**

role: **Concrete**

- **Table\_Field\_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

attribute: **name** value: **LIDVID**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **field\_number** value: **1**

attribute: **data\_type** value: **ASCII\_LIDVID**

attribute: **field\_location** value: **1**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** <sup>Optional</sup>

- **End Table\_Field\_LIDVID**

- **End Table\_Record\_Inventory\_LIDVID\_Secondary**

- **End Inventory\_LIDVID\_Secondary**

- **End File\_Area\_Inventory\_LIDVID\_Secondary**

- **File\_Area\_Inventory\_LID\_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDs.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** <sup>Optional</sup>

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **creation\_date\_time** value: **value** <sup>Optional</sup>

attribute: **file\_name** value: **value**

attribute: **file\_size** value: *value* Optional  
attribute: **maximum\_record\_bytes** value: *value* Optional  
attribute: **md5\_checksum** value: *value* Optional  
attribute: **records** value: *value* Optional

- End File

- **Inventory\_LID\_Secondary Occurs 1 Times - Base\_Class:Table\_Base**

description: **The Inventory LID Secondary class defines the inventory for secondary members of a collection. The references are LIDs.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **1**

attribute: **offset** value: *value*

attribute: **record\_length** value: *value*

attribute: **records** value: *value*

attribute: **reference\_association\_type** value: **has\_member\_LID\_Secondary**

- **Table\_Record\_Inventory\_LID\_Secondary Occurs 1 Times**

description: **The Table Record Inventory LID Secondary class defines the inventory record for a secondary member. The reference is a LID.**

role: **Concrete**

- **Table\_Field\_LID Occurs 1 Times**

description: **The Table\_Field\_LID class defines a table field that provides the logical identifier for a product.**

role: **Concrete**

attribute: **name** value: **LID**

attribute: **description** value: *value* Optional

attribute: **field\_number** value: **1** Optional

attribute: **data\_type** value: **ASCII\_LID**

attribute: **field\_location** value: **1**

attribute: **field\_length** value: *value*

attribute: **field\_format** value: *value* Optional

- End Table\_Field\_LID

- End Table\_Record\_Inventory\_LID\_Secondary

- End Inventory\_LID\_Secondary

- End File\_Area\_Inventory\_LID\_Secondary

- End Product\_Collection\_Data

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- **Product\_Data\_Set\_PDS3**

description: **The Data Set PDS3 product is used to create proxy labels for the data sets in the PDS3 Data Set catalog.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: *value*

attribute: **std\_ref\_version\_id** value: *value*

- End Data\_Standards

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: **value**  
attribute: **alternate\_title** value: **value** Optional  
attribute: **alternate\_id** value: **value** Optional  
attribute: **last\_modification\_date\_time** value: **value** Optional  
attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional  
attribute: **instrument\_name** value: **value** Optional  
attribute: **instrument\_host\_name** value: **value** Optional  
attribute: **keywords** value: **value** Optional  
attribute: **full\_name** value: **value** Optional  
attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **alternate\_designation** value: **value** Optional  
attribute: **lid\_reference** value: **value** Optional  
attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**  
role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional  
attribute: **lidvid\_reference** value: **value** Optional  
attribute: **reference\_association\_type** value: **has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target**

- **End Reference\_Entry\_Context**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **doi** value: **value** Optional  
attribute: **reference\_text** value: **value** Optional  
attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area\_Context**

- **Data\_Set\_PDS3 Occurs 1 Times**

description: **The Data Set PDS3 class is used to capture the data set information from the PDS3 Data Set Catalog.**  
role: **Concrete**

attribute: **data\_set\_id** value: *value*

attribute: **data\_set\_name** value: *value*

attribute: **data\_set\_release\_date** value: *value*

attribute: **start\_date\_time** value: *value*

attribute: **stop\_date\_time** value: *value*

attribute: **producer\_full\_name** value: *value*

attribute: **citation\_text** value: *value*

attribute: **data\_set\_terse\_desc** value: *value*

attribute: **abstract\_desc** value: *value*

attribute: **data\_set\_desc** value: *value*

attribute: **confidence\_level\_note** value: *value*

attribute: **archive\_status** value: ARCHIVED, ARCHIVED\_ACCUMULATING, IN\_LIEN\_RESOLUTION, IN\_LIEN\_RESOLUTION\_ACCUMULATING, IN\_PEER\_REVIEW, IN\_PEER\_REVIEW\_ACCUMULATING, IN\_QUEUE, IN\_QUEUE\_ACCUMULATING, LOCALLY\_ARCHIVED, LOCALLY\_ARCHIVED\_ACCUMULATING, PRE\_PEER\_REVIEW, PRE\_PEER\_REVIEW\_ACCUMULATING, SAFED, SUPERSEDED

- **NSSDC - Occurs 0 to \* Times**

description: **The NSSDC Information class provides identification information for data submitted to the NSSDC.**

role: **Concrete**

attribute: **medium\_type** value: *value*

attribute: **nssdc\_collection\_id** value: *value*

- **End NSSDC**

- **End Data\_Set\_PDS3**

- **End Product\_Data\_Set\_PDS3**

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- **Product\_Delimited\_Table**

description: **The Product Delimited Table class defines a product consisting of at least one Delimited Table (Spreadsheet) and other associated data objects and metadata.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: *value*

attribute: **std\_ref\_version\_id** value: *value*

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate\_title** value: *value* <sup>Optional</sup>

attribute: **alternate\_id** value: *value* <sup>Optional</sup>

attribute: **last\_modification\_date\_time** value: *value* <sup>Optional</sup>

attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* <sup>Optional</sup>

attribute: **instrument\_name** value: *value* <sup>Optional</sup>

attribute: **instrument\_host\_name** value: **value** Optional  
attribute: **keywords** value: **value** Optional  
attribute: **full\_name** value: **value** Optional  
attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **alternate\_designation** value: **value** Optional  
attribute: **lid\_reference** value: **value** Optional  
attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **doi** value: **value** Optional  
attribute: **reference\_text** value: **value** Optional  
attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional  
attribute: **lidvid\_reference** value: **value** Optional  
attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**
- **End Observing\_System\_Component**
- **End Observing\_System**

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- **End Reference\_Entry\_Product**
- **End Cross\_Reference\_Area\_Product**

- **Observation\_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission\_Area - Occurs 0 to \* Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission\_Area**

- **Node\_Area - Occurs 0 to \* Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node\_Area**

attribute: **comment** value: **value** Optional

attribute: **start\_date\_time** value: **value**

attribute: **stop\_date\_time** value: **value**

attribute: **local\_mean\_solar\_time** value: **value** Optional

attribute: **local\_true\_solar\_time** value: **value** Optional

attribute: **mission\_phase\_name** value: **value** Optional

attribute: **orbit\_number** value: **value** Optional

attribute: **planet\_day\_number** value: **value** Optional

attribute: **solar\_longitude** value: **value** Optional

attribute: **spacecraft\_clock\_count\_partition** value: **value** Optional

attribute: **spacecraft\_clock\_start\_count** value: **value** Optional

attribute: **spacecraft\_clock\_stop\_count** value: **value** Optional

- **Geometry - Occurs 0 to \* Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

- **Vector - Occurs 0 to \* Times**

description: **The Vector class provides the components of either a velocity or position vector.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **name** value: *value*  
attribute: **description** value: *value*  
attribute: **type** value: POSITION, VELOCITY  
attribute: **vector\_components** value: *value*

- **Vector\_Component - Occurs 1 to \* Times**

description: **The Vector\_Component class provides a component of a vector.**  
role: **Concrete**

attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional  
attribute: **value** value: *value*

- **End Vector\_Component**

- **End Vector**

- **End Geometry**

- **End Observation\_Area**

- **File\_Area\_Observational - Occurs 1 to \* Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged\_data\_objects contained within the file.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**

attribute: **local\_identifier** value: *value* Optional  
attribute: **comment** value: *value* Optional  
attribute: **creation\_date\_time** value: *value* Optional  
attribute: **file\_name** value: *value*  
attribute: **file\_size** value: *value* Optional  
attribute: **maximum\_record\_bytes** value: *value* Optional  
attribute: **md5\_checksum** value: *value* Optional  
attribute: **records** value: *value* Optional

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: **The Image\_2D\_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**

attribute: **first\_line** value: **value** <sup>Optional</sup>

attribute: **first\_line\_sample** value: **value** <sup>Optional</sup>

attribute: **line\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image\_2D\_Display**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**  
attribute: **error\_constant** value: *value* <sup>Optional</sup>  
attribute: **invalid\_constant** value: *value* <sup>Optional</sup>  
attribute: **missing\_constant** value: *value* <sup>Optional</sup>  
attribute: **not\_applicable\_constant** value: *value* <sup>Optional</sup>  
attribute: **saturated\_constant** value: *value* <sup>Optional</sup>  
attribute: **unknown\_constant** value: *value* <sup>Optional</sup>

- **End Special\_Constants**
- **End Array\_2D\_Image**
- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**  
role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* <sup>Optional</sup>  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**  
attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**  
attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**  
attribute: **scaling\_factor** value: *value* <sup>Optional</sup>  
attribute: **value\_offset** value: *value* <sup>Optional</sup>  
attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography**

**classes.**  
role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Map**

- **Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Spectrum class is an extension of array\_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Spectrum**

- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Image class is an extension of array\_base and defines a three dimensional**

image.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: 3

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_3D\_Image

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **3**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The Object Statistics class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: *value* <sup>Optional</sup>

attribute: **invalid\_constant** value: *value* <sup>Optional</sup>

attribute: **missing\_constant** value: *value* <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: *value* <sup>Optional</sup>

attribute: **saturated\_constant** value: *value* <sup>Optional</sup>

attribute: **unknown\_constant** value: *value* <sup>Optional</sup>

- End Special\_Constants

- End Array\_3D\_Movie

- **Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: The Array 3D Spectrum class is an extension of array\_base and defines a three dimensional spectrum.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: 3

attribute: **axis\_index\_order** value: FIRST\_INDEX\_FASTEST

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: BINARY

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**  
attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants
- End Array\_3D\_Spectrum
- **Delimited\_Table - Occurs 0 to \* Times**

description: The **Delimited\_Table** class defines a simple table (spreadsheet) with delimited fields and records.

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x2C, 0x3B, 0x7C**  
attribute: **fields** value: **value**  
attribute: **maximum\_record\_length** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: **value**

- **Delimited\_Record Occurs 1 Times**

description: The **Delimited Record** class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.

role: **Concrete**

- **Delimited\_Field - Occurs 1 to \* Times**

description: The **Delimited Field** class is a component of the delimited table (spreadsheet) record class and defines a field of the record.

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: The **Field Statistics** class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- End Field\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: Concrete

attribute: **error\_constant** value: *value* Optional

attribute: **invalid\_constant** value: *value* Optional

attribute: **missing\_constant** value: *value* Optional

attribute: **not\_applicable\_constant** value: *value* Optional

attribute: **saturated\_constant** value: *value* Optional

attribute: **unknown\_constant** value: *value* Optional

- End Special\_Constants

- End Delimited\_Field

- End Delimited\_Record

- End Delimited\_Table

- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: The Delimited\_Table\_Grouped class defines a simple table (spreadsheet) that allows repeating groups of fields.

role: Concrete

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding\_type** value: CHARACTER

attribute: **external\_standard\_id** value: CSV, OTHER

attribute: **field\_delimiter** value: 0x09, 0x2C, 0x3B, 0x7C

attribute: **fields** value: *value*

attribute: **maximum\_record\_length** value: *value*

attribute: **offset** value: *value*

attribute: **record\_delimiter** value: 0x0A, 0x0D, 0x0D0x0A

attribute: **records** value: *value*

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: The Delimited Record Grouped class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.

role: Concrete

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: The Delimited Grouped Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.

role: Concrete

attribute: **repetitions** value: *value* Optional

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: The Delimited Field Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.

role: Concrete

- **Delimited\_Field - Occurs 0 to \* Times**

description: The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.

role: Concrete

attribute: **name** value: *value*

attribute: **description** value: *value* Optional

attribute: **field\_number** value: *value* Optional

attribute: **data\_type** value: ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer,

ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Field\_Sequence**

- **End Delimited\_Grouped\_Sequence**

- **End Delimited\_Record\_Grouped**

- **End Delimited\_Table\_Grouped**

- **Header - Occurs 0 to \* Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **bytes** value: **value**

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR**

attribute: **offset** value: **value**

- **End Header**

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value** <sup>Optional</sup>  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **bytes** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **external\_standard\_id** value: **FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR**  
attribute: **offset** value: **value**

- **End Header\_Binary**

- **Parsable\_Byte\_Stream - Occurs 0 to \* Times**

description: **The Parsable Byte Stream class defines byte streams that have standard parsing rules. The Parsable Byte Stream class is the parent class for all parsable byte streams.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **value**  
attribute: **offset** value: **value**

- **End Parsable\_Byte\_Stream**

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **value**  
attribute: **offset** value: **value**

- **End Stream\_Text**

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **field\_number** value: **value** <sup>Optional</sup>  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2,**

**SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**  
attribute: **last\_sampling\_parameter\_value** value: **value**  
attribute: **sampling\_parameter\_interval** value: **value**  
attribute: **sampling\_parameter\_name** value: **value**  
attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional  
attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- **End Table\_Binary**

- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: **value**

attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.  
role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.  
role: **Concrete**  
attribute: **repetitions** value: *value* Optional

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.  
role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.

role: **Concrete**  
attribute: **name** value: *value*  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: *value* Optional  
attribute: **data\_type** value: **Bit**  
attribute: **field\_location** value: *value*  
attribute: **field\_length** value: *value*  
attribute: **field\_format** value: *value* Optional  
attribute: **minimum\_scaled\_value** value: *value* Optional  
attribute: **maximum\_scaled\_value** value: *value* Optional  
attribute: **bit\_mask** value: *value* Optional  
attribute: **bits** value: *value*  
attribute: **scaling\_factor** value: *value* Optional  
attribute: **start\_bit** value: *value*  
attribute: **value\_offset** value: *value* Optional  
attribute: **unit** value: *value* Optional

- **End Table\_Binary\_Grouped\_Bit\_Field**

- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.

role: **Concrete**  
attribute: **name** value: *value*  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: *value* Optional  
attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**  
attribute: **field\_location** value: *value*  
attribute: **field\_length** value: *value*  
attribute: **field\_format** value: *value* Optional  
attribute: **minimum\_scaled\_value** value: *value* Optional  
attribute: **maximum\_scaled\_value** value: *value* Optional

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- **End Table\_Binary\_Grouped\_Field**
- **End Table\_Binary\_Field\_Sequence**
- **End Table\_Binary\_Grouped\_Sequence**
- **End Table\_Record\_Binary\_Grouped**
- **End Table\_Binary\_Grouped**
- **Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**  
role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**  
role: **Concrete**

- **Table\_Character\_Field - Occurs 1 to \* Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**  
role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **field\_number** value: **value** <sup>Optional</sup>  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** <sup>Optional</sup>  
attribute: **minimum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**  
role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **maximum** value: **value** <sup>Optional</sup>  
attribute: **mean** value: **value** <sup>Optional</sup>  
attribute: **median** value: **value** <sup>Optional</sup>  
attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: The **Special Constants** class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**
- **End Table\_Character\_Field**
- **End Table\_Record\_Character**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: The **Uniformly\_Sampled** class provides parameters for a uniformly sampled table.

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: **value**

attribute: **sampling\_parameter\_interval** value: **value**

attribute: **sampling\_parameter\_name** value: **value**

attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional

attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**
- **End Table\_Character**

- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: The **Table Character Grouped** class is an extension of table base and defines a simple character table that allows repeating groups of fields.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: The **Table Record Character Grouped** class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.

role: **Concrete**

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: The **Table Character Grouped Sequence** class is a component of the grouped table class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: The **Table Character Field Sequence** class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: The **Table Character Grouped Field** class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.

role: **Concrete**

attribute: **name** value: **value**  
 attribute: **description** value: **value** Optional  
 attribute: **field\_number** value: **value** Optional  
 attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
 attribute: **field\_location** value: **value**  
 attribute: **field\_length** value: **value**  
 attribute: **field\_format** value: **value** Optional  
 attribute: **minimum\_scaled\_value** value: **value** Optional  
 attribute: **maximum\_scaled\_value** value: **value** Optional  
 attribute: **scaling\_factor** value: **value** Optional  
 attribute: **value\_offset** value: **value** Optional  
 attribute: **unit** value: **value** Optional

- End Table\_Character\_Grouped\_Field
    - End Table\_Character\_Field\_Sequence
      - End Table\_Character\_Grouped\_Sequence
        - End Table\_Record\_Character\_Grouped
          - End Table\_Character\_Grouped
            - End File\_Area\_Observational
- End Product\_Delimited\_Table
- 

- **Product\_Delimited\_Table\_Grouped**

description: **The Product Delimited Table Grouped class defines a product consisting one delimited table with groups of repeating fields.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional

attribute: **last\_modification\_date\_time** value: **value** Optional

attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional

attribute: **instrument\_name** value: **value** Optional

attribute: **instrument\_host\_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: **value** Optional

attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** Optional

attribute: **lid\_reference** value: **value** Optional

attribute: **type** value: **value**

- End Name\_Resolution
- End Subject\_Area
- End Identification\_Area\_Product

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- End Bibliographic\_Reference
- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination,**

**Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope,  
Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- End Reference\_Entry\_Observing\_System\_Component
- End Observing\_System\_Component
- End Observing\_System

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- End Reference\_Entry\_Product
- End Cross\_Reference\_Area\_Product

- **Observation\_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission\_Area - Occurs 0 to \* Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- End Mission\_Area

- **Node\_Area - Occurs 0 to \* Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- End Node\_Area

attribute: **comment** value: **value** Optional

attribute: **start\_date\_time** value: **value**

attribute: **stop\_date\_time** value: **value**

attribute: **local\_mean\_solar\_time** value: **value** Optional

attribute: **local\_true\_solar\_time** value: **value** Optional

attribute: **mission\_phase\_name** value: **value** Optional

attribute: **orbit\_number** value: **value** Optional

attribute: **planet\_day\_number** value: **value** Optional

attribute: **solar\_longitude** value: **value** Optional

attribute: **spacecraft\_clock\_count\_partition** value: **value** Optional

attribute: **spacecraft\_clock\_start\_count** value: **value** Optional

attribute: **spacecraft\_clock\_stop\_count** value: **value** Optional

- **Geometry - Occurs 0 to \* Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

- **Vector - Occurs 0 to \* Times**

description: **The Vector class provides the components of either a velocity or position vector.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **name** value: **value**

attribute: **description** value: *value*  
attribute: **type** value: **POSITION, VELOCITY**  
attribute: **vector\_components** value: *value*

- **Vector\_Component - Occurs 1 to \* Times**

description: **The Vector\_Component class provides a component of a vector.**  
role: **Concrete**

attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional  
attribute: **value** value: *value*

- **End Vector\_Component**

- **End Vector**

- **End Geometry**

- **End Observation\_Area**

- **File\_Area\_Observational - Occurs 1 to \* Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged\_data\_objects contained within the file.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**

attribute: **local\_identifier** value: *value* Optional  
attribute: **comment** value: *value* Optional  
attribute: **creation\_date\_time** value: *value* Optional  
attribute: **file\_name** value: *value*  
attribute: **file\_size** value: *value* Optional  
attribute: **maximum\_record\_bytes** value: *value* Optional  
attribute: **md5\_checksum** value: *value* Optional  
attribute: **records** value: *value* Optional

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**
- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

  - **End Band\_Bin\_Set**
- **End Array\_Axis**
- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: **The Image\_2D\_Display class provides attributes to enable the display of a 2D image.**  
role: **Concrete**  
attribute: **first\_line** value: **value** Optional  
attribute: **first\_line\_sample** value: **value** Optional  
attribute: **line\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**  
attribute: **sample\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**
- **End Image\_2D\_Display**
- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**  
role: **Concrete**  
attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional
- **End Array\_Element**
- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**  
role: **Concrete**
- **End Cartography**
- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional
- **End Object\_Statistics**
- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**  
role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**
- **End Array\_2D\_Image**
- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Map**

- **Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Spectrum class is an extension of array\_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Spectrum**

- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Image class is an extension of array\_base and defines a three dimensional**

image.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: 3

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_3D\_Image

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **3**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The Object Statistics class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: *value* <sup>Optional</sup>

attribute: **invalid\_constant** value: *value* <sup>Optional</sup>

attribute: **missing\_constant** value: *value* <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: *value* <sup>Optional</sup>

attribute: **saturated\_constant** value: *value* <sup>Optional</sup>

attribute: **unknown\_constant** value: *value* <sup>Optional</sup>

- End Special\_Constants

- End Array\_3D\_Movie

- **Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: The Array 3D Spectrum class is an extension of array\_base and defines a three dimensional spectrum.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: 3

attribute: **axis\_index\_order** value: FIRST\_INDEX\_FASTEST

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: BINARY

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**  
attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* Optional

attribute: **value\_offset** value: *value* Optional

attribute: **unit** value: *value* Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* Optional

attribute: **maximum** value: *value* Optional

attribute: **md5\_checksum** value: *value* Optional

attribute: **mean** value: *value* Optional

attribute: **median** value: *value* Optional

attribute: **minimum** value: *value* Optional

attribute: **sample\_bit\_mask** value: *value* Optional

attribute: **standard\_deviation** value: *value* Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants
- End Array\_3D\_Spectrum
- **Delimited\_Table - Occurs 0 to \* Times**

description: The **Delimited\_Table** class defines a simple table (spreadsheet) with delimited fields and records.

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x2C, 0x3B, 0x7C**  
attribute: **fields** value: **value**  
attribute: **maximum\_record\_length** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: **value**

- **Delimited\_Record Occurs 1 Times**

description: The **Delimited Record** class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.

role: **Concrete**

- **Delimited\_Field - Occurs 1 to \* Times**

description: The **Delimited Field** class is a component of the delimited table (spreadsheet) record class and defines a field of the record.

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: The **Field Statistics** class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- End Field\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: Concrete

attribute: **error\_constant** value: *value* Optional

attribute: **invalid\_constant** value: *value* Optional

attribute: **missing\_constant** value: *value* Optional

attribute: **not\_applicable\_constant** value: *value* Optional

attribute: **saturated\_constant** value: *value* Optional

attribute: **unknown\_constant** value: *value* Optional

- End Special\_Constants

- End Delimited\_Field

- End Delimited\_Record

- End Delimited\_Table

- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: The Delimited\_Table\_Grouped class defines a simple table (spreadsheet) that allows repeating groups of fields.

role: Concrete

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding\_type** value: CHARACTER

attribute: **external\_standard\_id** value: CSV, OTHER

attribute: **field\_delimiter** value: 0x09, 0x2C, 0x3B, 0x7C

attribute: **fields** value: *value*

attribute: **maximum\_record\_length** value: *value*

attribute: **offset** value: *value*

attribute: **record\_delimiter** value: 0x0A, 0x0D, 0x0D0x0A

attribute: **records** value: *value*

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: The Delimited Record Grouped class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.

role: Concrete

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: The Delimited Grouped Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.

role: Concrete

attribute: **repetitions** value: *value* Optional

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: The Delimited Field Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.

role: Concrete

- **Delimited\_Field - Occurs 0 to \* Times**

description: The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.

role: Concrete

attribute: **name** value: *value*

attribute: **description** value: *value* Optional

attribute: **field\_number** value: *value* Optional

attribute: **data\_type** value: ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer,

ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Field\_Sequence**

- **End Delimited\_Grouped\_Sequence**

- **End Delimited\_Record\_Grouped**

- **End Delimited\_Table\_Grouped**

- **Header - Occurs 0 to \* Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **bytes** value: **value**

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR**

attribute: **offset** value: **value**

- **End Header**

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value** <sup>Optional</sup>  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **bytes** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **external\_standard\_id** value: **FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR**  
attribute: **offset** value: **value**

- **End Header\_Binary**

- **Parsable\_Byte\_Stream - Occurs 0 to \* Times**

description: **The Parsable Byte Stream class defines byte streams that have standard parsing rules. The Parsable Byte Stream class is the parent class for all parsable byte streams.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **value**  
attribute: **offset** value: **value**

- **End Parsable\_Byte\_Stream**

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **value**  
attribute: **offset** value: **value**

- **End Stream\_Text**

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **field\_number** value: **value** <sup>Optional</sup>  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2,**

**SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**  
attribute: **last\_sampling\_parameter\_value** value: **value**  
attribute: **sampling\_parameter\_interval** value: **value**  
attribute: **sampling\_parameter\_name** value: **value**  
attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional  
attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- **End Table\_Binary**

- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: **value**

attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.  
role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.  
role: **Concrete**  
attribute: **repetitions** value: *value* Optional

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.  
role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.

role: **Concrete**  
attribute: **name** value: *value*  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: *value* Optional  
attribute: **data\_type** value: **Bit**  
attribute: **field\_location** value: *value*  
attribute: **field\_length** value: *value*  
attribute: **field\_format** value: *value* Optional  
attribute: **minimum\_scaled\_value** value: *value* Optional  
attribute: **maximum\_scaled\_value** value: *value* Optional  
attribute: **bit\_mask** value: *value* Optional  
attribute: **bits** value: *value*  
attribute: **scaling\_factor** value: *value* Optional  
attribute: **start\_bit** value: *value*  
attribute: **value\_offset** value: *value* Optional  
attribute: **unit** value: *value* Optional

- **End Table\_Binary\_Grouped\_Bit\_Field**

- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.

role: **Concrete**  
attribute: **name** value: *value*  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: *value* Optional  
attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**  
attribute: **field\_location** value: *value*  
attribute: **field\_length** value: *value*  
attribute: **field\_format** value: *value* Optional  
attribute: **minimum\_scaled\_value** value: *value* Optional  
attribute: **maximum\_scaled\_value** value: *value* Optional

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- End Table\_Binary\_Grouped\_Field
- End Table\_Binary\_Field\_Sequence
- End Table\_Binary\_Grouped\_Sequence
- End Table\_Record\_Binary\_Grouped
- End Table\_Binary\_Grouped
- **Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**  
role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**  
role: **Concrete**

- **Table\_Character\_Field - Occurs 1 to \* Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**  
role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **field\_number** value: **value** <sup>Optional</sup>  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** <sup>Optional</sup>  
attribute: **minimum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**  
role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **maximum** value: **value** <sup>Optional</sup>  
attribute: **mean** value: **value** <sup>Optional</sup>  
attribute: **median** value: **value** <sup>Optional</sup>  
attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- End Field\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: Concrete

attribute: **error\_constant** value: *value* Optional

attribute: **invalid\_constant** value: *value* Optional

attribute: **missing\_constant** value: *value* Optional

attribute: **not\_applicable\_constant** value: *value* Optional

attribute: **saturated\_constant** value: *value* Optional

attribute: **unknown\_constant** value: *value* Optional

- End Special\_Constants
- End Table\_Character\_Field
- End Table\_Record\_Character

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: The Uniformly\_Sampled class provides parameters for a uniformly sampled table.

role: Concrete

attribute: **first\_sampling\_parameter\_value** value: *value*

attribute: **last\_sampling\_parameter\_value** value: *value*

attribute: **sampling\_parameter\_interval** value: *value*

attribute: **sampling\_parameter\_name** value: *value*

attribute: **sampling\_parameter\_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional

attribute: **sampling\_parameter\_unit** value: *value*

- End Uniformly\_Sampled
- End Table\_Character

- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.

role: Concrete

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding\_type** value: CHARACTER

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record\_length** value: *value*

attribute: **records** value: *value*

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.

role: Concrete

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.

role: Concrete

attribute: **repetitions** value: *value* Optional

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: Concrete

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.

role: Concrete

attribute: **name** value: **value**  
 attribute: **description** value: **value** Optional  
 attribute: **field\_number** value: **value** Optional  
 attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
 attribute: **field\_location** value: **value**  
 attribute: **field\_length** value: **value**  
 attribute: **field\_format** value: **value** Optional  
 attribute: **minimum\_scaled\_value** value: **value** Optional  
 attribute: **maximum\_scaled\_value** value: **value** Optional  
 attribute: **scaling\_factor** value: **value** Optional  
 attribute: **value\_offset** value: **value** Optional  
 attribute: **unit** value: **value** Optional

- End Table\_Character\_Grouped\_Field
  - End Table\_Character\_Field\_Sequence
  - End Table\_Character\_Grouped\_Sequence
  - End Table\_Record\_Character\_Grouped
  - End Table\_Character\_Grouped
  - End File\_Area\_Observational
  - End Product\_Delimited\_Table\_Grouped
- 

## • Product\_Delivery\_Manifest

description: **The Product Delivery Manifest is class that defines a system product that contains a table of references to one or more files.**

role: **Concrete**

### • Data\_Standards Occurs 1 Times

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

### • End Data\_Standards

### • Identification\_Area\_Manifest Occurs 1 Times

description: **The manifest identification area consists of attributes that identify and name a manifest.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional

attribute: **last\_modification\_date\_time** value: **value** Optional

attribute: **type** value: **value**

### • Subject\_Area - Occurs 0 to 1 Times

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional

attribute: **instrument\_name** value: **value** Optional

attribute: **instrument\_host\_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: **value** Optional

attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** Optional

attribute: **lid\_reference** value: **value** Optional

attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Manifest**

- **Cross\_Reference\_Area\_Manifest - Occurs 0 to 1 Times**

description: **The manifest cross reference area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **Reference\_Entry - Occurs 0 to \* Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **has\_association, member\_of**

- **End Reference\_Entry**

- **End Cross\_Reference\_Area\_Manifest**

- **File\_Area\_Delivery\_Manifest Occurs 1 Times**

description: **The File\_Area\_Delivery\_Manifest class describes a file that contains a character table that is compliant to a file generated from MD5 checksum software.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional

attribute: **comment** value: **value** Optional

attribute: **creation\_date\_time** value: **value** Optional

attribute: **file\_name** value: **value**

attribute: **file\_size** value: **value** Optional

attribute: **maximum\_record\_bytes** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **records** value: **value** Optional

- End File

- **Delivery\_Manifest Occurs 1 Times**

description: **The Delivery\_Manifest class defines a two column table for file references. The table structure is compatible with the output from an MD5 checksum utility.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **2**

attribute: **offset** value: *value*

attribute: **record\_length** value: *value*

attribute: **records** value: *value*

attribute: **reference\_association\_type** value: **has\_member** Optional

- **Table\_Record\_Manifest Occurs 1 Times**

description: **The Table Record Manifest class defines the record for an MD5 checksum manifest table.**

role: **Concrete**

- **Table\_Field\_Checksum Occurs 1 Times**

description: **The Table Field Checksum class defines a table field that provides a file checksum.**

role: **Concrete**

attribute: **name** value: **MD5\_checksum**

attribute: **description** value: *value* Optional

attribute: **field\_number** value: *value* Optional

attribute: **data\_type** value: **ASCII\_MD5\_Checksum**

attribute: **field\_location** value: *value*

attribute: **field\_length** value: *value*

attribute: **field\_format** value: *value* Optional

- End Table\_Field\_Checksum

- **Table\_Field\_File\_Specification\_Name Occurs 1 Times**

description: **The Table\_Field\_File\_Specification\_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**

role: **Concrete**

attribute: **name** value: **file\_specification\_name**

attribute: **description** value: *value* Optional

attribute: **field\_number** value: **2** Optional

attribute: **data\_type** value: **ASCII\_File\_Specification\_Name**

attribute: **field\_location** value: *value*

attribute: **field\_length** value: *value*

attribute: **field\_format** value: *value* Optional

- End Table\_Field\_File\_Specification\_Name

- End Table\_Record\_Manifest

- End Delivery\_Manifest

- End File\_Area\_Delivery\_Manifest

- End Product\_Delivery\_Manifest

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- **Product\_Document**

description: **A Product Document is a product consisting of a single logical document that may be comprised of one or more document formats.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: *value*

attribute: **std\_ref\_version\_id** value: *value*

- **End Data\_Standards**

- **Identification\_Area\_Document Occurs 1 Times**

description: **The document identification area consists of attributes that identify and name a document product.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate\_title** value: *value* <sup>Optional</sup>

attribute: **alternate\_id** value: *value* <sup>Optional</sup>

attribute: **last\_modification\_date\_time** value: *value* <sup>Optional</sup>

attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* <sup>Optional</sup>

attribute: **instrument\_name** value: *value* <sup>Optional</sup>

attribute: **instrument\_host\_name** value: *value* <sup>Optional</sup>

attribute: **keywords** value: *value* <sup>Optional</sup>

attribute: **full\_name** value: *value* <sup>Optional</sup>

attribute: **investigation\_name** value: *value* <sup>Optional</sup>

attribute: **observing\_system\_name** value: *value* <sup>Optional</sup>

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **name** value: *value*

attribute: **alternate\_designation** value: *value* <sup>Optional</sup>

attribute: **lid\_reference** value: *value* <sup>Optional</sup>

attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Document**

- **Cross\_Reference\_Area\_Document - Occurs 0 to 1 Times**

description: **The document cross reference area provides references to associated registered products.**

role: **Concrete**

- **Observing\_System - Occurs 0 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: *value* <sup>Optional</sup>

attribute: **name** value: *value* <sup>Optional</sup>

attribute: **description** value: *value*

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry - Occurs 0 to \* Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **has\_association, member\_of**

- **End Reference\_Entry**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area\_Document**

- **Document\_Format\_Set - Occurs 1 to \* Times**

description: **The Document Format Set class is a set consisting of a document format and associated files.**

role: **Concrete**

- **Document\_File - Occurs 1 to \* Times**

description: **The Document File class describes a file which is a part of a document.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional

attribute: **comment** value: **value** Optional

attribute: **creation\_date\_time** value: **value** Optional

attribute: **directory\_path\_name** value: **value** Optional

attribute: **encoding\_type** value: **BINARY, CHARACTER**

attribute: **external\_standard\_id** value: **ENCAPSULATED\_POSTSCRIPT, GIF, HTML, JPG, LaTeX, MICROSOFT\_WORD, PDF, PDF-A, PNG, POSTSCRIPT, RICH\_TEXT, TEXT, TIFF**

attribute: **file\_name** value: **value**

attribute: **file\_size** value: **value** Optional

attribute: **maximum\_record\_bytes** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **records** value: **value** Optional

- End Document\_File

- **Document\_Format Occurs 1 Times**

description: **The Document Format provides a description of a variant of a logical document that is stored in a specific format. For example the PDS Standards Reference has HTML and PDF formatted versions.**

role: **Concrete**

attribute: **description** value: *value* Optional

attribute: **format\_type** value: HTML, PDF, PDF-A, TEXT

attribute: **starting\_point\_identifier** value: *value* Optional

- End Document\_Format
- End Document\_Format\_Set

- **Document\_Desc Occurs 1 Times**

description: **The Document\_Desc class describes a document.**

role: **Concrete**

attribute: **document\_name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **acknowledgement\_text** value: *value* Optional

attribute: **author\_list** value: *value* Optional

attribute: **copyright** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **editor\_list** value: *value* Optional

attribute: **publication\_date** value: *value* Optional

attribute: **revision\_id** value: *value* Optional

- End Document\_Desc
  - End Product\_Document
- 

- **Product\_File\_Repository**

description: **The Product File Repository class consists of a single text file. This product is used to register a file in a repository.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: *value*

attribute: **std\_ref\_version\_id** value: *value*

- End Data\_Standards

- **Identification\_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate\_title** value: *value* Optional

attribute: **alternate\_id** value: *value* Optional

attribute: **last\_modification\_date\_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional

attribute: **instrument\_name** value: **value** Optional  
attribute: **instrument\_host\_name** value: **value** Optional  
attribute: **keywords** value: **value** Optional  
attribute: **full\_name** value: **value** Optional  
attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **alternate\_designation** value: **value** Optional  
attribute: **lid\_reference** value: **value** Optional  
attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area**

- **Cross\_Reference\_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**

role: **Concrete**

- **Observing\_System - Occurs 0 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional  
attribute: **lidvid\_reference** value: **value** Optional  
attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry - Occurs 0 to \* Times**

description: **The Reference Entry class provides a reference and type information about the reference.**

**The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **has\_association, member\_of**

- **End Reference\_Entry**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area**

- **File\_Area\_Binary Occurs 1 Times**

description: **The File Area Binary class describes a file that contains an encoded byte stream.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional

attribute: **comment** value: **value** Optional

attribute: **creation\_date\_time** value: **value** Optional

attribute: **file\_name** value: **value**

attribute: **file\_size** value: **value** Optional

attribute: **maximum\_record\_bytes** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **records** value: **value** Optional

- **End File**

- **Encoded\_Binary - Occurs 0 to \* Times**

description: **The Encoded Binary class describes a binary encoded byte stream. This class is used to describe files in the repository that are being registered using Product\_File\_Repository.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **BINARY**

attribute: **external\_standard\_id** value: **System**

attribute: **offset** value: **value**

- **End Encoded\_Binary**

- **End File\_Area\_Binary**

- **End Product\_File\_Repository**
- 

- **Product\_File\_Text**

description: **The Product File Text consists of a single text file with ASCII character encoding.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**  
attribute: **dd\_version\_id** value: *value*  
attribute: **std\_ref\_version\_id** value: *value*

- **End Data\_Standards**

- **Identification\_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*  
attribute: **version\_id** value: *value*  
attribute: **product\_class** value: *value*  
attribute: **title** value: *value*  
attribute: **alternate\_title** value: *value* Optional  
attribute: **alternate\_id** value: *value* Optional  
attribute: **last\_modification\_date\_time** value: *value* Optional  
attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional  
attribute: **instrument\_name** value: *value* Optional  
attribute: **instrument\_host\_name** value: *value* Optional  
attribute: **keywords** value: *value* Optional  
attribute: **full\_name** value: *value* Optional  
attribute: **investigation\_name** value: *value* Optional  
attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional  
attribute: **name** value: *value*  
attribute: **alternate\_designation** value: *value* Optional  
attribute: **lid\_reference** value: *value* Optional  
attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area**

- **Cross\_Reference\_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**

role: **Concrete**

- **Observing\_System - Occurs 0 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value*

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry - Occurs 0 to \* Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **has\_association, member\_of**

- **End Reference\_Entry**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **doi** value: **value** <sup>Optional</sup>

attribute: **reference\_text** value: **value** <sup>Optional</sup>

attribute: **url** value: **value** <sup>Optional</sup>

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area**

- **File\_Area\_Text Occurs 1 Times**

description: **The File Area Text class describes a file that contains a text stream object.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** <sup>Optional</sup>

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **creation\_date\_time** value: **value** <sup>Optional</sup>

attribute: **file\_name** value: **value**

attribute: **file\_size** value: **value** <sup>Optional</sup>

attribute: **maximum\_record\_bytes** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **records** value: **value** <sup>Optional</sup>

- **End File**

- **Stream\_Text Occurs 1 Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: *value*

attribute: **offset** value: *value*

- **End Stream\_Text**

- **End File\_Area\_Text**

- **End Product\_File\_Text**

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- **Product\_Instrument**

description: **An Instrument product describes an instrument.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: *value*

attribute: **std\_ref\_version\_id** value: *value*

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate\_title** value: *value* Optional

attribute: **alternate\_id** value: *value* Optional

attribute: **last\_modification\_date\_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional

attribute: **instrument\_name** value: *value* Optional

attribute: **instrument\_host\_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full\_name** value: *value* Optional

attribute: **investigation\_name** value: *value* Optional

attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **alternate\_designation** value: *value* Optional

attribute: **lid\_reference** value: *value* Optional

attribute: **type** value: *value*

- **End Name\_Resolution**

- End Subject\_Area
- End Identification\_Area\_Product

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**  
 role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target**

- End Reference\_Entry\_Context

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- End Bibliographic\_Reference
- End Cross\_Reference\_Area\_Context

- **Instrument Occurs 1 Times**

description: **The Instrument class provides a description of a physical object that collects data.**

role: **Concrete**

attribute: **version\_id** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

attribute: **naif\_instrument\_id** value: **value** Optional

attribute: **serial\_number** value: **value** Optional

- End Instrument
- End Product\_Instrument

- **Product\_Instrument\_Host**

description: **An Instrument Host product describes an instrument host.**  
 role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**  
attribute: **logical\_identifier** value: **value**  
attribute: **version\_id** value: **value**  
attribute: **product\_class** value: **value**  
attribute: **title** value: **value**  
attribute: **alternate\_title** value: **value** Optional  
attribute: **alternate\_id** value: **value** Optional  
attribute: **last\_modification\_date\_time** value: **value** Optional  
attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional  
attribute: **instrument\_name** value: **value** Optional  
attribute: **instrument\_host\_name** value: **value** Optional  
attribute: **keywords** value: **value** Optional  
attribute: **full\_name** value: **value** Optional  
attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **alternate\_designation** value: **value** Optional  
attribute: **lid\_reference** value: **value** Optional  
attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional  
attribute: **lidvid\_reference** value: **value** Optional  
attribute: **reference\_association\_type** value: **has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target**

- **End Reference\_Entry\_Context**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **doi** value: **value** Optional  
attribute: **reference\_text** value: **value** Optional  
attribute: **url** value: **value** Optional

- End Bibliographic\_Reference
- End Cross\_Reference\_Area\_Context

- **Instrument\_Host Occurs 1 Times**

description: **The Instrument Host class provides a description of the physical object upon which an instrument is mounted.**

role: **Concrete**

attribute: **version\_id** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

attribute: **naif\_host\_id** value: **value** Optional

attribute: **serial\_number** value: **value** Optional

- End Instrument\_Host
  - End Product\_Instrument\_Host
- 

- **Product\_Instrument\_Host PDS3**

description: **An Instrument Host product describes an instrument host. This product captures the PDS3 catalog instrument host information.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional

attribute: **last\_modification\_date\_time** value: **value** Optional

attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional

attribute: **instrument\_name** value: **value** Optional

attribute: **instrument\_host\_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: **value** Optional

attribute: **investigation\_name** value: **value** Optional

attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** Optional

attribute: **lid\_reference** value: **value** Optional

attribute: **type** value: **value**

- End Name\_Resolution
- End Subject\_Area
- End Identification\_Area\_Product
- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**  
role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target**

- End Reference\_Entry\_Context

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- End Bibliographic\_Reference
- End Cross\_Reference\_Area\_Context
- **Instrument\_Host\_PDS3 Occurs 1 Times**

description: **The Instrument Host class provides a description of the physical object upon which an instrument is mounted. This class captures the PDS3 catalog Instrument Host information.**

role: **Concrete**

attribute: **instrument\_host\_name** value: **value**

attribute: **instrument\_host\_desc** value: **value**

attribute: **instrument\_host\_id** value: **value**

attribute: **instrument\_host\_type** value: **value**

- End Instrument\_Host\_PDS3
  - End Product\_Instrument\_Host\_PDS3
- 

- **Product\_Instrument\_PDS3**

description: **An Instrument product describes an instrument. This product captures the PDS3 catalog instrument information.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate\_title** value: *value* Optional

attribute: **alternate\_id** value: *value* Optional

attribute: **last\_modification\_date\_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional

attribute: **instrument\_name** value: *value* Optional

attribute: **instrument\_host\_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full\_name** value: *value* Optional

attribute: **investigation\_name** value: *value* Optional

attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **alternate\_designation** value: *value* Optional

attribute: **lid\_reference** value: *value* Optional

attribute: **type** value: *value*

- End Name\_Resolution

- End Subject\_Area

- End Identification\_Area\_Product

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: *value* Optional

attribute: **lidvid\_reference** value: *value* Optional

attribute: **reference\_association\_type** value: **has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target**

- End Reference\_Entry\_Context

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **doi** value: **value** Optional  
attribute: **reference\_text** value: **value** Optional  
attribute: **url** value: **value** Optional

- End Bibliographic\_Reference
- End Cross\_Reference\_Area\_Context
- **Instrument\_PDS3 Occurs 1 Times**

description: **The Instrument class provides a description of a physical object that collects data. This class captures the PDS3 catalog Instrument information.**

role: **Concrete**

attribute: **instrument\_name** value: **value**  
attribute: **instrument\_desc** value: **value**  
attribute: **instrument\_id** value: **value**  
attribute: **instrument\_serial\_number** value: **value**  
attribute: **instrument\_type** value: **value**  
attribute: **instrument\_version\_id** value: **value**

- End Instrument\_PDS3
  - End Product\_Instrument\_PDS3
- 

## • **Product\_Investigation**

description: **The Investigation product describes an investigation.**  
role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**  
attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards
- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**  
attribute: **version\_id** value: **value**  
attribute: **product\_class** value: **value**  
attribute: **title** value: **value**  
attribute: **alternate\_title** value: **value** Optional  
attribute: **alternate\_id** value: **value** Optional  
attribute: **last\_modification\_date\_time** value: **value** Optional  
attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional  
attribute: **instrument\_name** value: **value** Optional  
attribute: **instrument\_host\_name** value: **value** Optional  
attribute: **keywords** value: **value** Optional  
attribute: **full\_name** value: **value** Optional  
attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **alternate\_designation** value: *value* Optional

attribute: **lid\_reference** value: *value* Optional

attribute: **type** value: *value*

- End Name\_Resolution
- End Subject\_Area
- End Identification\_Area\_Product
- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: *value* Optional

attribute: **lidvid\_reference** value: *value* Optional

attribute: **reference\_association\_type** value: **has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target**

- End Reference\_Entry\_Context
- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference\_text** value: *value* Optional

attribute: **url** value: *value* Optional

- End Bibliographic\_Reference
- End Cross\_Reference\_Area\_Context
- **Investigation Occurs 1 Times**

description: **The Investigation class is the abstract parent class for all activities involved in the collection of data.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value*

attribute: **start\_date** value: *value*

attribute: **stop\_date** value: *value*

- End Investigation
  - End Product\_Investigation
- 

## • **Product\_Mission**

description: **An Mission product describes a mission.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**  
attribute: **dd\_version\_id** value: *value*  
attribute: **std\_ref\_version\_id** value: *value*

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*  
attribute: **version\_id** value: *value*  
attribute: **product\_class** value: *value*  
attribute: **title** value: *value*  
attribute: **alternate\_title** value: *value* Optional  
attribute: **alternate\_id** value: *value* Optional  
attribute: **last\_modification\_date\_time** value: *value* Optional  
attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional  
attribute: **instrument\_name** value: *value* Optional  
attribute: **instrument\_host\_name** value: *value* Optional  
attribute: **keywords** value: *value* Optional  
attribute: **full\_name** value: *value* Optional  
attribute: **investigation\_name** value: *value* Optional  
attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional  
attribute: **name** value: *value*  
attribute: **alternate\_designation** value: *value* Optional  
attribute: **lid\_reference** value: *value* Optional  
attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: *value* Optional  
attribute: **lidvid\_reference** value: *value* Optional  
attribute: **reference\_association\_type** value: *has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target*

- **End Reference\_Entry\_Context**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**
- **End Cross\_Reference\_Area\_Context**

- **Mission Occurs 1 Times**

description: **The Mission class describes an activity involved in the collection of data.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

attribute: **start\_date** value: **value**

attribute: **stop\_date** value: **value**

- **End Mission**
  - **End Product\_Mission**
- 

- **Product\_Mission\_PDS3**

description: **An Mission product describes a mission. This product captures the PDS3 catalog mission information.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional

attribute: **last\_modification\_date\_time** value: **value** Optional

attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional

attribute: **instrument\_name** value: **value** Optional

attribute: **instrument\_host\_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: **value** Optional

attribute: **investigation\_name** value: **value** Optional

attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** <sup>Optional</sup>

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **type** value: **value**

- End Name\_Resolution
- End Subject\_Area
- End Identification\_Area\_Product
- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target**

- End Reference\_Entry\_Context
- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **doi** value: **value** <sup>Optional</sup>

attribute: **reference\_text** value: **value** <sup>Optional</sup>

attribute: **url** value: **value** <sup>Optional</sup>

- End Bibliographic\_Reference
- End Cross\_Reference\_Area\_Context
- **Mission\_PDS3 Occurs 1 Times**

description: **The Mission PDS3 class describes an activity involved in the collection of data. This class captures the PDS3 catalog Mission information.**

role: **Concrete**

attribute: **mission\_name** value: **value**

attribute: **mission\_desc** value: **value**

attribute: **mission\_objectives\_summary** value: **value**

attribute: **mission\_start\_date** value: **value**

attribute: **mission\_stop\_date** value: **value**

- End Mission\_PDS3
  - End Product\_Mission\_PDS3
- 

- **Product\_Node**

description: **A node product describes a node.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**  
role: **Concrete**  
attribute: **dd\_version\_id** value: *value*  
attribute: **std\_ref\_version\_id** value: *value*

- **End Data\_Standards**

- **Identification\_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**  
role: **Concrete**  
attribute: **logical\_identifier** value: *value*  
attribute: **version\_id** value: *value*  
attribute: **product\_class** value: *value*  
attribute: **title** value: *value*  
attribute: **alternate\_title** value: *value* Optional  
attribute: **alternate\_id** value: *value* Optional  
attribute: **last\_modification\_date\_time** value: *value* Optional  
attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional  
attribute: **instrument\_name** value: *value* Optional  
attribute: **instrument\_host\_name** value: *value* Optional  
attribute: **keywords** value: *value* Optional  
attribute: **full\_name** value: *value* Optional  
attribute: **investigation\_name** value: *value* Optional  
attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional  
attribute: **name** value: *value*  
attribute: **alternate\_designation** value: *value* Optional  
attribute: **lid\_reference** value: *value* Optional  
attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area**

- **Cross\_Reference\_Area\_Context - Occurs 0 to 1 Times**

description: **The context cross reference area provides references to associated registered products.**  
role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: *value* Optional  
attribute: **lidvid\_reference** value: *value* Optional  
attribute: **reference\_association\_type** value: *has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target*

- **End Reference\_Entry\_Context**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference\_text** value: *value* Optional

attribute: **url** value: *value* Optional

- End Bibliographic\_Reference
- End Cross\_Reference\_Area\_Context

- **Node Occurs 1 Times**

description: **The Node class provides a description of a conceptual object that provides local governance within the federated Planetary Data System.**

role: **Concrete**

attribute: **name** value: **Engineering, Geosciences, Imaging, Navigation Ancillary Information Facility, Planetary Atmospheres, Planetary Plasma Interactions, Planetary Rings, Radio Science, Small Bodies**

attribute: **description** value: *value*

attribute: **institution\_name** value: *value*

- End Node
  - End Product\_Node
- 

- **Product\_Non\_Specific**

description: **The Product Non Specific class defines a template for any data product.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: *value*

attribute: **std\_ref\_version\_id** value: *value*

- End Data\_Standards

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate\_title** value: *value* Optional

attribute: **alternate\_id** value: *value* Optional

attribute: **last\_modification\_date\_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional

attribute: **instrument\_name** value: *value* Optional

attribute: **instrument\_host\_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full\_name** value: *value* Optional

attribute: **investigation\_name** value: *value* Optional

attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** <sup>Optional</sup>

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **doi** value: **value** <sup>Optional</sup>

attribute: **reference\_text** value: **value** <sup>Optional</sup>

attribute: **url** value: **value** <sup>Optional</sup>

- **End Bibliographic\_Reference**

- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** <sup>Optional</sup>

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- End Reference\_Entry\_Observing\_System\_Component
  - End Observing\_System\_Component
- End Observing\_System

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- End Reference\_Entry\_Product
- End Cross\_Reference\_Area\_Product

- **Observation\_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission\_Area - Occurs 0 to \* Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- End Mission\_Area

- **Node\_Area - Occurs 0 to \* Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- End Node\_Area

attribute: **comment** value: **value** Optional

attribute: **start\_date\_time** value: **value**

attribute: **stop\_date\_time** value: **value**

attribute: **local\_mean\_solar\_time** value: **value** Optional

attribute: **local\_true\_solar\_time** value: **value** Optional

attribute: **mission\_phase\_name** value: **value** Optional

attribute: **orbit\_number** value: **value** Optional

attribute: **planet\_day\_number** value: **value** Optional

attribute: **solar\_longitude** value: **value** Optional

attribute: **spacecraft\_clock\_count\_partition** value: **value** Optional

attribute: **spacecraft\_clock\_start\_count** value: **value** Optional

attribute: **spacecraft\_clock\_stop\_count** value: **value** Optional

- **Geometry - Occurs 0 to \* Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

- **Vector - Occurs 0 to \* Times**

description: **The Vector class provides the components of either a velocity or position vector.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **name** value: **value**

attribute: **description** value: **value**

attribute: **type** value: **POSITION, VELOCITY**

attribute: **vector\_components** value: **value**

- **Vector\_Component - Occurs 1 to \* Times**

description: **The Vector\_Component class provides a component of a vector.**

role: **Concrete**

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** <sup>Optional</sup>

attribute: **value** value: **value**

- **End Vector\_Component**

- **End Vector**

- **End Geometry**

- **End Observation\_Area**

- **File\_Area\_Observational - Occurs 1 to \* Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged\_data\_objects contained within the file.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** <sup>Optional</sup>

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **creation\_date\_time** value: **value** <sup>Optional</sup>

attribute: **file\_name** value: **value**

attribute: **file\_size** value: **value** <sup>Optional</sup>

attribute: **maximum\_record\_bytes** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **records** value: **value** <sup>Optional</sup>

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Band\_Bin\_Set**
- **End Array\_Axis**

- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: **The Image\_2D\_Display class provides attributes to enable the display of a 2D image.**  
role: **Concrete**  
attribute: **first\_line** value: **value** <sup>Optional</sup>  
attribute: **first\_line\_sample** value: **value** <sup>Optional</sup>  
attribute: **line\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**  
attribute: **sample\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image\_2D\_Display**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**  
role: **Concrete**  
attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**  
attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**  
role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **maximum** value: **value** <sup>Optional</sup>  
attribute: **md5\_checksum** value: **value** <sup>Optional</sup>  
attribute: **mean** value: **value** <sup>Optional</sup>  
attribute: **median** value: **value** <sup>Optional</sup>  
attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**  
role: **Concrete**  
attribute: **error\_constant** value: **value** <sup>Optional</sup>  
attribute: **invalid\_constant** value: **value** <sup>Optional</sup>  
attribute: **missing\_constant** value: **value** <sup>Optional</sup>  
attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: *value* <sup>Optional</sup>

attribute: **unknown\_constant** value: *value* <sup>Optional</sup>

- End Special\_Constants
- End Array\_2D\_Image
- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Map**

- **Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Spectrum class is an extension of array\_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set
- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- End Special\_Constants

- End Array\_2D\_Spectrum

- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Image class is an extension of array\_base and defines a three dimensional image.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **axes** value: 3  
attribute: **axis\_index\_order** value: FIRST\_INDEX\_FASTEST  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: BINARY  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: The **Array Axis** class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: The **Axis\_Display** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The **Band\_Bin\_Set** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: The **Array Element** class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The **Object Statistics** class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_3D\_Image

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **3**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8,**

### UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- End Array\_Element

### • Cartography - Occurs 0 to 1 Times

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

### • Object\_Statistics - Occurs 0 to 1 Times

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

### • Special\_Constants - Occurs 0 to 1 Times

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_3D\_Movie

### • Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base

description: **The Array 3D Spectrum class is an extension of array\_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

### • Array\_Axis Occurs 3 Times

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: The **Axis\_Display** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The **Band\_Bin\_Set** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: The **Array Element** class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The **Object Statistics** class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: The **Special Constants** class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**
- **End Array\_3D\_Spectrum**

- **Delimited\_Table - Occurs 0 to \* Times**

description: **The Delimited\_Table class defines a simple table (spreadsheet) with delimited fields and records.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x2C, 0x3B, 0x7C**  
attribute: **fields** value: **value**  
attribute: **maximum\_record\_length** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: **value**

- **Delimited\_Record Occurs 1 Times**

description: **The Delimited Record class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.**

role: **Concrete**

- **Delimited\_Field - Occurs 1 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* Optional

attribute: **invalid\_constant** value: *value* Optional

attribute: **missing\_constant** value: *value* Optional

attribute: **not\_applicable\_constant** value: *value* Optional

attribute: **saturated\_constant** value: *value* Optional

attribute: **unknown\_constant** value: *value* Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Record**

- **End Delimited\_Table**

- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: **The Delimited\_Table\_Grouped class defines a simple table (spreadsheet) that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **CSV, OTHER**

attribute: **field\_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**

attribute: **fields** value: *value*

attribute: **maximum\_record\_length** value: *value*

attribute: **offset** value: *value*

attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**

attribute: **records** value: *value*

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: **The Delimited Record Grouped class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.**

role: **Concrete**

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Grouped Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: *value* Optional

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Field Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Delimited\_Field - Occurs 0 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* Optional

attribute: **field\_number** value: *value* Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved,**

#### ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- End Field\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Delimited\_Field

- End Delimited\_Field\_Sequence

- End Delimited\_Grouped\_Sequence

- End Delimited\_Record\_Grouped

- End Delimited\_Table\_Grouped

- **Header - Occurs 0 to \* Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **bytes** value: **value**

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR**

attribute: **offset** value: **value**

- End Header

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **external\_standard\_id** value: **FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR**  
attribute: **offset** value: *value*

- **End Header\_Binary**

- **Parsable\_Byte\_Stream - Occurs 0 to \* Times**

description: **The Parsable Byte Stream class defines byte streams that have standard parsing rules. The Parsable Byte Stream class is the parent class for all parsable byte streams.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- **End Parsable\_Byte\_Stream**

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- **End Stream\_Text**

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: *value*  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: *value* Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4,**

### UnsignedMSB8

attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**  
attribute: **last\_sampling\_parameter\_value** value: **value**  
attribute: **sampling\_parameter\_interval** value: **value**  
attribute: **sampling\_parameter\_name** value: **value**  
attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional  
attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- **End Table\_Binary**

- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**  
role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** <sup>Optional</sup>

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **field\_number** value: **value** <sup>Optional</sup>

attribute: **data\_type** value: **Bit**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** <sup>Optional</sup>

attribute: **minimum\_scaled\_value** value: **value** <sup>Optional</sup>

attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>

attribute: **bit\_mask** value: **value** <sup>Optional</sup>

attribute: **bits** value: **value**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **start\_bit** value: **value**

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Table\_Binary\_Grouped\_Bit\_Field**

- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **field\_number** value: **value** <sup>Optional</sup>

attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** <sup>Optional</sup>

attribute: **minimum\_scaled\_value** value: **value** <sup>Optional</sup>

attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- End Table\_Binary\_Grouped\_Field
- End Table\_Binary\_Field\_Sequence
- End Table\_Binary\_Grouped\_Sequence
- End Table\_Record\_Binary\_Grouped
- End Table\_Binary\_Grouped

- **Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

- **Table\_Record\_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**

role: **Concrete**

- **Table\_Character\_Field - Occurs 1 to \* Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants
- End Table\_Character\_Field
- End Table\_Record\_Character
  
- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**  
role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**  
attribute: **last\_sampling\_parameter\_value** value: **value**  
attribute: **sampling\_parameter\_interval** value: **value**  
attribute: **sampling\_parameter\_name** value: **value**  
attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional  
attribute: **sampling\_parameter\_unit** value: **value**

- End Uniformly\_Sampled
- End Table\_Character
  
- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**  
role: **Concrete**

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**  
attribute: **repetitions** value: **value** Optional

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**  
role: **Concrete**

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**  
attribute: **name** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC,**

ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- End Table\_Character\_Grouped\_Field
    - End Table\_Character\_Field\_Sequence
      - End Table\_Character\_Grouped\_Sequence
        - End Table\_Record\_Character\_Grouped
          - End Table\_Character\_Grouped
            - End File\_Area\_Observational
  - End Product\_Non\_Specific
- 

## • Product\_PDS\_Affiliate

description: **A PDS Affiliate product describes a person in the role of an affiliate of the PDS.**

role: **Concrete**

### • Data\_Standards Occurs 1 Times

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

### • End Data\_Standards

### • Identification\_Area\_Product Occurs 1 Times

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional

attribute: **last\_modification\_date\_time** value: **value** Optional

attribute: **type** value: **value**

### • Subject\_Area - Occurs 0 to 1 Times

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional

attribute: **instrument\_name** value: **value** Optional

attribute: **instrument\_host\_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: **value** Optional

attribute: **investigation\_name** value: **value** Optional

attribute: **observing\_system\_name** value: **value** Optional

### • Name\_Resolution - Occurs 0 to \* Times

description: **The Name\_Resolution (aka Target) class provides a means for target identification in**

**observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** <sup>Optional</sup>

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **type** value: **value**

- End Name\_Resolution
- End Subject\_Area
- End Identification\_Area\_Product

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target**

- End Reference\_Entry\_Context

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **doi** value: **value** <sup>Optional</sup>

attribute: **reference\_text** value: **value** <sup>Optional</sup>

attribute: **url** value: **value** <sup>Optional</sup>

- End Bibliographic\_Reference
- End Cross\_Reference\_Area\_Context

- **PDS\_Affiliate Occurs 1 Times**

description: **The PDS Affiliate class provides a description of a person who has an association with the planetary science community and has access to PDS resources not normally allowed to the general public.**

role: **Concrete**

attribute: **node\_name** value: **Engineering, Geosciences, HQ, Imaging, National\_Space\_Science\_Data\_Center, Navigation\_Ancillary\_Information\_Facility, PDS\_Management, Planetary\_Atmospheres, Planetary\_Plasma\_Interactions, Planetary\_Rings, Radio\_Science, Small\_Bodies, unk** <sup>Optional</sup>

attribute: **registration\_date** value: **value**

attribute: **electronic\_mail\_address** value: **value** <sup>Optional</sup>

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **sort\_name** value: **value**

attribute: **description** value: **value**

attribute: **affiliation\_type** value: **Affiliate, Data\_Provider, Manager, Technical\_Staff**

attribute: **alternate\_telephone\_number** value: **value** <sup>Optional</sup>

attribute: **institution\_name** value: **value**

attribute: **phone\_book\_flag** value: **value**

attribute: **postal\_address\_text** value: **value**

attribute: **telephone\_number** value: **value** <sup>Optional</sup>

- End PDS\_Affiliate
  - End Product\_PDS\_Affiliate
-

- **Product\_PDS\_Guest**

description: **A PDS Guest product describes a person in the role of guest user of the PDS.**  
role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**  
role: **Concrete**  
attribute: **dd\_version\_id** value: *value*  
attribute: **std\_ref\_version\_id** value: *value*

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**  
role: **Concrete**  
attribute: **logical\_identifier** value: *value*  
attribute: **version\_id** value: *value*  
attribute: **product\_class** value: *value*  
attribute: **title** value: *value*  
attribute: **alternate\_title** value: *value* Optional  
attribute: **alternate\_id** value: *value* Optional  
attribute: **last\_modification\_date\_time** value: *value* Optional  
attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**  
role: **Concrete**

attribute: **target\_name** value: *value* Optional  
attribute: **instrument\_name** value: *value* Optional  
attribute: **instrument\_host\_name** value: *value* Optional  
attribute: **keywords** value: *value* Optional  
attribute: **full\_name** value: *value* Optional  
attribute: **investigation\_name** value: *value* Optional  
attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value*  
attribute: **alternate\_designation** value: *value* Optional  
attribute: **lid\_reference** value: *value* Optional  
attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**  
role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**  
role: **Concrete**

attribute: **lid\_reference** value: *value* Optional  
attribute: **lidvid\_reference** value: *value* Optional  
attribute: **reference\_association\_type** value: **has\_association**, **has\_data\_producer**, **has\_data\_set**, **has\_instrument**, **has\_instrument\_host**, **has\_investigation**, **has\_node**, **has\_personnel**, **has\_publication**, **has\_resource**, **has\_target**

- End Reference\_Entry\_Context

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **doi** value: *value* Optional  
attribute: **reference\_text** value: *value* Optional  
attribute: **url** value: *value* Optional

- End Bibliographic\_Reference
- End Cross\_Reference\_Area\_Context

- **PDS\_Guest Occurs 1 Times**

description: **The PDS\_Guest class is the default description of a person who has an association with the planetary science community and who has the most limited access to PDS resources.**

role: **Concrete**

attribute: **registration\_date** value: *value*  
attribute: **electronic\_mail\_address** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **sort\_name** value: *value*  
attribute: **description** value: *value*

- End PDS\_Guest
  - End Product\_PDS\_Guest
- 

- **Product\_Proxy\_PDS3**

description: **The Product Proxy PDS class defines a product with enough information to to register a PDS3 data product.**  
role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: *value*  
attribute: **std\_ref\_version\_id** value: *value*

- End Data\_Standards

- **Identification\_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*  
attribute: **version\_id** value: *value*  
attribute: **product\_class** value: *value*  
attribute: **title** value: *value*  
attribute: **alternate\_title** value: *value* Optional  
attribute: **alternate\_id** value: *value* Optional  
attribute: **last\_modification\_date\_time** value: *value* Optional  
attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using**

**keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** <sup>Optional</sup>

attribute: **instrument\_name** value: **value** <sup>Optional</sup>

attribute: **instrument\_host\_name** value: **value** <sup>Optional</sup>

attribute: **keywords** value: **value** <sup>Optional</sup>

attribute: **full\_name** value: **value** <sup>Optional</sup>

attribute: **investigation\_name** value: **value** <sup>Optional</sup>

attribute: **observing\_system\_name** value: **value** <sup>Optional</sup>

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** <sup>Optional</sup>

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area**

- **Cross\_Reference\_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**

role: **Concrete**

- **Observing\_System - Occurs 0 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** <sup>Optional</sup>

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry - Occurs 0 to \* Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **has\_association, member\_of**

- **End Reference\_Entry**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **doi** value: **value** <sup>Optional</sup>

attribute: **reference\_text** value: **value** <sup>Optional</sup>

attribute: **url** value: **value** <sup>Optional</sup>

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area**

- **Observation\_Area - Occurs 0 to 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission\_Area - Occurs 0 to \* Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission\_Area**

- **Node\_Area - Occurs 0 to \* Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node\_Area**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **start\_date\_time** value: **value**

attribute: **stop\_date\_time** value: **value**

attribute: **local\_mean\_solar\_time** value: **value** <sup>Optional</sup>

attribute: **local\_true\_solar\_time** value: **value** <sup>Optional</sup>

attribute: **mission\_phase\_name** value: **value** <sup>Optional</sup>

attribute: **orbit\_number** value: **value** <sup>Optional</sup>

attribute: **planet\_day\_number** value: **value** <sup>Optional</sup>

attribute: **solar\_longitude** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_count\_partition** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_start\_count** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_stop\_count** value: **value** <sup>Optional</sup>

- **Geometry - Occurs 0 to \* Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

- **Vector - Occurs 0 to \* Times**

description: **The Vector class provides the components of either a velocity or position vector.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **name** value: **value**  
attribute: **description** value: **value**  
attribute: **type** value: **POSITION, VELOCITY**  
attribute: **vector\_components** value: **value**

- **Vector\_Component - Occurs 1 to \* Times**

description: **The Vector\_Component class provides a component of a vector.**  
role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional  
attribute: **value** value: **value**

- **End Vector\_Component**

- **End Vector**

- **End Geometry**

- **End Observation\_Area**

- **File\_Area - Occurs 1 to \* Times**

description: **The File Area class describes a file and one or more tagged\_data\_objects contained within the file.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**

attribute: **local\_identifier** value: **value** Optional  
attribute: **comment** value: **value** Optional  
attribute: **creation\_date\_time** value: **value** Optional  
attribute: **file\_name** value: **value**  
attribute: **file\_size** value: **value** Optional  
attribute: **maximum\_record\_bytes** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **records** value: **value** Optional

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: **The Image\_2D\_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**

attribute: **first\_line** value: **value** <sup>Optional</sup>

attribute: **first\_line\_sample** value: **value** <sup>Optional</sup>

attribute: **line\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image\_2D\_Display**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**  
attribute: **error\_constant** value: *value* <sup>Optional</sup>  
attribute: **invalid\_constant** value: *value* <sup>Optional</sup>  
attribute: **missing\_constant** value: *value* <sup>Optional</sup>  
attribute: **not\_applicable\_constant** value: *value* <sup>Optional</sup>  
attribute: **saturated\_constant** value: *value* <sup>Optional</sup>  
attribute: **unknown\_constant** value: *value* <sup>Optional</sup>

- **End Special\_Constants**
- **End Array\_2D\_Image**
- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**  
role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* <sup>Optional</sup>  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**  
attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**  
attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**  
attribute: **scaling\_factor** value: *value* <sup>Optional</sup>  
attribute: **value\_offset** value: *value* <sup>Optional</sup>  
attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography**

**classes.**  
role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Map**

- **Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Spectrum class is an extension of array\_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Spectrum**

- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Image class is an extension of array\_base and defines a three dimensional**

image.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: 3

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_3D\_Image

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **3**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The Object Statistics class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: *value* <sup>Optional</sup>

attribute: **invalid\_constant** value: *value* <sup>Optional</sup>

attribute: **missing\_constant** value: *value* <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: *value* <sup>Optional</sup>

attribute: **saturated\_constant** value: *value* <sup>Optional</sup>

attribute: **unknown\_constant** value: *value* <sup>Optional</sup>

- End Special\_Constants

- End Array\_3D\_Movie

- **Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: The Array 3D Spectrum class is an extension of array\_base and defines a three dimensional spectrum.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: 3

attribute: **axis\_index\_order** value: FIRST\_INDEX\_FASTEST

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: BINARY

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**  
attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* Optional  
attribute: **invalid\_constant** value: *value* Optional  
attribute: **missing\_constant** value: *value* Optional  
attribute: **not\_applicable\_constant** value: *value* Optional  
attribute: **saturated\_constant** value: *value* Optional  
attribute: **unknown\_constant** value: *value* Optional

- **End Special\_Constants**
- **End Array\_3D\_Spectrum**
- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: The **Delimited\_Table\_Grouped** class defines a simple table (spreadsheet) that allows repeating groups of fields.

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**  
attribute: **fields** value: *value*  
attribute: **maximum\_record\_length** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: *value*

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: The **Delimited Record Grouped** class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.

role: **Concrete**

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: The **Delimited Grouped Sequence** class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: *value* Optional

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: The **Delimited Field Sequence** class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Delimited\_Field - Occurs 0 to \* Times**

description: The **Delimited Field** class is a component of the delimited table (spreadsheet) record class and defines a field of the record.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* Optional

attribute: **field\_number** value: *value* Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_length** value: *value*

attribute: **field\_format** value: *value* Optional

attribute: **minimum\_scaled\_value** value: *value* Optional

attribute: **maximum\_scaled\_value** value: *value* Optional

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **maximum** value: **value** <sup>Optional</sup>  
attribute: **mean** value: **value** <sup>Optional</sup>  
attribute: **median** value: **value** <sup>Optional</sup>  
attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>  
attribute: **invalid\_constant** value: **value** <sup>Optional</sup>  
attribute: **missing\_constant** value: **value** <sup>Optional</sup>  
attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>  
attribute: **saturated\_constant** value: **value** <sup>Optional</sup>  
attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Field\_Sequence**

- **End Delimited\_Grouped\_Sequence**

- **End Delimited\_Record\_Grouped**

- **End Delimited\_Table\_Grouped**

- **Encoded\_Image - Occurs 0 to \* Times**

description: **The Encoded Image class, a subclass of Encoded Byte stream is used for ancillary images in standard formats, such as JPEG.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **BINARY**  
attribute: **external\_standard\_id** value: **GIF, JPEG, PDF, PNG, TIFF**  
attribute: **offset** value: **value**

- **End Encoded\_Image**

- **File\_PDF - Occurs 0 to \* Times**

description: **The File PDF class describes a PDF encoded byte stream.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **BINARY**  
attribute: **external\_standard\_id** value: **PDF**  
attribute: **offset** value: **value**

- **End File\_PDF**

- **Header - Occurs 0 to \* Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR  
attribute: **offset** value: *value*

- End Header

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: BINARY  
attribute: **external\_standard\_id** value: FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR  
attribute: **offset** value: *value*

- End Header\_Binary

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Stream\_Text

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: BINARY  
attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**  
role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**  
role: **Concrete**  
attribute: **name** value: *value*  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: *value* Optional  
attribute: **data\_type** value: ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16,

ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: **value**

attribute: **sampling\_parameter\_interval** value: **value**

attribute: **sampling\_parameter\_name** value: **value**

attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional

attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- **End Table\_Binary**

- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**  
role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**  
role: **Concrete**  
attribute: **repetitions** value: **value** Optional

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**  
role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **Bit**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **bit\_mask** value: **value** Optional

attribute: **bits** value: **value**

attribute: **scaling\_factor** value: **value** Optional

attribute: **start\_bit** value: **value**

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Table\_Binary\_Grouped\_Bit\_Field**

- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- **End Table\_Binary\_Grouped\_Field**
- **End Table\_Binary\_Field\_Sequence**
- **End Table\_Binary\_Grouped\_Sequence**
- **End Table\_Record\_Binary\_Grouped**
- **End Table\_Binary\_Grouped**
- **Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**  
role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**  
role: **Concrete**

- **Table\_Character\_Field - Occurs 1 to \* Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**  
role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **field\_number** value: **value** <sup>Optional</sup>  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** <sup>Optional</sup>  
attribute: **minimum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**  
role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **maximum** value: **value** <sup>Optional</sup>  
attribute: **mean** value: **value** <sup>Optional</sup>  
attribute: **median** value: **value** <sup>Optional</sup>  
attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- End Field\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: Concrete

attribute: **error\_constant** value: *value* Optional

attribute: **invalid\_constant** value: *value* Optional

attribute: **missing\_constant** value: *value* Optional

attribute: **not\_applicable\_constant** value: *value* Optional

attribute: **saturated\_constant** value: *value* Optional

attribute: **unknown\_constant** value: *value* Optional

- End Special\_Constants

- End Table\_Character\_Field

- End Table\_Record\_Character

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: The Uniformly\_Sampled class provides parameters for a uniformly sampled table.

role: Concrete

attribute: **first\_sampling\_parameter\_value** value: *value*

attribute: **last\_sampling\_parameter\_value** value: *value*

attribute: **sampling\_parameter\_interval** value: *value*

attribute: **sampling\_parameter\_name** value: *value*

attribute: **sampling\_parameter\_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional

attribute: **sampling\_parameter\_unit** value: *value*

- End Uniformly\_Sampled

- End Table\_Character

- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.

role: Concrete

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding\_type** value: CHARACTER

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record\_length** value: *value*

attribute: **records** value: *value*

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.

role: Concrete

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.

role: Concrete

attribute: **repetitions** value: *value* Optional

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: Concrete

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension

defines a character grouped field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **field\_number** value: *value* <sup>Optional</sup>

attribute: **data\_type** value: ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID

attribute: **field\_location** value: *value*

attribute: **field\_length** value: *value*

attribute: **field\_format** value: *value* <sup>Optional</sup>

attribute: **minimum\_scaled\_value** value: *value* <sup>Optional</sup>

attribute: **maximum\_scaled\_value** value: *value* <sup>Optional</sup>

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- End Table\_Character\_Grouped\_Field
  - End Table\_Character\_Field\_Sequence
  - End Table\_Character\_Grouped\_Sequence
  - End Table\_Record\_Character\_Grouped
  - End Table\_Character\_Grouped
  - End File\_Area
  - End Product\_Proxy\_PDS3
- 

## • Product\_Resource

description: **A resource product describes a web resource.**

role: **Concrete**

### • Data\_Standards Occurs 1 Times

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: *value*

attribute: **std\_ref\_version\_id** value: *value*

### • End Data\_Standards

### • Identification\_Area\_Product Occurs 1 Times

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate\_title** value: *value* <sup>Optional</sup>

attribute: **alternate\_id** value: *value* <sup>Optional</sup>

attribute: **last\_modification\_date\_time** value: *value* <sup>Optional</sup>

attribute: **type** value: *value*

### • Subject\_Area - Occurs 0 to 1 Times

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* <sup>Optional</sup>

attribute: **instrument\_name** value: *value* <sup>Optional</sup>

attribute: **instrument\_host\_name** value: *value* <sup>Optional</sup>

attribute: **keywords** value: *value* <sup>Optional</sup>

attribute: **full\_name** value: *value* Optional  
attribute: **investigation\_name** value: *value* Optional  
attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **alternate\_designation** value: *value* Optional

attribute: **lid\_reference** value: *value* Optional

attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: *value* Optional

attribute: **lidvid\_reference** value: *value* Optional

attribute: **reference\_association\_type** value: *has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target*

- **End Reference\_Entry\_Context**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference\_text** value: *value* Optional

attribute: **url** value: *value* Optional

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area\_Context**

- **Resource Occurs 1 Times**

description: **The Resource class provides a description of a web resource. This class is a generic class and is used for resources not otherwise defined in the model.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value*

attribute: **url** value: *value*

- **End Resource**

- **End Product\_Resource**

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- **Product\_Service**

description: **The Product Service class defines a product for registering services. Service descriptions from this product are used to register services as intrinsic registry objects.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: *value*

attribute: **std\_ref\_version\_id** value: *value*

- **End Data\_Standards**

- **Identification\_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate\_title** value: *value* Optional

attribute: **alternate\_id** value: *value* Optional

attribute: **last\_modification\_date\_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional

attribute: **instrument\_name** value: *value* Optional

attribute: **instrument\_host\_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full\_name** value: *value* Optional

attribute: **investigation\_name** value: *value* Optional

attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **alternate\_designation** value: *value* Optional

attribute: **lid\_reference** value: *value* Optional

attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area**

- **Cross\_Reference\_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**

role: **Concrete**

- **Observing\_System - Occurs 0 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: *value* Optional

attribute: **name** value: *value* Optional

attribute: **description** value: *value*

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry - Occurs 0 to \* Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **has\_association, member\_of**

- **End Reference\_Entry**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **doi** value: **value** <sup>Optional</sup>

attribute: **reference\_text** value: **value** <sup>Optional</sup>

attribute: **url** value: **value** <sup>Optional</sup>

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area**

- **File\_Area\_Service\_Description - Occurs 0 to \* Times**

description: **The File Area Service Description class describes a file that contains a service description.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** <sup>Optional</sup>

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **creation\_date\_time** value: **value** <sup>Optional</sup>

attribute: **file\_name** value: **value**

attribute: **file\_size** value: **value** Optional  
attribute: **maximum\_record\_bytes** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **records** value: **value** Optional

- End File
- **Service\_Description - Occurs 0 to \* Times**

description: **The Service Description class defines a file that contains a standardized service specification.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **WADL, WSDL**  
attribute: **offset** value: **value**

- End Service\_Description
  - End File\_Area\_Service\_Description
  - End Product\_Service
- 

## • **Product\_Software**

description: **Product Software is a product consisting of a set of one or more software formats.**  
role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**  
attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards
- **Cross\_Reference\_Area\_Software - Occurs 0 to 1 Times**

description: **The cross reference area software provides references for registered products associated with this product.**

role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **doi** value: **value** Optional  
attribute: **reference\_text** value: **value** Optional  
attribute: **url** value: **value** Optional

- End Bibliographic\_Reference
- **Reference\_Entry - Occurs 0 to \* Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional  
attribute: **lidvid\_reference** value: **value** Optional  
attribute: **reference\_association\_type** value: **has\_association, member\_of**

- End Reference\_Entry
- End Cross\_Reference\_Area\_Software

- **Software\_Desc Occurs 1 Times**

description: **The Software Desc class describes a software product**  
role: **Concrete**  
attribute: **version\_id** value: **value**  
attribute: **name** value: **value**  
attribute: **description** value: **value**  
attribute: **author\_list** value: **value** Optional  
attribute: **programmers\_manual\_identifier** value: **value**  
attribute: **software\_id** value: **value**  
attribute: **software\_type** value: **value**  
attribute: **users\_manual\_identifier** value: **value**

- **End Software\_Desc**

- **Software\_Binary - Occurs 0 to \* Times**

description: **The Software Script class provides a description of a software code that is stored as a compiled binary file.**  
role: **Concrete**  
attribute: **files** value: **value**  
attribute: **os\_version** value: **value**  
attribute: **program\_notes\_identifier** value: **value**  
attribute: **supported\_architecture** value: **value**  
attribute: **supported\_os** value: **value**  
attribute: **sw\_format\_type** value: **value**  
attribute: **system\_requirements** value: **value**

- **End Software\_Binary**

- **Software\_Script - Occurs 0 to \* Times**

description: **The Software Script class provides a description of a software code that is stored as a script.**  
role: **Concrete**  
attribute: **files** value: **value**  
attribute: **install\_notes** value: **value**  
attribute: **supported\_environment** value: **value**  
attribute: **system\_requirements** value: **value**

- **End Software\_Script**

- **Software\_Source - Occurs 0 to \* Times**

description: **The Software Script class provides a description of a software code that is stored as source code.**  
role: **Concrete**  
attribute: **compile\_notes** value: **value**  
attribute: **files** value: **value**  
attribute: **os\_version** value: **value**  
attribute: **program\_notes\_identifier** value: **value**  
attribute: **software\_dialect** value: **value**  
attribute: **software\_language** value: **value**  
attribute: **supported\_architecture** value: **value**  
attribute: **supported\_os** value: **value**  
attribute: **sw\_format\_type** value: **value**  
attribute: **system\_requirements** value: **value**

- **End Software\_Source**

- **End Product\_Software**

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- **Product\_SPICE\_Kernel\_Binary**

description: **The Product SPICE Kernel Text class defines a binary SPICE product.**  
role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**  
role: **Concrete**

attribute: **dd\_version\_id** value: *value*  
attribute: **std\_ref\_version\_id** value: *value*

- **End Data\_Standards**

- **Identification\_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate\_title** value: *value* Optional

attribute: **alternate\_id** value: *value* Optional

attribute: **last\_modification\_date\_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional

attribute: **instrument\_name** value: *value* Optional

attribute: **instrument\_host\_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full\_name** value: *value* Optional

attribute: **investigation\_name** value: *value* Optional

attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **alternate\_designation** value: *value* Optional

attribute: **lid\_reference** value: *value* Optional

attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area**

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference\_text** value: *value* Optional

attribute: **url** value: *value* Optional

- **End Bibliographic\_Reference**

- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**  
attribute: **local\_identifier** value: **value** <sup>Optional</sup>  
attribute: **name** value: **value** <sup>Optional</sup>  
attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- **End Reference\_Entry\_Product**

- **End Cross\_Reference\_Area\_Product**

- **File\_Area\_SPICE\_Kernel\_Binary Occurs 1 Times**

description: **The File Area SPICE Kernel Text class describes a file that contains a SPICE Kernel Binary object.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** <sup>Optional</sup>

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **creation\_date\_time** value: **value** <sup>Optional</sup>

attribute: **file\_name** value: **value**

attribute: **file\_size** value: **value** <sup>Optional</sup>

attribute: **maximum\_record\_bytes** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **records** value: **value** <sup>Optional</sup>

- End File
- **SPICE\_Kernel\_Binary Occurs 1 Times**

description: **The SPICE Kernel class describes a SPICE file.**  
 role: **Concrete**  
 attribute: **local\_identifier** value: **value**  
 attribute: **comment** value: **value** Optional  
 attribute: **encoding\_type** value: **BINARY**  
 attribute: **external\_standard\_id** value: **SPICE**  
 attribute: **kernel\_type** value: **CK, DBK, DSK, EK, PCK, SPK**  
 attribute: **offset** value: **value**

- End SPICE\_Kernel\_Binary
  - End File\_Area\_SPICE\_Kernel\_Binary
  - End Product\_SPICE\_Kernel\_Binary
- 

- **Product\_SPICE\_Kernel\_Text**

description: **The Product SPICE Kernel Text class defines a text SPICE product.**  
 role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**  
 role: **Concrete**  
 attribute: **dd\_version\_id** value: **value**  
 attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards

- **Identification\_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**  
 role: **Concrete**  
 attribute: **logical\_identifier** value: **value**  
 attribute: **version\_id** value: **value**  
 attribute: **product\_class** value: **value**  
 attribute: **title** value: **value**  
 attribute: **alternate\_title** value: **value** Optional  
 attribute: **alternate\_id** value: **value** Optional  
 attribute: **last\_modification\_date\_time** value: **value** Optional  
 attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**  
 attribute: **target\_name** value: **value** Optional  
 attribute: **instrument\_name** value: **value** Optional  
 attribute: **instrument\_host\_name** value: **value** Optional  
 attribute: **keywords** value: **value** Optional  
 attribute: **full\_name** value: **value** Optional  
 attribute: **investigation\_name** value: **value** Optional  
 attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**  
 attribute: **comment** value: **value** Optional  
 attribute: **name** value: **value**

attribute: **alternate\_designation** value: *value* Optional  
attribute: **lid\_reference** value: *value* Optional  
attribute: **type** value: *value*

- End Name\_Resolution
- End Subject\_Area
- End Identification\_Area
- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**  
role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **doi** value: *value* Optional  
attribute: **reference\_text** value: *value* Optional  
attribute: **url** value: *value* Optional

- End Bibliographic\_Reference
- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**  
role: **Concrete**

attribute: **local\_identifier** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value*

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: *value* Optional  
attribute: **name** value: *value*  
attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: *value* Optional  
attribute: **lidvid\_reference** value: *value* Optional  
attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- End Reference\_Entry\_Observing\_System\_Component
- End Observing\_System\_Component
- End Observing\_System

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**  
attribute: **lid\_reference** value: **value** <sup>Optional</sup>  
attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>  
attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- **End Reference\_Entry\_Product**
- **End Cross\_Reference\_Area\_Product**
- **File\_Area\_SPICE\_Kernel\_Text Occurs 1 Times**

description: **The File Area SPICE Kernel Text class describes a file that contains a SPICE Kernel Text object.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**

attribute: **local\_identifier** value: **value** <sup>Optional</sup>  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **creation\_date\_time** value: **value** <sup>Optional</sup>  
attribute: **file\_name** value: **value**  
attribute: **file\_size** value: **value** <sup>Optional</sup>  
attribute: **maximum\_record\_bytes** value: **value** <sup>Optional</sup>  
attribute: **md5\_checksum** value: **value** <sup>Optional</sup>  
attribute: **records** value: **value** <sup>Optional</sup>

- **End File**
- **SPICE\_Kernel\_Text Occurs 1 Times**

description: **The SPICE Kernel class describes a SPICE file.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **SPICE**  
attribute: **kernel\_type** value: **EK, FK, IK, LSK, MK, PCK, SCLK**  
attribute: **offset** value: **value**

- **End SPICE\_Kernel\_Text**
- **End File\_Area\_SPICE\_Kernel\_Text**
- **End Product\_SPICE\_Kernel\_Text**

- 
- **Product\_Table\_Binary**

description: **The Product Table Binary class defines a product consisting of at least one Binary table and other associated data objects and metadata.**  
role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**  
role: **Concrete**  
attribute: **dd\_version\_id** value: **value**  
attribute: **std\_ref\_version\_id** value: **value**

- **End Data\_Standards**
- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**  
role: **Concrete**  
attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**  
attribute: **product\_class** value: **value**  
attribute: **title** value: **value**  
attribute: **alternate\_title** value: **value** Optional  
attribute: **alternate\_id** value: **value** Optional  
attribute: **last\_modification\_date\_time** value: **value** Optional  
attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional  
attribute: **instrument\_name** value: **value** Optional  
attribute: **instrument\_host\_name** value: **value** Optional  
attribute: **keywords** value: **value** Optional  
attribute: **full\_name** value: **value** Optional  
attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **alternate\_designation** value: **value** Optional  
attribute: **lid\_reference** value: **value** Optional  
attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **doi** value: **value** Optional  
attribute: **reference\_text** value: **value** Optional  
attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar**

**product.** Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.

role: **Concrete**

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **name** value: *value*

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: *value* <sup>Optional</sup>

attribute: **lidvid\_reference** value: *value* <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: *value* <sup>Optional</sup>

attribute: **lidvid\_reference** value: *value* <sup>Optional</sup>

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- **End Reference\_Entry\_Product**

- **End Cross\_Reference\_Area\_Product**

- **Observation\_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission\_Area - Occurs 0 to \* Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission\_Area**

- **Node\_Area - Occurs 0 to \* Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node\_Area**

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **start\_date\_time** value: *value*

attribute: **stop\_date\_time** value: *value*

attribute: **local\_mean\_solar\_time** value: *value* <sup>Optional</sup>

attribute: **local\_true\_solar\_time** value: *value* <sup>Optional</sup>

attribute: **mission\_phase\_name** value: *value* <sup>Optional</sup>

attribute: **orbit\_number** value: *value* <sup>Optional</sup>

attribute: **planet\_day\_number** value: *value* <sup>Optional</sup>

attribute: **solar\_longitude** value: *value* <sup>Optional</sup>  
attribute: **spacecraft\_clock\_count\_partition** value: *value* <sup>Optional</sup>  
attribute: **spacecraft\_clock\_start\_count** value: *value* <sup>Optional</sup>  
attribute: **spacecraft\_clock\_stop\_count** value: *value* <sup>Optional</sup>

- **Geometry - Occurs 0 to \* Times**

description: **The Geometry class groups objects associated with geometry information.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*

- **Vector - Occurs 0 to \* Times**

description: **The Vector class provides the components of either a velocity or position vector.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **name** value: *value*  
attribute: **description** value: *value*  
attribute: **type** value: **POSITION, VELOCITY**  
attribute: **vector\_components** value: *value*

- **Vector\_Component - Occurs 1 to \* Times**

description: **The Vector\_Component class provides a component of a vector.**  
role: **Concrete**  
attribute: **name** value: *value* <sup>Optional</sup>  
attribute: **description** value: *value* <sup>Optional</sup>  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>  
attribute: **value** value: *value*

- **End Vector\_Component**

- **End Vector**

- **End Geometry**

- **End Observation\_Area**

- **File\_Area\_Observational - Occurs 1 to \* Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged\_data\_objects contained within the file.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value* <sup>Optional</sup>  
attribute: **comment** value: *value* <sup>Optional</sup>  
attribute: **creation\_date\_time** value: *value* <sup>Optional</sup>  
attribute: **file\_name** value: *value*  
attribute: **file\_size** value: *value* <sup>Optional</sup>  
attribute: **maximum\_record\_bytes** value: *value* <sup>Optional</sup>  
attribute: **md5\_checksum** value: *value* <sup>Optional</sup>  
attribute: **records** value: *value* <sup>Optional</sup>

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* <sup>Optional</sup>  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: **The Image\_2D\_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**

attribute: **first\_line** value: **value** Optional

attribute: **first\_line\_sample** value: **value** Optional

attribute: **line\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image\_2D\_Display**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**  
attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Image**

- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**

role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**  
attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Map**

- **Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Spectrum class is an extension of array\_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* <sup>Optional</sup>

attribute: **invalid\_constant** value: *value* <sup>Optional</sup>

attribute: **missing\_constant** value: *value* <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: *value* <sup>Optional</sup>

attribute: **saturated\_constant** value: *value* <sup>Optional</sup>

attribute: **unknown\_constant** value: *value* <sup>Optional</sup>

- **End Special\_Constants**
- **End Array\_2D\_Spectrum**
- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Image class is an extension of array\_base and defines a three dimensional image.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**  
role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_3D\_Image**

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Array\_3D\_Movie**

- **Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Spectrum class is an extension of array\_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: *value* Optional  
attribute: **maximum** value: *value* Optional  
attribute: **md5\_checksum** value: *value* Optional  
attribute: **mean** value: *value* Optional  
attribute: **median** value: *value* Optional  
attribute: **minimum** value: *value* Optional  
attribute: **sample\_bit\_mask** value: *value* Optional  
attribute: **standard\_deviation** value: *value* Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* Optional  
attribute: **invalid\_constant** value: *value* Optional  
attribute: **missing\_constant** value: *value* Optional  
attribute: **not\_applicable\_constant** value: *value* Optional  
attribute: **saturated\_constant** value: *value* Optional  
attribute: **unknown\_constant** value: *value* Optional

- End Special\_Constants
- End Array\_3D\_Spectrum

- **Delimited\_Table - Occurs 0 to \* Times**

description: **The Delimited\_Table class defines a simple table (spreadsheet) with delimited fields and records.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x2C, 0x3B, 0x7C**  
attribute: **fields** value: *value*  
attribute: **maximum\_record\_length** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: *value*

- **Delimited\_Record Occurs 1 Times**

description: **The Delimited Record class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.**

role: **Concrete**

- **Delimited\_Field - Occurs 1 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: *value*  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: *value* Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_length** value: *value*  
attribute: **field\_format** value: *value* Optional  
attribute: **minimum\_scaled\_value** value: *value* Optional  
attribute: **maximum\_scaled\_value** value: *value* Optional

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **maximum** value: **value** <sup>Optional</sup>  
attribute: **mean** value: **value** <sup>Optional</sup>  
attribute: **median** value: **value** <sup>Optional</sup>  
attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>  
attribute: **invalid\_constant** value: **value** <sup>Optional</sup>  
attribute: **missing\_constant** value: **value** <sup>Optional</sup>  
attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>  
attribute: **saturated\_constant** value: **value** <sup>Optional</sup>  
attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Record**

- **End Delimited\_Table**

- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: **The Delimited\_Table\_Grouped class defines a simple table (spreadsheet) that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**  
attribute: **fields** value: **value**  
attribute: **maximum\_record\_length** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: **value**

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: **The Delimited Record Grouped class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.**

role: **Concrete**

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Grouped Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** <sup>Optional</sup>

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Field Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Delimited\_Field - Occurs 0 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Field\_Sequence**

- **End Delimited\_Grouped\_Sequence**

- **End Delimited\_Record\_Grouped**

- **End Delimited\_Table\_Grouped**

- **Header - Occurs 0 to \* Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR  
attribute: **offset** value: *value*

- End Header

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: BINARY  
attribute: **external\_standard\_id** value: FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR  
attribute: **offset** value: *value*

- End Header\_Binary

- **Parsable\_Byte\_Stream - Occurs 0 to \* Times**

description: **The Parsable Byte Stream class defines byte streams that have standard parsing rules. The Parsable Byte Stream class is the parent class for all parsable byte streams.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Parsable\_Byte\_Stream

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Stream\_Text

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: BINARY  
attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**  
role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: **value**

attribute: **sampling\_parameter\_interval** value: **value**

attribute: **sampling\_parameter\_name** value: *value*  
attribute: **sampling\_parameter\_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional  
attribute: **sampling\_parameter\_unit** value: *value*

- End Uniformly\_Sampled
- End Table\_Binary
- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**  
role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: *value* Optional

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**  
role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: *value*  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: *value* Optional  
attribute: **data\_type** value: **Bit**  
attribute: **field\_location** value: *value*  
attribute: **field\_length** value: *value*  
attribute: **field\_format** value: *value* Optional  
attribute: **minimum\_scaled\_value** value: *value* Optional  
attribute: **maximum\_scaled\_value** value: *value* Optional  
attribute: **bit\_mask** value: *value* Optional  
attribute: **bits** value: *value*  
attribute: **scaling\_factor** value: *value* Optional  
attribute: **start\_bit** value: *value*  
attribute: **value\_offset** value: *value* Optional  
attribute: **unit** value: *value* Optional

- End Table\_Binary\_Grouped\_Bit\_Field
- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**  
attribute: **name** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**  
attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- End Table\_Binary\_Grouped\_Field
- End Table\_Binary\_Field\_Sequence
- End Table\_Binary\_Grouped\_Sequence
- End Table\_Record\_Binary\_Grouped
- End Table\_Binary\_Grouped
- **Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**

role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**

role: **Concrete**

- **Table\_Character\_Field - Occurs 1 to \* Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**  
attribute: **name** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Character\_Field**

- **End Table\_Record\_Character**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: **value**

attribute: **sampling\_parameter\_interval** value: **value**

attribute: **sampling\_parameter\_name** value: **value**

attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional

attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- **End Table\_Character**

- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**

role: **Concrete**

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**  
attribute: **repetitions** value: **value** Optional

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**  
role: **Concrete**

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Table\_Character\_Grouped\_Field**

- **End Table\_Character\_Field\_Sequence**

- **End Table\_Character\_Grouped\_Sequence**

- **End Table\_Record\_Character\_Grouped**

- **End Table\_Character\_Grouped**

- **End File\_Area\_Observational**

- **End Product\_Table\_Binary**

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- **Product\_Table\_Binary\_Grouped**

description: **The Product Table Binary Grouped class defines a product consisting of one Binary table with groups of repeating fields.**  
role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: *value* Optional  
attribute: **last\_modification\_date\_time** value: *value* Optional  
attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional  
attribute: **instrument\_name** value: *value* Optional  
attribute: **instrument\_host\_name** value: *value* Optional  
attribute: **keywords** value: *value* Optional  
attribute: **full\_name** value: *value* Optional  
attribute: **investigation\_name** value: *value* Optional  
attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional  
attribute: **name** value: *value*  
attribute: **alternate\_designation** value: *value* Optional  
attribute: **lid\_reference** value: *value* Optional  
attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**  
role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **doi** value: *value* Optional  
attribute: **reference\_text** value: *value* Optional  
attribute: **url** value: *value* Optional

- **End Bibliographic\_Reference**

- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value*

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- **End Reference\_Entry\_Product**

- **End Cross\_Reference\_Area\_Product**

- **Observation\_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission\_Area - Occurs 0 to \* Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission\_Area**

- **Node\_Area - Occurs 0 to \* Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node\_Area**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **start\_date\_time** value: **value**

attribute: **stop\_date\_time** value: **value**

attribute: **local\_mean\_solar\_time** value: **value** <sup>Optional</sup>

attribute: **local\_true\_solar\_time** value: **value** <sup>Optional</sup>

attribute: **mission\_phase\_name** value: **value** <sup>Optional</sup>

attribute: **orbit\_number** value: **value** <sup>Optional</sup>

attribute: **planet\_day\_number** value: **value** <sup>Optional</sup>

attribute: **solar\_longitude** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_count\_partition** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_start\_count** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_stop\_count** value: **value** <sup>Optional</sup>

- **Geometry - Occurs 0 to \* Times**

description: **The Geometry class groups objects associated with geometry information.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**

- **Vector - Occurs 0 to \* Times**

description: **The Vector class provides the components of either a velocity or position vector.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **name** value: **value**  
attribute: **description** value: **value**  
attribute: **type** value: **POSITION, VELOCITY**  
attribute: **vector\_components** value: **value**

- **Vector\_Component - Occurs 1 to \* Times**

description: **The Vector\_Component class provides a component of a vector.**  
role: **Concrete**  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional  
attribute: **value** value: **value**

- **End Vector\_Component**

- **End Vector**

- **End Geometry**

- **End Observation\_Area**

- **File\_Area\_Observational - Occurs 1 to \* Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged\_data\_objects contained within the file.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value** Optional  
attribute: **comment** value: **value** Optional  
attribute: **creation\_date\_time** value: **value** Optional  
attribute: **file\_name** value: **value**  
attribute: **file\_size** value: **value** Optional  
attribute: **maximum\_record\_bytes** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **records** value: **value** Optional

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: **The Image\_2D\_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**

attribute: **first\_line** value: *value* <sup>Optional</sup>

attribute: **first\_line\_sample** value: *value* <sup>Optional</sup>

attribute: **line\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample\_display\_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image\_2D\_Display**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Image**

- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**  
attribute: **elements** value: **value**  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble,**

IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- End Special\_Constants

- End Array\_2D\_Map

- **Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Spectrum class is an extension of array\_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**  
role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* <sup>Optional</sup>

attribute: **invalid\_constant** value: *value* Optional  
attribute: **missing\_constant** value: *value* Optional  
attribute: **not\_applicable\_constant** value: *value* Optional  
attribute: **saturated\_constant** value: *value* Optional  
attribute: **unknown\_constant** value: *value* Optional

- **End Special\_Constants**
- **End Array\_2D\_Spectrum**
- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Image class is an extension of array\_base and defines a three dimensional image.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **axes** value: **3**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**  
attribute: **scaling\_factor** value: *value* Optional  
attribute: **value\_offset** value: *value* Optional  
attribute: **unit** value: *value* Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_3D\_Image**

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The **Band\_Bin\_Set** class is a placeholder for a soon forthcoming Imaging class.  
role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: The **Array Element** class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The **Object Statistics** class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: The **Special Constants** class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_3D\_Movie**

- **Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: The **Array 3D Spectrum** class is an extension of **array\_base** and defines a three dimensional

## spectrum.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: 3

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_3D\_Spectrum**

- **Delimited\_Table - Occurs 0 to \* Times**

description: **The Delimited\_Table class defines a simple table (spreadsheet) with delimited fields and records.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x2C, 0x3B, 0x7C**  
attribute: **fields** value: **value**  
attribute: **maximum\_record\_length** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: **value**

- **Delimited\_Record Occurs 1 Times**

description: **The Delimited Record class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.**

role: **Concrete**

- **Delimited\_Field - Occurs 1 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Record**

- **End Delimited\_Table**

- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: **The Delimited\_Table\_Grouped class defines a simple table (spreadsheet) that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **CSV, OTHER**

attribute: **field\_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**

attribute: **fields** value: **value**

attribute: **maximum\_record\_length** value: **value**

attribute: **offset** value: **value**

attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**

attribute: **records** value: **value**

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: **The Delimited Record Grouped class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.**

role: **Concrete**

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Grouped Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Field Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Delimited\_Field - Occurs 0 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **field\_number** value: **value** <sup>Optional</sup>

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** <sup>Optional</sup>

attribute: **minimum\_scaled\_value** value: **value** <sup>Optional</sup>

attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Field\_Sequence**

- **End Delimited\_Grouped\_Sequence**

- **End Delimited\_Record\_Grouped**

- **End Delimited\_Table\_Grouped**

- **Header - Occurs 0 to \* Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **bytes** value: **value**

attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR  
attribute: **offset** value: *value*

- End Header

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: BINARY  
attribute: **external\_standard\_id** value: FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR  
attribute: **offset** value: *value*

- End Header\_Binary

- **Parsable\_Byte\_Stream - Occurs 0 to \* Times**

description: **The Parsable Byte Stream class defines byte streams that have standard parsing rules. The Parsable Byte Stream class is the parent class for all parsable byte streams.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Parsable\_Byte\_Stream

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: CHARACTER  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Stream\_Text

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: BINARY  
attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**  
role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: **value**

attribute: **sampling\_parameter\_interval** value: **value**

attribute: **sampling\_parameter\_name** value: **value**

attribute: **sampling\_parameter\_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional

attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- End Table\_Binary

- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **encoding\_type** value: **BINARY**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**

role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** <sup>Optional</sup>

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **field\_number** value: **value** <sup>Optional</sup>

attribute: **data\_type** value: **Bit**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** <sup>Optional</sup>

attribute: **minimum\_scaled\_value** value: **value** <sup>Optional</sup>

attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>

attribute: **bit\_mask** value: **value** <sup>Optional</sup>

attribute: **bits** value: **value**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **start\_bit** value: **value**

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- End Table\_Binary\_Grouped\_Bit\_Field

- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **field\_number** value: **value** <sup>Optional</sup>

attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16,**

ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- End Table\_Binary\_Grouped\_Field
- End Table\_Binary\_Field\_Sequence
- End Table\_Binary\_Grouped\_Sequence
- End Table\_Record\_Binary\_Grouped
- End Table\_Binary\_Grouped
- Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base

description: The Table Character class is an extension of table base and defines a simple character table.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

- Table\_Record\_Character Occurs 1 Times

description: The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.

role: **Concrete**

- Table\_Character\_Field - Occurs 1 to \* Times

description: The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- Field\_Statistics - Occurs 0 to 1 Times

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **maximum** value: **value** Optional  
attribute: **mean** value: **value** Optional  
attribute: **median** value: **value** Optional  
attribute: **minimum** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- End Field\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Table\_Character\_Field

- End Table\_Record\_Character

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**  
attribute: **last\_sampling\_parameter\_value** value: **value**  
attribute: **sampling\_parameter\_interval** value: **value**  
attribute: **sampling\_parameter\_name** value: **value**  
attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional  
attribute: **sampling\_parameter\_unit** value: **value**

- End Uniformly\_Sampled

- End Table\_Character

- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**

role: **Concrete**

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**  
role: **Concrete**

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Table\_Character\_Grouped\_Field**

- **End Table\_Character\_Field\_Sequence**

- **End Table\_Character\_Grouped\_Sequence**

- **End Table\_Record\_Character\_Grouped**

- **End Table\_Character\_Grouped**

- **End File\_Area\_Observational**

- **End Product\_Table\_Binary\_Grouped**

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- **Product\_Table\_Character**

description: **The Product Table Character class defines a product consisting of at least one character table and other associated data objects and metadata.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional

attribute: **last\_modification\_date\_time** value: **value** Optional

attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional

attribute: **instrument\_name** value: **value** Optional

attribute: **instrument\_host\_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: **value** Optional

attribute: **investigation\_name** value: **value** Optional

attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** Optional

attribute: **lid\_reference** value: **value** Optional

attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- **End Reference\_Entry\_Product**

- **End Cross\_Reference\_Area\_Product**

- **Observation\_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission\_Area - Occurs 0 to \* Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission\_Area**

- **Node\_Area - Occurs 0 to \* Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node\_Area**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **start\_date\_time** value: **value**

attribute: **stop\_date\_time** value: **value**

attribute: **local\_mean\_solar\_time** value: **value** <sup>Optional</sup>

attribute: **local\_true\_solar\_time** value: **value** <sup>Optional</sup>

attribute: **mission\_phase\_name** value: **value** <sup>Optional</sup>

attribute: **orbit\_number** value: **value** <sup>Optional</sup>

attribute: **planet\_day\_number** value: **value** <sup>Optional</sup>

attribute: **solar\_longitude** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_count\_partition** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_start\_count** value: **value** <sup>Optional</sup>

attribute: **spacecraft\_clock\_stop\_count** value: **value** <sup>Optional</sup>

- **Geometry - Occurs 0 to \* Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

- **Vector - Occurs 0 to \* Times**

description: **The Vector class provides the components of either a velocity or position vector.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **name** value: **value**  
attribute: **description** value: **value**  
attribute: **type** value: **POSITION, VELOCITY**  
attribute: **vector\_components** value: **value**

- **Vector\_Component - Occurs 1 to \* Times**

description: **The Vector\_Component class provides a component of a vector.**  
role: **Concrete**  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value** Optional  
attribute: **sequence\_number** value: **value**  
attribute: **unit** value: **value** Optional  
attribute: **value** value: **value**

- **End Vector\_Component**

- **End Vector**

- **End Geometry**

- **End Observation\_Area**

- **File\_Area\_Observational - Occurs 1 to \* Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged\_data\_objects contained within the file.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value** Optional  
attribute: **comment** value: **value** Optional  
attribute: **creation\_date\_time** value: **value** Optional  
attribute: **file\_name** value: **value**  
attribute: **file\_size** value: **value** Optional  
attribute: **maximum\_record\_bytes** value: **value** Optional  
attribute: **md5\_checksum** value: **value** Optional  
attribute: **records** value: **value** Optional

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**  
role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**  
role: **Concrete**  
attribute: **axis\_name** value: **value**

attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: The **Axis\_Display** class is a placeholder for a soon forthcoming Imaging class.  
role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The **Band\_Bin\_Set** class is a placeholder for a soon forthcoming Imaging class.  
role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: The **Image\_2D\_Display** class provides attributes to enable the display of a 2D image.  
role: **Concrete**

attribute: **first\_line** value: *value* <sup>Optional</sup>

attribute: **first\_line\_sample** value: *value* <sup>Optional</sup>

attribute: **line\_display\_direction** value: DOWN, LEFT, RIGHT, UP

attribute: **sample\_display\_direction** value: DOWN, LEFT, RIGHT, UP

- End Image\_2D\_Display

- **Array\_Element Occurs 1 Times**

description: The **Array Element** class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The **Object Statistics** class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>  
attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>  
attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* <sup>Optional</sup>  
attribute: **invalid\_constant** value: *value* <sup>Optional</sup>  
attribute: **missing\_constant** value: *value* <sup>Optional</sup>  
attribute: **not\_applicable\_constant** value: *value* <sup>Optional</sup>  
attribute: **saturated\_constant** value: *value* <sup>Optional</sup>  
attribute: **unknown\_constant** value: *value* <sup>Optional</sup>

- **End Special\_Constants**

- **End Array\_2D\_Image**

- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* <sup>Optional</sup>  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8,**

### UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- End Array\_Element

### • Cartography - Occurs 0 to 1 Times

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

### • Object\_Statistics - Occurs 0 to 1 Times

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

### • Special\_Constants - Occurs 0 to 1 Times

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_2D\_Map

### • Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base

description: **The Array 2D Spectrum class is an extension of array\_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

### • Array\_Axis Occurs 2 Times

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: The **Axis\_Display** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The **Band\_Bin\_Set** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: The **Array Element** class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The **Object Statistics** class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: The **Special Constants** class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: *value* Optional  
attribute: **not\_applicable\_constant** value: *value* Optional  
attribute: **saturated\_constant** value: *value* Optional  
attribute: **unknown\_constant** value: *value* Optional

- End Special\_Constants
- End Array\_2D\_Spectrum
- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: The Array 3D Image class is an extension of array\_base and defines a three dimensional image.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* Optional

attribute: **value\_offset** value: *value* Optional

attribute: **unit** value: *value* Optional

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants

- End Array\_3D\_Image

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set
- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- End Special\_Constants
- End Array\_3D\_Movie

- **Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Spectrum class is an extension of array\_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: *value* <sup>Optional</sup>  
attribute: **axes** value: **3**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: **value** Optional  
attribute: **sample\_bit\_mask** value: **value** Optional  
attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
attribute: **invalid\_constant** value: **value** Optional  
attribute: **missing\_constant** value: **value** Optional  
attribute: **not\_applicable\_constant** value: **value** Optional  
attribute: **saturated\_constant** value: **value** Optional  
attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_3D\_Spectrum**

- **Delimited\_Table - Occurs 0 to \* Times**

description: **The Delimited\_Table class defines a simple table (spreadsheet) with delimited fields and records.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x2C, 0x3B, 0x7C**  
attribute: **fields** value: **value**  
attribute: **maximum\_record\_length** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: **value**

- **Delimited\_Record Occurs 1 Times**

description: **The Delimited Record class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.**

role: **Concrete**

- **Delimited\_Field - Occurs 1 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** Optional  
attribute: **field\_number** value: **value** Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** Optional  
attribute: **minimum\_scaled\_value** value: **value** Optional  
attribute: **maximum\_scaled\_value** value: **value** Optional  
attribute: **scaling\_factor** value: **value** Optional  
attribute: **value\_offset** value: **value** Optional  
attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Record**

- **End Delimited\_Table**

- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: **The Delimited\_Table\_Grouped class defines a simple table (spreadsheet) that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **CSV, OTHER**

attribute: **field\_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**

attribute: **fields** value: **value**

attribute: **maximum\_record\_length** value: **value**

attribute: **offset** value: **value**

attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**

attribute: **records** value: **value**

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: **The Delimited Record Grouped class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.**

role: **Concrete**

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Grouped Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Delimited Field Sequence class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Delimited\_Field - Occurs 0 to \* Times**

description: **The Delimited Field class is a component of the delimited table (spreadsheet) record class and defines a field of the record.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Field\_Sequence**

- **End Delimited\_Grouped\_Sequence**

- **End Delimited\_Record\_Grouped**

- **End Delimited\_Table\_Grouped**

- **Header - Occurs 0 to \* Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **bytes** value: **value**

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2,**

PDS3, TIFF, VICAR  
attribute: **offset** value: *value*

- End Header

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **bytes** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **external\_standard\_id** value: **FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR**  
attribute: **offset** value: *value*

- End Header\_Binary

- **Parsable\_Byte\_Stream - Occurs 0 to \* Times**

description: **The Parsable Byte Stream class defines byte streams that have standard parsing rules. The Parsable Byte Stream class is the parent class for all parsable byte streams.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Parsable\_Byte\_Stream

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: *value*  
attribute: **offset** value: *value*

- End Stream\_Text

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**  
role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**  
role: **Concrete**  
attribute: **name** value: *value*

attribute: **description** value: **value** Optional  
 attribute: **field\_number** value: **value** Optional  
 attribute: **data\_type** value: ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8  
 attribute: **field\_location** value: **value**  
 attribute: **field\_length** value: **value**  
 attribute: **field\_format** value: **value** Optional  
 attribute: **minimum\_scaled\_value** value: **value** Optional  
 attribute: **maximum\_scaled\_value** value: **value** Optional  
 attribute: **scaling\_factor** value: **value** Optional  
 attribute: **value\_offset** value: **value** Optional  
 attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
 attribute: **description** value: **value** Optional  
 attribute: **maximum** value: **value** Optional  
 attribute: **mean** value: **value** Optional  
 attribute: **median** value: **value** Optional  
 attribute: **minimum** value: **value** Optional  
 attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional  
 attribute: **invalid\_constant** value: **value** Optional  
 attribute: **missing\_constant** value: **value** Optional  
 attribute: **not\_applicable\_constant** value: **value** Optional  
 attribute: **saturated\_constant** value: **value** Optional  
 attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**  
 attribute: **last\_sampling\_parameter\_value** value: **value**  
 attribute: **sampling\_parameter\_interval** value: **value**  
 attribute: **sampling\_parameter\_name** value: **value**  
 attribute: **sampling\_parameter\_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional  
 attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- **End Table\_Binary**

- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **encoding\_type** value: **BINARY**

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record\_length** value: *value*

attribute: **records** value: *value*

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.

role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: *value* <sup>Optional</sup>

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **field\_number** value: *value* <sup>Optional</sup>

attribute: **data\_type** value: **Bit**

attribute: **field\_location** value: *value*

attribute: **field\_length** value: *value*

attribute: **field\_format** value: *value* <sup>Optional</sup>

attribute: **minimum\_scaled\_value** value: *value* <sup>Optional</sup>

attribute: **maximum\_scaled\_value** value: *value* <sup>Optional</sup>

attribute: **bit\_mask** value: *value* <sup>Optional</sup>

attribute: **bits** value: *value*

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **start\_bit** value: *value*

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Table\_Binary\_Grouped\_Bit\_Field**

- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **field\_number** value: *value* <sup>Optional</sup>

attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle,**

SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- End Table\_Binary\_Grouped\_Field
- End Table\_Binary\_Field\_Sequence
- End Table\_Binary\_Grouped\_Sequence
- End Table\_Record\_Binary\_Grouped
- End Table\_Binary\_Grouped
- Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base

description: The Table Character class is an extension of table base and defines a simple character table.  
role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

- Table\_Record\_Character Occurs 1 Times

description: The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.  
role: **Concrete**

- Table\_Character\_Field - Occurs 1 to \* Times

description: The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.  
role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI,**

**ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC,**

**ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name,**

**ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID,**

**ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16,**

**ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed,**

**ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- Field\_Statistics - Occurs 0 to 1 Times

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.  
role: **Concrete**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** <sup>Optional</sup>  
attribute: **mean** value: **value** <sup>Optional</sup>  
attribute: **median** value: **value** <sup>Optional</sup>  
attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- End Field\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**  
role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>  
attribute: **invalid\_constant** value: **value** <sup>Optional</sup>  
attribute: **missing\_constant** value: **value** <sup>Optional</sup>  
attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>  
attribute: **saturated\_constant** value: **value** <sup>Optional</sup>  
attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- End Special\_Constants
- End Table\_Character\_Field
- End Table\_Record\_Character

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**  
role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**  
attribute: **last\_sampling\_parameter\_value** value: **value**  
attribute: **sampling\_parameter\_interval** value: **value**  
attribute: **sampling\_parameter\_name** value: **value**  
attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** <sup>Optional</sup>  
attribute: **sampling\_parameter\_unit** value: **value**

- End Uniformly\_Sampled
- End Table\_Character

- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**  
role: **Concrete**

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**  
attribute: **repetitions** value: **value** <sup>Optional</sup>

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Table\_Character\_Grouped\_Field**

- **End Table\_Character\_Field\_Sequence**

- **End Table\_Character\_Grouped\_Sequence**

- **End Table\_Record\_Character\_Grouped**

- **End Table\_Character\_Grouped**

- **End File\_Area\_Observational**

- **End Product\_Table\_Character**

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- **Product\_Table\_Character\_Grouped**

description: **The Product Table Character Grouped class defines a product consisting of one Character table with groups of repeating fields.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional

attribute: **last\_modification\_date\_time** value: **value** Optional

attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using**

**keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional

attribute: **instrument\_name** value: **value** Optional

attribute: **instrument\_host\_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: **value** Optional

attribute: **investigation\_name** value: **value** Optional

attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** Optional

attribute: **lid\_reference** value: **value** Optional

attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **Observing\_System - Occurs 1 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**
- **End Observing\_System\_Component**
- **End Observing\_System**

- **Reference\_Entry\_Product - Occurs 0 to \* Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **curated\_by\_node, has\_association, has\_browse, has\_calibration, has\_document, has\_geometry, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_primary\_collection, has\_primary\_product, has\_publication, has\_resource, has\_spice, has\_target, has\_thumbnail**

- **End Reference\_Entry\_Product**
- **End Cross\_Reference\_Area\_Product**

- **Observation\_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission\_Area - Occurs 0 to \* Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission\_Area**

- **Node\_Area - Occurs 0 to \* Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node\_Area**

attribute: **comment** value: **value** Optional

attribute: **start\_date\_time** value: **value**

attribute: **stop\_date\_time** value: **value**

attribute: **local\_mean\_solar\_time** value: **value** Optional

attribute: **local\_true\_solar\_time** value: **value** Optional

attribute: **mission\_phase\_name** value: **value** Optional

attribute: **orbit\_number** value: **value** Optional

attribute: **planet\_day\_number** value: **value** Optional

attribute: **solar\_longitude** value: **value** Optional

attribute: **spacecraft\_clock\_count\_partition** value: **value** Optional

attribute: **spacecraft\_clock\_start\_count** value: **value** Optional

attribute: **spacecraft\_clock\_stop\_count** value: **value** Optional

- **Geometry - Occurs 0 to \* Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

- **Vector - Occurs 0 to \* Times**

description: **The Vector class provides the components of either a velocity or position vector.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **name** value: *value*  
attribute: **description** value: *value*  
attribute: **type** value: **POSITION, VELOCITY**  
attribute: **vector\_components** value: *value*

- **Vector\_Component - Occurs 1 to \* Times**

description: **The Vector\_Component class provides a component of a vector.**  
role: **Concrete**  
attribute: **name** value: *value* Optional  
attribute: **description** value: *value* Optional  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional  
attribute: **value** value: *value*

- **End Vector\_Component**

- **End Vector**

- **End Geometry**

- **End Observation\_Area**

- **File\_Area\_Observational - Occurs 1 to \* Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged\_data\_objects contained within the file.**  
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value* Optional  
attribute: **comment** value: *value* Optional  
attribute: **creation\_date\_time** value: *value* Optional  
attribute: **file\_name** value: *value*  
attribute: **file\_size** value: *value* Optional  
attribute: **maximum\_record\_bytes** value: *value* Optional  
attribute: **md5\_checksum** value: *value* Optional  
attribute: **records** value: *value* Optional

- **End File**

- **Array\_2D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Image class is an extension of array\_base and defines a two dimensional image.**  
role: **Concrete**  
attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **axes** value: **2**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**  
role: **Concrete**  
attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: The **Axis\_Display** class is a placeholder for a soon forthcoming Imaging class.  
role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The **Band\_Bin\_Set** class is a placeholder for a soon forthcoming Imaging class.  
role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Image\_2D\_Display - Occurs 0 to 1 Times**

description: The **Image\_2D\_Display** class provides attributes to enable the display of a 2D image.  
role: **Concrete**

attribute: **first\_line** value: **value** Optional

attribute: **first\_line\_sample** value: **value** Optional

attribute: **line\_display\_direction** value: DOWN, LEFT, RIGHT, UP

attribute: **sample\_display\_direction** value: DOWN, LEFT, RIGHT, UP

- End Image\_2D\_Display

- **Array\_Element Occurs 1 Times**

description: The **Array Element** class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- End Array\_Element

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- End Cartography

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The **Object Statistics** class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Image**

- **Array\_2D\_Map - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 2D Map class is an extension of array\_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: The **Cartography** class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The **Object Statistics** class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: The **Special Constants** class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Array\_2D\_Map**

- **Array\_2D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: The **Array 2D Spectrum** class is an extension of **array\_base** and defines a two dimensional spectrum.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **2**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 2 Times**

description: The **Array Axis** class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **axis\_name** value: **value**

attribute: **elements** value: **value**

attribute: **sequence\_number** value: **value**

attribute: **unit** value: **value** Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: The **Axis\_Display** class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** <sup>Optional</sup>

attribute: **value\_offset** value: **value** <sup>Optional</sup>

attribute: **unit** value: **value** <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **maximum** value: **value** <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **mean** value: **value** <sup>Optional</sup>

attribute: **median** value: **value** <sup>Optional</sup>

attribute: **minimum** value: **value** <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: **value** <sup>Optional</sup>

attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Array\_2D\_Spectrum**

- **Array\_3D\_Image - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: The Array 3D Image class is an extension of array\_base and defines a three dimensional image.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: *value*

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: The Object Statistics class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* Optional  
attribute: **maximum** value: *value* Optional  
attribute: **md5\_checksum** value: *value* Optional  
attribute: **mean** value: *value* Optional  
attribute: **median** value: *value* Optional  
attribute: **minimum** value: *value* Optional  
attribute: **sample\_bit\_mask** value: *value* Optional  
attribute: **standard\_deviation** value: *value* Optional

- End Object\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: *value* Optional  
attribute: **invalid\_constant** value: *value* Optional  
attribute: **missing\_constant** value: *value* Optional  
attribute: **not\_applicable\_constant** value: *value* Optional  
attribute: **saturated\_constant** value: *value* Optional  
attribute: **unknown\_constant** value: *value* Optional

- End Special\_Constants

- End Array\_3D\_Image

- **Array\_3D\_Movie - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Movie class is an extension of array\_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **axes** value: **3**  
attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**  
attribute: **axis\_storage\_order** value: *value*  
attribute: **encoding\_type** value: **BINARY**  
attribute: **offset** value: *value*

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*  
attribute: **elements** value: *value*  
attribute: **sequence\_number** value: *value*  
attribute: **unit** value: *value* Optional

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Axis\_Display

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- End Band\_Bin\_Set

- End Array\_Axis

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **End Array\_Element**
- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**
- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample\_bit\_mask** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Object\_Statistics**
- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**
- **End Array\_3D\_Movie**
- **Array\_3D\_Spectrum - Occurs 0 to \* Times - Base\_Class:Array\_Base**

description: **The Array 3D Spectrum class is an extension of array\_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **3**

attribute: **axis\_index\_order** value: **FIRST\_INDEX\_FASTEST**

attribute: **axis\_storage\_order** value: **value**

attribute: **encoding\_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array\_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **axis\_name** value: *value*

attribute: **elements** value: *value*

attribute: **sequence\_number** value: *value*

attribute: **unit** value: *value* <sup>Optional</sup>

- **Axis\_Display - Occurs 0 to 1 Times**

description: **The Axis\_Display class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Axis\_Display**

- **Band\_Bin\_Set - Occurs 0 to 1 Times**

description: **The Band\_Bin\_Set class is a placeholder for a soon forthcoming Imaging class.**

role: **Concrete**

- **End Band\_Bin\_Set**

- **End Array\_Axis**

- **Array\_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data\_type** value: **IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Array\_Element**

- **Cartography - Occurs 0 to 1 Times**

description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**

role: **Concrete**

- **End Cartography**

- **Object\_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local\_identifier** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **maximum** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: *value* <sup>Optional</sup>

attribute: **mean** value: *value* <sup>Optional</sup>

attribute: **median** value: *value* <sup>Optional</sup>

attribute: **minimum** value: *value* <sup>Optional</sup>

attribute: **sample\_bit\_mask** value: *value* <sup>Optional</sup>

attribute: **standard\_deviation** value: *value* <sup>Optional</sup>

- **End Object\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases**

that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- End Special\_Constants
- End Array\_3D\_Spectrum
- **Delimited\_Table - Occurs 0 to \* Times**

description: The **Delimited\_Table** class defines a simple table (spreadsheet) with delimited fields and records.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **CSV, OTHER**

attribute: **field\_delimiter** value: **0x2C, 0x3B, 0x7C**

attribute: **fields** value: **value**

attribute: **maximum\_record\_length** value: **value**

attribute: **offset** value: **value**

attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**

attribute: **records** value: **value**

- **Delimited\_Record Occurs 1 Times**

description: The **Delimited Record** class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.

role: **Concrete**

- **Delimited\_Field - Occurs 1 to \* Times**

description: The **Delimited Field** class is a component of the delimited table (spreadsheet) record class and defines a field of the record.

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field\_number** value: **value** Optional

attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: The **Field Statistics** class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: *value* Optional  
attribute: **standard\_deviation** value: *value* Optional

- End Field\_Statistics
- **Special\_Constants - Occurs 0 to 1 Times**

description: The **Special Constants** class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error\_constant** value: *value* Optional  
attribute: **invalid\_constant** value: *value* Optional  
attribute: **missing\_constant** value: *value* Optional  
attribute: **not\_applicable\_constant** value: *value* Optional  
attribute: **saturated\_constant** value: *value* Optional  
attribute: **unknown\_constant** value: *value* Optional

- End Special\_Constants
- End Delimited\_Field
- End Delimited\_Record
- End Delimited\_Table
- **Delimited\_Table\_Grouped - Occurs 0 to \* Times**

description: The **Delimited\_Table\_Grouped** class defines a simple table (spreadsheet) that allows repeating groups of fields.

role: **Concrete**

attribute: **local\_identifier** value: *value*  
attribute: **comment** value: *value* Optional  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **CSV, OTHER**  
attribute: **field\_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**  
attribute: **fields** value: *value*  
attribute: **maximum\_record\_length** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**  
attribute: **records** value: *value*

- **Delimited\_Record\_Grouped Occurs 1 Times**

description: The **Delimited Record Grouped** class is a component of the delimited table (spreadsheet) class and defines a record of the spreadsheet.

role: **Concrete**

- **Delimited\_Grouped\_Sequence - Occurs 1 to \* Times**

description: The **Delimited Grouped Sequence** class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: *value* Optional

- **Delimited\_Field\_Sequence - Occurs 1 to \* Times**

description: The **Delimited Field Sequence** class is a component of the grouped delimited table (spreadsheet) class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Delimited\_Field - Occurs 0 to \* Times**

description: The **Delimited Field** class is a component of the delimited table (spreadsheet) record class and defines a field of the record.

role: **Concrete**

attribute: **name** value: *value*  
attribute: **description** value: *value* Optional  
attribute: **field\_number** value: *value* Optional  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC,**

ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Delimited\_Field**

- **End Delimited\_Field\_Sequence**

- **End Delimited\_Grouped\_Sequence**

- **End Delimited\_Record\_Grouped**

- **End Delimited\_Table\_Grouped**

- **Header - Occurs 0 to \* Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **bytes** value: **value**

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **FITS, FREE\_TEXT, ISIS2, ISIS3, ISIS\_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR**

attribute: **offset** value: **value**

- **End Header**

- **Header\_Binary - Occurs 0 to \* Times**

description: **The Header Binary class describes a data object header.**

role: **Concrete**  
attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **name** value: **value** <sup>Optional</sup>  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **bytes** value: **value**  
attribute: **encoding\_type** value: **BINARY**  
attribute: **external\_standard\_id** value: **FITS, ISIS2, ISIS3, ISIS\_HISTORY, TIFF, VICAR**  
attribute: **offset** value: **value**

- **End Header\_Binary**

- **Parsable\_Byte\_Stream - Occurs 0 to \* Times**

description: **The Parsable Byte Stream class defines byte streams that have standard parsing rules. The Parsable Byte Stream class is the parent class for all parsable byte streams.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **value**  
attribute: **offset** value: **value**

- **End Parsable\_Byte\_Stream**

- **Stream\_Text - Occurs 0 to \* Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **external\_standard\_id** value: **value**  
attribute: **offset** value: **value**

- **End Stream\_Text**

- **Table\_Binary - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **BINARY**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table\_Binary\_Field - Occurs 1 to \* Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **field\_number** value: **value** <sup>Optional</sup>  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed,**

ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field\_location** value: **value**

attribute: **field\_length** value: **value**

attribute: **field\_format** value: **value** Optional

attribute: **minimum\_scaled\_value** value: **value** Optional

attribute: **maximum\_scaled\_value** value: **value** Optional

attribute: **scaling\_factor** value: **value** Optional

attribute: **value\_offset** value: **value** Optional

attribute: **unit** value: **value** Optional

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **standard\_deviation** value: **value** Optional

- **End Field\_Statistics**

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** Optional

attribute: **invalid\_constant** value: **value** Optional

attribute: **missing\_constant** value: **value** Optional

attribute: **not\_applicable\_constant** value: **value** Optional

attribute: **saturated\_constant** value: **value** Optional

attribute: **unknown\_constant** value: **value** Optional

- **End Special\_Constants**

- **End Table\_Binary\_Field**

- **End Table\_Record\_Binary**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: **value**

attribute: **sampling\_parameter\_interval** value: **value**

attribute: **sampling\_parameter\_name** value: **value**

attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional

attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- **End Table\_Binary**

- **Table\_Binary\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **BINARY**

attribute: **fields** value: *value*  
attribute: **offset** value: *value*  
attribute: **record\_length** value: *value*  
attribute: **records** value: *value*

- **Table\_Record\_Binary\_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**  
role: **Concrete**

- **Table\_Binary\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: *value* <sup>Optional</sup>

- **Table\_Binary\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**  
role: **Concrete**

- **Table\_Binary\_Grouped\_Bit\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **field\_number** value: *value* <sup>Optional</sup>

attribute: **data\_type** value: **Bit**

attribute: **field\_location** value: *value*

attribute: **field\_length** value: *value*

attribute: **field\_format** value: *value* <sup>Optional</sup>

attribute: **minimum\_scaled\_value** value: *value* <sup>Optional</sup>

attribute: **maximum\_scaled\_value** value: *value* <sup>Optional</sup>

attribute: **bit\_mask** value: *value* <sup>Optional</sup>

attribute: **bits** value: *value*

attribute: **scaling\_factor** value: *value* <sup>Optional</sup>

attribute: **start\_bit** value: *value*

attribute: **value\_offset** value: *value* <sup>Optional</sup>

attribute: **unit** value: *value* <sup>Optional</sup>

- **End Table\_Binary\_Grouped\_Bit\_Field**

- **Table\_Binary\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* <sup>Optional</sup>

attribute: **field\_number** value: *value* <sup>Optional</sup>

attribute: **data\_type** value: **ASCII\_File\_Name, Bit, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field\_location** value: *value*

attribute: **field\_length** value: *value*

attribute: **field\_format** value: *value* <sup>Optional</sup>

attribute: **minimum\_scaled\_value** value: *value* <sup>Optional</sup>

attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- End Table\_Binary\_Grouped\_Field
  - End Table\_Binary\_Field\_Sequence
  - End Table\_Binary\_Grouped\_Sequence
  - End Table\_Record\_Binary\_Grouped
  - End Table\_Binary\_Grouped
- **Table\_Character - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **comment** value: **value** <sup>Optional</sup>  
attribute: **encoding\_type** value: **CHARACTER**  
attribute: **fields** value: **value**  
attribute: **offset** value: **value**  
attribute: **record\_length** value: **value**  
attribute: **records** value: **value**

- **Table\_Record\_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**

role: **Concrete**

- **Table\_Character\_Field - Occurs 1 to \* Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**

attribute: **name** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **field\_number** value: **value** <sup>Optional</sup>  
attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
attribute: **field\_location** value: **value**  
attribute: **field\_length** value: **value**  
attribute: **field\_format** value: **value** <sup>Optional</sup>  
attribute: **minimum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **maximum\_scaled\_value** value: **value** <sup>Optional</sup>  
attribute: **scaling\_factor** value: **value** <sup>Optional</sup>  
attribute: **value\_offset** value: **value** <sup>Optional</sup>  
attribute: **unit** value: **value** <sup>Optional</sup>

- **Field\_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local\_identifier** value: **value**  
attribute: **description** value: **value** <sup>Optional</sup>  
attribute: **maximum** value: **value** <sup>Optional</sup>  
attribute: **mean** value: **value** <sup>Optional</sup>  
attribute: **median** value: **value** <sup>Optional</sup>  
attribute: **minimum** value: **value** <sup>Optional</sup>  
attribute: **standard\_deviation** value: **value** <sup>Optional</sup>

- End Field\_Statistics

- **Special\_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error\_constant** value: **value** <sup>Optional</sup>

attribute: **invalid\_constant** value: **value** <sup>Optional</sup>

attribute: **missing\_constant** value: **value** <sup>Optional</sup>

attribute: **not\_applicable\_constant** value: **value** <sup>Optional</sup>

attribute: **saturated\_constant** value: **value** <sup>Optional</sup>

attribute: **unknown\_constant** value: **value** <sup>Optional</sup>

- **End Special\_Constants**

- **End Table\_Character\_Field**

- **End Table\_Record\_Character**

- **Uniformly\_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly\_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first\_sampling\_parameter\_value** value: **value**

attribute: **last\_sampling\_parameter\_value** value: **value**

attribute: **sampling\_parameter\_interval** value: **value**

attribute: **sampling\_parameter\_name** value: **value**

attribute: **sampling\_parameter\_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** <sup>Optional</sup>

attribute: **sampling\_parameter\_unit** value: **value**

- **End Uniformly\_Sampled**

- **End Table\_Character**

- **Table\_Character\_Grouped - Occurs 0 to \* Times - Base\_Class:Table\_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **encoding\_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record\_length** value: **value**

attribute: **records** value: **value**

- **Table\_Record\_Character\_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**

role: **Concrete**

- **Table\_Character\_Grouped\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** <sup>Optional</sup>

- **Table\_Character\_Field\_Sequence - Occurs 1 to \* Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table\_Character\_Grouped\_Field - Occurs 0 to \* Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**

attribute: **name** value: **value**  
 attribute: **description** value: **value** Optional  
 attribute: **field\_number** value: **value** Optional  
 attribute: **data\_type** value: **ASCII\_AnyURI, ASCII\_Boolean\_TF, ASCII\_DOI, ASCII\_Date\_DOY, ASCII\_Date\_Time\_DOY, ASCII\_Date\_Time\_UTC, ASCII\_Date\_Time\_YMD, ASCII\_Date\_YMD, ASCII\_File\_Name, ASCII\_File\_Specification\_Name, ASCII\_Integer, ASCII\_LID, ASCII\_LIDVID, ASCII\_MD5\_Checksum, ASCII\_NonNegative\_Integer, ASCII\_Numeric\_Base16, ASCII\_Numeric\_Base2, ASCII\_Real, ASCII\_Short\_String\_Collapsed, ASCII\_Short\_String\_Preserved, ASCII\_Text\_Preserved, ASCII\_Time, ASCII\_VID**  
 attribute: **field\_location** value: **value**  
 attribute: **field\_length** value: **value**  
 attribute: **field\_format** value: **value** Optional  
 attribute: **minimum\_scaled\_value** value: **value** Optional  
 attribute: **maximum\_scaled\_value** value: **value** Optional  
 attribute: **scaling\_factor** value: **value** Optional  
 attribute: **value\_offset** value: **value** Optional  
 attribute: **unit** value: **value** Optional

- End Table\_Character\_Grouped\_Field
  - End Table\_Character\_Field\_Sequence
  - End Table\_Character\_Grouped\_Sequence
  - End Table\_Record\_Character\_Grouped
  - End Table\_Character\_Grouped
  - End File\_Area\_Observational
  - End Product\_Table\_Character\_Grouped
- 

## • Product\_Target

description: **A target product describes a target.**  
 role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**  
 role: **Concrete**  
 attribute: **dd\_version\_id** value: **value**  
 attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**  
 role: **Concrete**  
 attribute: **logical\_identifier** value: **value**  
 attribute: **version\_id** value: **value**  
 attribute: **product\_class** value: **value**  
 attribute: **title** value: **value**  
 attribute: **alternate\_title** value: **value** Optional  
 attribute: **alternate\_id** value: **value** Optional  
 attribute: **last\_modification\_date\_time** value: **value** Optional  
 attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**  
 role: **Concrete**  
 attribute: **target\_name** value: **value** Optional  
 attribute: **instrument\_name** value: **value** Optional  
 attribute: **instrument\_host\_name** value: **value** Optional  
 attribute: **keywords** value: **value** Optional

attribute: **full\_name** value: *value* Optional  
attribute: **investigation\_name** value: *value* Optional  
attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **alternate\_designation** value: *value* Optional

attribute: **lid\_reference** value: *value* Optional

attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: *value* Optional

attribute: **lidvid\_reference** value: *value* Optional

attribute: **reference\_association\_type** value: *has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target*

- **End Reference\_Entry\_Context**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference\_text** value: *value* Optional

attribute: **url** value: *value* Optional

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area\_Context**

- **Target Occurs 1 Times**

description: **The Target class provides a description of a physical object that is the object of data collection.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value*

- **End Target**

- **End Product\_Target**

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- **Product\_Target\_PDS3**

description: **A target product describes a target. This product captures a reduced set of the PDS3 catalog target information.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** <sup>Optional</sup>

attribute: **alternate\_id** value: **value** <sup>Optional</sup>

attribute: **last\_modification\_date\_time** value: **value** <sup>Optional</sup>

attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** <sup>Optional</sup>

attribute: **instrument\_name** value: **value** <sup>Optional</sup>

attribute: **instrument\_host\_name** value: **value** <sup>Optional</sup>

attribute: **keywords** value: **value** <sup>Optional</sup>

attribute: **full\_name** value: **value** <sup>Optional</sup>

attribute: **investigation\_name** value: **value** <sup>Optional</sup>

attribute: **observing\_system\_name** value: **value** <sup>Optional</sup>

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** <sup>Optional</sup>

attribute: **name** value: **value**

attribute: **alternate\_designation** value: **value** <sup>Optional</sup>

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: **value** <sup>Optional</sup>

attribute: **lidvid\_reference** value: **value** <sup>Optional</sup>

attribute: **reference\_association\_type** value: **has\_association**, **has\_data\_producer**, **has\_data\_set**, **has\_instrument**, **has\_instrument\_host**, **has\_investigation**, **has\_node**, **has\_personnel**, **has\_publication**, **has\_resource**, **has\_target**

- End Reference\_Entry\_Context

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- End Bibliographic\_Reference
- End Cross\_Reference\_Area\_Context

- **Target\_PDS3 Occurs 1 Times**

description: **The Target class provides a description of a physical object that is the object of data collection. This class captures the PDS3 catalog Target information.**

role: **Concrete**

attribute: **target\_name** value: **value**

attribute: **primary\_body\_name** value: **value**

attribute: **target\_desc** value: **value**

attribute: **target\_type** value: **value**

- End Target\_PDS3
  - End Product\_Target\_PDS3
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- **Product\_Thumbnail**

description: **The Product Thumbnail class defines a product consisting of one encoded byte stream digital object.**  
role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- End Data\_Standards

- **Identification\_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional

attribute: **last\_modification\_date\_time** value: **value** Optional

attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional

attribute: **instrument\_name** value: **value** Optional  
attribute: **instrument\_host\_name** value: **value** Optional  
attribute: **keywords** value: **value** Optional  
attribute: **full\_name** value: **value** Optional  
attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **alternate\_designation** value: **value** Optional  
attribute: **lid\_reference** value: **value** Optional  
attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area**

- **Cross\_Reference\_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**

role: **Concrete**

- **Observing\_System - Occurs 0 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional  
attribute: **lidvid\_reference** value: **value** Optional  
attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **End Reference\_Entry\_Observing\_System\_Component**

- **End Observing\_System\_Component**

- **End Observing\_System**

- **Reference\_Entry - Occurs 0 to \* Times**

description: **The Reference Entry class provides a reference and type information about the reference.**

**The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **has\_association, member\_of**

- **End Reference\_Entry**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**

- **End Cross\_Reference\_Area**

- **File\_Area\_Encoded\_Image Occurs 1 Times**

description: **The File Area Encoded Image class describes a file that contains an Encoded Image object.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional

attribute: **comment** value: **value** Optional

attribute: **creation\_date\_time** value: **value** Optional

attribute: **file\_name** value: **value**

attribute: **file\_size** value: **value** Optional

attribute: **maximum\_record\_bytes** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **records** value: **value** Optional

- **End File**

- **Encoded\_Image Occurs 1 Times**

description: **The Encoded Image class, a subclass of Encoded Byte stream is used for ancillary images in standard formats, such as JPEG.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **BINARY**

attribute: **external\_standard\_id** value: **GIF, JPEG, PDF, PNG, TIFF**

attribute: **offset** value: **value**

- **End Encoded\_Image**

- **End File\_Area\_Encoded\_Image**

- **End Product\_Thumbnail**
- 

- **Product\_Update**

description: **The Product Update class defines a product consisting of update information and optional references to other products.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: *value*

attribute: **std\_ref\_version\_id** value: *value*

- **End Data\_Standards**

- **Identification\_Area\_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate\_title** value: *value* Optional

attribute: **alternate\_id** value: *value* Optional

attribute: **last\_modification\_date\_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* Optional

attribute: **instrument\_name** value: *value* Optional

attribute: **instrument\_host\_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full\_name** value: *value* Optional

attribute: **investigation\_name** value: *value* Optional

attribute: **observing\_system\_name** value: *value* Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **alternate\_designation** value: *value* Optional

attribute: **lid\_reference** value: *value* Optional

attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area\_Product**

- **Cross\_Reference\_Area\_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference\_Entry\_Context - Occurs 0 to \* Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument\_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid\_reference** value: *value* Optional

attribute: **lidvid\_reference** value: *value* Optional

attribute: **reference\_association\_type** value: *has\_association, has\_data\_producer, has\_data\_set, has\_instrument, has\_instrument\_host, has\_investigation, has\_node, has\_personnel, has\_publication, has\_resource, has\_target*

- **End Reference\_Entry\_Context**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic\_Reference**
- **End Cross\_Reference\_Area\_Context**

- **Update Occurs 1 Times**

description: **The Update class consists of update information.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **description** value: **value** Optional

- **Update\_Entry - Occurs 0 to \* Times**

description: **The Update Entry class provides the date and description of an update.**

role: **Concrete**

attribute: **description** value: **value**

attribute: **date\_time** value: **value**

attribute: **full\_name** value: **value**

- **Reference\_Entry\_Generic - Occurs 0 to 1 Times**

description: **The Reference Entry Generic class provides a reference and type information about the reference. The reference is to a product.**

role: **Abstract**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **value**

- **End Reference\_Entry\_Generic**
  - **End Update\_Entry**
  - **End Update**
  - **End Product\_Update**
- 

- **Product\_XML\_Schema**

description: **The Product XML Schema consists of a single text file in XML Schema encoding.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: **value**

attribute: **std\_ref\_version\_id** value: **value**

- **End Data\_Standards**

- **Identification\_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical\_identifier** value: **value**

attribute: **version\_id** value: **value**

attribute: **product\_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate\_title** value: **value** Optional

attribute: **alternate\_id** value: **value** Optional  
attribute: **last\_modification\_date\_time** value: **value** Optional  
attribute: **type** value: **value**

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: **value** Optional  
attribute: **instrument\_name** value: **value** Optional  
attribute: **instrument\_host\_name** value: **value** Optional  
attribute: **keywords** value: **value** Optional  
attribute: **full\_name** value: **value** Optional  
attribute: **investigation\_name** value: **value** Optional  
attribute: **observing\_system\_name** value: **value** Optional

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **alternate\_designation** value: **value** Optional  
attribute: **lid\_reference** value: **value** Optional  
attribute: **type** value: **value**

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area**

- **Cross\_Reference\_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**

role: **Concrete**

- **Observing\_System - Occurs 0 to \* Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional  
attribute: **name** value: **value** Optional  
attribute: **description** value: **value**

- **Observing\_System\_Component - Occurs 1 to \* Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument\_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional  
attribute: **name** value: **value**  
attribute: **observing\_system\_component\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- **Reference\_Entry\_Observing\_System\_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional  
attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **Analyst, Artificial\_Illumination, Ground-based\_Laboratory, Ground-based\_Observatory, Ground-based\_Telescope, Instrument, Literature\_Search, PDS\_Archived\_Data, Spacecraft**

- End Reference\_Entry\_Observing\_System\_Component
- End Observing\_System\_Component
- End Observing\_System

- **Reference\_Entry - Occurs 0 to \* Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid\_reference** value: **value** Optional

attribute: **lidvid\_reference** value: **value** Optional

attribute: **reference\_association\_type** value: **has\_association, member\_of**

- End Reference\_Entry

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference\_text** value: **value** Optional

attribute: **url** value: **value** Optional

- End Bibliographic\_Reference
- End Cross\_Reference\_Area

- **File\_Area\_XML\_Schema Occurs 1 Times**

description: **The File Area XML Schema class describes a file that contains an XML Schema object.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: **value** Optional

attribute: **comment** value: **value** Optional

attribute: **creation\_date\_time** value: **value** Optional

attribute: **file\_name** value: **value**

attribute: **file\_size** value: **value** Optional

attribute: **maximum\_record\_bytes** value: **value** Optional

attribute: **md5\_checksum** value: **value** Optional

attribute: **records** value: **value** Optional

- End File

- **XML\_Schema Occurs 1 Times**

description: **The XML Schema class defines a text stream file containing XML Schema.**

role: **Concrete**

attribute: **local\_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding\_type** value: **CHARACTER**

attribute: **external\_standard\_id** value: **XML\_Schema**

attribute: **offset** value: **value**

- End XML\_Schema
  - End File\_Area\_XML\_Schema
  - End Product\_XML\_Schema
-

- **Product\_Zipped**

description: **The Product\_Zipped is a product with references to other products. The referenced products and all associated products and files are packaged into a single ZIP file.**

role: **Concrete**

- **Data\_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd\_version\_id** value: *value*

attribute: **std\_ref\_version\_id** value: *value*

- **End Data\_Standards**

- **Identification\_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical\_identifier** value: *value*

attribute: **version\_id** value: *value*

attribute: **product\_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate\_title** value: *value* <sup>Optional</sup>

attribute: **alternate\_id** value: *value* <sup>Optional</sup>

attribute: **last\_modification\_date\_time** value: *value* <sup>Optional</sup>

attribute: **type** value: *value*

- **Subject\_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target\_name** value: *value* <sup>Optional</sup>

attribute: **instrument\_name** value: *value* <sup>Optional</sup>

attribute: **instrument\_host\_name** value: *value* <sup>Optional</sup>

attribute: **keywords** value: *value* <sup>Optional</sup>

attribute: **full\_name** value: *value* <sup>Optional</sup>

attribute: **investigation\_name** value: *value* <sup>Optional</sup>

attribute: **observing\_system\_name** value: *value* <sup>Optional</sup>

- **Name\_Resolution - Occurs 0 to \* Times**

description: **The Name\_Resolution (aka Target) class provides a means for target identification in observational data products labels.**

role: **Concrete**

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **name** value: *value*

attribute: **alternate\_designation** value: *value* <sup>Optional</sup>

attribute: **lid\_reference** value: *value* <sup>Optional</sup>

attribute: **type** value: *value*

- **End Name\_Resolution**

- **End Subject\_Area**

- **End Identification\_Area**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local\_identifier** value: *value* <sup>Optional</sup>

attribute: **comment** value: *value* <sup>Optional</sup>

attribute: **creation\_date\_time** value: *value* <sup>Optional</sup>

attribute: **file\_name** value: *value*

attribute: **file\_size** value: *value* <sup>Optional</sup>

attribute: **maximum\_record\_bytes** value: *value* <sup>Optional</sup>

attribute: **md5\_checksum** value: **value** <sup>Optional</sup>

attribute: **records** value: **value** <sup>Optional</sup>

- **End File**  
attribute: **container\_type** value: **GZIP, LZIP, TAR, ZIP**

- **Cross\_Reference\_Area\_Generic - Occurs 0 to 1 Times**

description: **The cross reference area generic provides references for associated products.**  
role: **Abstract**

- **Bibliographic\_Reference - Occurs 0 to \* Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** <sup>Optional</sup>

attribute: **description** value: **value** <sup>Optional</sup>

attribute: **doi** value: **value** <sup>Optional</sup>

attribute: **reference\_text** value: **value** <sup>Optional</sup>

attribute: **url** value: **value** <sup>Optional</sup>

- **End Bibliographic\_Reference**
  - **End Cross\_Reference\_Area\_Generic**

- **Zipped\_Member\_Entry - Occurs 0 to \* Times**

description: **The Zipped Member Entry class provides a member reference to a product.**  
role: **Concrete**

attribute: **file\_specification\_name** value: **value**

attribute: **lidvid\_reference** value: **value**

attribute: **md5\_checksum** value: **value**

attribute: **reference\_association\_type** value: **contained\_product, manifest\_product**

- **End Zipped\_Member\_Entry**
    - **End Product\_Zipped**
- 

- **Rings\_Prod\_Info**

description: **This class identifies the set of elements pertinent to Rings products.**

role: **Concrete**

attribute: **node\_name** value: **Planetary\_Rings**

attribute: **incidence\_angle** value: **value**

attribute: **maximum\_ring\_radius** value: **value**

attribute: **minimum\_ring\_radius** value: **value**

attribute: **node\_id** value: **RINGS**

attribute: **occultation\_type** value: **STELLAR**

attribute: **planetary\_occultation\_flag** value: **value**

attribute: **radial\_resolution** value: **value**

attribute: **ring\_event\_start\_time** value: **value**

attribute: **ring\_event\_stop\_time** value: **value**

attribute: **ring\_occultation\_direction** value: **value**

attribute: **star\_name** value: **value**

- **End Rings\_Prod\_Info**
- 

- **Telemetry\_Parameters**

description: **The Telemetry\_Parameters class contains downlink-related attributes used primarily during mission operations.**

role: **Concrete**

attribute: **application\_process\_id** value: **value** <sup>Optional</sup>

attribute: **application\_process\_name** value: **value** <sup>Optional</sup>

attribute: **earth\_received\_start\_date\_time** value: **value** <sup>Optional</sup>

attribute: **earth\_received\_stop\_date\_time** value: **value** <sup>Optional</sup>

attribute: **expected\_packets** value: **value** Optional  
attribute: **packet\_map\_mask** value: **value** Optional  
attribute: **received\_packets** value: **value** Optional  
attribute: **spice\_file\_name** value: **value** Optional  
attribute: **telemetry\_format\_id** value: **value** Optional  
attribute: **telemetry\_provider\_id** value: **value** Optional  
attribute: **telemetry\_source\_name** value: **value** Optional  
attribute: **telemetry\_source\_type** value: **DATA\_PRODUCT, SFDU** Optional

- **End Telemetry\_Parameters**
- 
- 

## 8. PDS4 Attribute Definitions - Fri Oct 28 10:17:55 PDT 2011

Generated from the PDS4 Information Model Version 0.5.0.0.g

- **abstract\_desc**

steward: **ops**  
name space id: **ops:**  
class: **Data\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The abstract\_desc attribute provides a summary of a text, scientific article, or document.**
- value\_data\_type: **ASCII\_Text\_Preserved**
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

- **acknowledgement\_text**

steward: **pds**  
name space id: **pds:**  
class: **Document\_Desc**  
version: **0.5.0.0.g**

- description: **The acknowledgement\_text attribute is a character string which recognizes another's contribution, authority, or right.**
- value\_data\_type: **ASCII\_Text\_Preserved**
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

- **affiliation\_type**

steward: **ops**  
name space id: **ops:**  
class: **PDS\_Affiliate**  
version: **0.5.0.0.g**

- description: **The affiliation type data attribute describes the type of relationship an individual has with the PDS.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**Manager**  
**Technical\_Staff**  
**Data\_Provider**  
**Affiliate**

- **alternate\_designation**

steward: **pds**  
name space id: **pds:**  
class: **Name\_Resolution**  
version: **0.5.0.0.g**

- description: **The alternate\_designation attribute provides a known alternate name or identifier.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**

- **alternate\_id**

steward: **pds**  
name space id: **pds**:  
class: **Identification\_Area**  
version: **0.5.0.0.g**

- description: **The alternate\_id attribute provides an additional identifier supplied by the data provider.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **alternate\_telephone\_number**

steward: **ops**  
name space id: **ops**:  
class: **PDS\_Affiliate**  
version: **0.5.0.0.g**

- description: **The telephone\_number attribute provides a telephone number in international notation in compliance with the E.164 telephone number format recommendation.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **alternate\_title**

steward: **pds**  
name space id: **pds**:  
class: **Identification\_Area**  
version: **0.5.0.0.g**

- description: **The alternate\_title attribute provides an alternate title for the product.**
- value\_data\_type: [UTF8\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **application\_process\_id**

steward: **img**  
name space id: **img**:  
class: **Telemetry\_Parameters**  
version: **0.5.0.0.g**

- description: **The application\_process\_id attribute identifies the process, or source, which created the data.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: 0

- **application\_process\_name**

steward: **img**  
name space id: **img**:  
class: **Telemetry\_Parameters**  
version: **0.5.0.0.g**

- description: **The application\_process\_name attribute provides the name associated with the source or process which created the data.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 127

- **archive\_status**

steward: **ops**  
name space id: **ops**:  
class: **Data\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The ARCHIVE\_STATUS attribute indicates the stage to which a data set has progressed in the archiving process, from "IN QUEUE" through "ARCHIVED". It can also take on the values "SUPERSEDED" or "SAFED", which indicate that the data set is not part of the active archive. "ACCUMULATING" can be appended to some values to indicate that the data set is incomplete and/or that not all components have reached the**

stage given by the root value; "ACCUMULATING" would be used, for example, when the archive is being delivered incrementally, as from a mission that lasts many months or years.

- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values

ARCHIVED  
IN\_LIEN\_RESOLUTION  
IN\_PEER\_REVIEW  
IN\_QUEUE  
LOCALLY\_ARCHIVED  
PRE\_PEER\_REVIEW  
SAFED  
SUPERSEDED  
IN\_QUEUE\_ACCUMULATING  
PRE\_PEER\_REVIEW\_ACCUMULATING  
IN\_PEER\_REVIEW\_ACCUMULATING  
IN\_LIEN\_RESOLUTION\_ACCUMULATING  
LOCALLY\_ARCHIVED\_ACCUMULATING  
ARCHIVED\_ACCUMULATING

- **archive\_status**

steward: **ops**

name space id: **ops:**

class: **Volume\_PDS3**

version: **0.5.0.0.g**

- description: The ARCHIVE\_STATUS attribute indicates the stage to which a data set has progressed in the archiving process, from "IN QUEUE" through "ARCHIVED". It can also take on the values "SUPERSEDED" or "SAFED", which indicate that the data set is not part of the active archive. "ACCUMULATING" can be appended to some values to indicate that the data set is incomplete and/or that not all components have reached the stage given by the root value; "ACCUMULATING" would be used, for example, when the archive is being delivered incrementally, as from a mission that lasts many months or years.

- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values

ARCHIVED  
IN\_LIEN\_RESOLUTION  
IN\_PEER\_REVIEW  
IN\_QUEUE  
LOCALLY\_ARCHIVED  
PRE\_PEER\_REVIEW  
SAFED  
SUPERSEDED  
IN\_QUEUE\_ACCUMULATING  
PRE\_PEER\_REVIEW\_ACCUMULATING  
IN\_PEER\_REVIEW\_ACCUMULATING  
IN\_LIEN\_RESOLUTION\_ACCUMULATING  
LOCALLY\_ARCHIVED\_ACCUMULATING  
ARCHIVED\_ACCUMULATING

- **archive\_status\_note**

steward: **ops**

name space id: **ops:**

class: **Volume\_PDS3**

version: **0.5.0.0.g**

- description: The archive status note attribute provides a comment about the archive status.
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **attribute\_concept**

steward: **ops**

name space id: **ops:**

class: **DD\_Attribute\_Full**

version: **0.5.0.0.g**

- description: **The attribute\_concept attribute provides the type of information (classification) conveyed by the attribute – e.g., stop\_date\_time has attribute\_concept = date\_time.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values
  - DEC\_ADDRESS**
  - DEC\_ANGLE**
  - DEC\_ATTRIBUTE**
  - DEC\_BIT**
  - DEC\_CHECKSUM**
  - DEC\_COLLECTION**
  - DEC\_CONSTANT**
  - DEC\_COSINE**
  - DEC\_COUNT**
  - DEC\_DELIMITER**
  - DEC\_DESCRIPTION**
  - DEC\_DEVIATION**
  - DEC\_DIRECTION**
  - DEC\_DISTANCE**
  - DEC\_DOI**
  - DEC\_DURATION**
  - DEC\_FACTOR**
  - DEC\_FLAG**
  - DEC\_FORMAT**
  - DEC\_GROUP**
  - DEC\_HOME**
  - DEC\_LATITUDE**
  - DEC\_LENGTH**
  - DEC\_LIST**
  - DEC\_LOCATION**
  - DEC\_LOGICAL**
  - DEC\_LONGITUDE**
  - DEC\_MASK**
  - DEC\_MAXIMUM**
  - DEC\_MEAN**
  - DEC\_MEDIAN**
  - DEC\_MINIMUM**
  - DEC\_NAME**
  - DEC\_NOTE**
  - DEC\_NUMBER**
  - DEC\_OFFSET**
  - DEC\_ORDER**
  - DEC\_PARALLEL**
  - DEC\_PASSWORD**
  - DEC\_PATH**
  - DEC\_PATTERN**
  - DEC\_PIXEL**
  - DEC\_QUATERNION**
  - DEC\_RADIUS**
  - DEC\_RATIO**
  - DEC\_REFERENCE**
  - DEC\_RESOLUTION**
  - DEC\_ROLE**
  - DEC\_ROTATION**
  - DEC\_SCALE**
  - DEC\_SEQUENCE**
  - DEC\_SET**
  - DEC\_SIZE**
  - DEC\_STATUS**
  - DEC\_SUMMARY**
  - DEC\_SYNTAX**
  - DEC\_TEMPERATURE**
  - DEC\_TEXT**
  - DEC\_TITLE**
  - DEC\_TYPE**
  - DEC\_UNIT**
  - DEC\_VALUE**
  - DEC\_VECTOR**
  - DEC\_ID**

- **author\_list**

steward: **ops**  
name space id: **ops**:  
class: **Software\_Desc**  
version: **0.5.0.0.g**

- description: **The author\_list attribute lists the composers of a work.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

#### • **author\_list**

steward: **pds**  
name space id: **pds**:  
class: **Citation**  
version: **0.5.0.0.g**

- description: **The author\_list attribute lists the composers of a work.**
- value\_data\_type: **ASCII\_Text\_Preserved**
- minimum\_characters: **1**
- maximum\_characters: **510**

#### • **author\_list**

steward: **pds**  
name space id: **pds**:  
class: **Document\_Desc**  
version: **0.5.0.0.g**

- description: **The author\_list attribute lists the composers of a work.**
- value\_data\_type: **ASCII\_Text\_Preserved**
- minimum\_characters: **1**
- maximum\_characters: **510**

#### • **axes**

steward: **pds**  
name space id: **pds**:  
class: **Array\_2D**  
version: **0.5.0.0.g**

- description: **The axes attribute provides a count of the axes.**
- value\_data\_type: **ASCII\_Integer** - Enumerated
- minimum\_value: **1**
- maximum\_value: **16**
- permissible value  
**2**

#### • **axes**

steward: **pds**  
name space id: **pds**:  
class: **Array\_3D**  
version: **0.5.0.0.g**

- description: **The axes attribute provides a count of the axes.**
- value\_data\_type: **ASCII\_Integer** - Enumerated
- minimum\_value: **1**
- maximum\_value: **16**
- permissible value  
**3**

#### • **axes**

steward: **pds**  
name space id: **pds**:  
class: **Array\_Base**  
version: **0.5.0.0.g**

- description: **The axes attribute provides a count of the axes.**

- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: 1
- maximum\_value: 16

- **axis\_index\_order**

steward: **pds**  
name space id: **pds**:  
class: **Array\_Base**  
version: **0.5.0.0.g**

- description: **The axis\_index\_order attribute provides the axis index that varies fastest with respect to storage order.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible value  
**FIRST\_INDEX\_FASTEST**

- **axis\_name**

steward: **pds**  
name space id: **pds**:  
class: **Array\_Axis**  
version: **0.5.0.0.g**

- description: **The axis\_name attribute provides a word or combination of words by which the axis is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **axis\_storage\_order**

steward: **pds**  
name space id: **pds**:  
class: **Array\_Base**  
version: **0.5.0.0.g**

- description: **The axis\_storage\_order attribute associates a name with each of the axis.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **bits**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Binary\_Grouped\_Bit\_Field**  
version: **0.5.0.0.g**

- description: **The bits attribute provides the number of bits in the object.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: 1
- maximum\_value: 256

- **bit\_mask**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Binary\_Grouped\_Bit\_Field**  
version: **0.5.0.0.g**

- description: **The bit\_mask element is a series of binary digits identifying the active bits in a value.**
- value\_data\_type: [ASCII\\_Numeric\\_Base2](#)

- **bytes**

steward: **pds**  
name space id: **pds**:  
class: **Header**  
version: **0.5.0.0.g**

- description: **The bytes attribute provides the number of bytes in the object.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: 1
- maximum\_value: 2147483647

- **bytes**

steward: **pds**  
name space id: **pds**:  
class: **Header\_Binary**  
version: **0.5.0.0.g**

- description: **The bytes attribute provides the number of bytes in the object.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **citation\_text**

steward: **ops**  
name space id: **ops**:  
class: **Data\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The citation\_text attribute provides a character string containing a literature or other citation in sufficient detail that the material could be located in PDS or elsewhere.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: 1
- maximum\_characters: 2147483647

- **citation\_text**

steward: **pds**  
name space id: **pds**:  
class: **Citation**  
version: **0.5.0.0.g**

- description: **The citation\_text attribute provides a character string containing a literature or other citation in sufficient detail that the material could be located in PDS or elsewhere.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: 1
- maximum\_characters: 2147483647

- **class\_name**

steward: **ops**  
name space id: **meta**  
class: **DD\_Attribute\_Full**  
version: **0.5.0.0.g**

- description: **The class\_name attribute provides the common name by which the class is identified, as well as the class within which the attribute is used.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **comment**

steward: **ops**  
name space id: **ops**:  
class: **DD\_Attribute**  
version: **0.5.0.0.g**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

- **comment**

steward: **ops**

name space id: **ops:**  
class: **Local\_DD**  
version: **0.5.0.0.g**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

• **comment**

steward: **pds**  
name space id: **pds:**  
class: **Array\_Base**  
version: **0.5.0.0.g**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

• **comment**

steward: **pds**  
name space id: **pds:**  
class: **Encoded\_Byte\_Stream**  
version: **0.5.0.0.g**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

• **comment**

steward: **pds**  
name space id: **pds:**  
class: **File**  
version: **0.5.0.0.g**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

• **comment**

steward: **pds**  
name space id: **pds:**  
class: **Name\_Resolution**  
version: **0.5.0.0.g**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

• **comment**

steward: **pds**  
name space id: **pds:**  
class: **Observation\_Area**  
version: **0.5.0.0.g**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

• **comment**

steward: **pds**  
name space id: **pds:**  
class: **Observing\_System\_Component**  
version: **0.5.0.0.g**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

- **comment**

steward: **pds**  
name space id: **pds:**  
class: **Parsable\_Byte\_Stream**  
version: **0.5.0.0.g**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

- **comment**

steward: **pds**  
name space id: **pds:**  
class: **Table\_Base**  
version: **0.5.0.0.g**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

- **compile\_notes**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Source**  
version: **0.5.0.0.g**

- description: **The compile notes attribute provides a brief statement giving particulars about the compilation of the software source.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **conceptual\_domain**

steward: **ops**  
name space id: **meta**  
class: **DD\_Value\_Domain\_Full**  
version: **0.5.0.0.g**

- description: **The conceptual\_domain attribute provides the domain to which the value has been assigned.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values  
**CD\_SHORT\_STRING**  
**CD\_INTEGER**  
**CD\_TEXT**  
**CD\_TIME**  
**CD\_REAL**  
**CD\_BOOLEAN**  
**CD\_TYPE**  
**CD\_NAME**  
**CD\_NUMERIC**

- **confidence\_level\_note**

steward: **ops**  
name space id: **ops:**  
class: **Data\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The confidence\_level\_note attribute is a text field which characterizes the reliability of data within a data set or the reliability of a particular programming algorithm or software component. Essentially, this note**

discusses the level of confidence in the accuracy of the data or in the ability of the software to produce accurate results.

- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: 1
- maximum\_characters: 2147483647

- **constant\_value**

steward: **ops**  
name space id: **ops**:  
class: **DD\_Association**  
version: **0.5.0.0.g**

- description: **The constant value attribute provides the value to be used if an attribute is static.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **container\_type**

steward: **ops**  
name space id: **ops**:  
class: **Product\_Zipped**  
version: **0.5.0.0.g**

- description: **The container type attribute indicates the method used to package the components.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values  
**ZIP**  
**GZIP**  
**LZIP**  
**TAR**

- **contains\_primary\_member**

steward: **pds**  
name space id: **pds**:  
class: **Identification\_Area\_Collection**  
version: **0.5.0.0.g**

- description: **The contains\_primary\_member attribute indicates whether a collection contains products that are primary members of the collection.**
- value\_data\_type: [ASCII\\_Boolean\\_TF](#)

- **copyright**

steward: **pds**  
name space id: **pds**:  
class: **Document\_Desc**  
version: **0.5.0.0.g**

- description: **The copyright attribute is a character string giving information about the exclusive right to make copies, license, and otherwise exploit an object, whether physical or digital.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: 1
- maximum\_characters: 510

- **creation\_date\_time**

steward: **pds**  
name space id: **pds**:  
class: **File**  
version: **0.5.0.0.g**

- description: **The creation\_date\_time attribute provides a date and time when the object was created.**
- value\_data\_type: [ASCII\\_Date\\_Time](#)

- **curating\_node\_id**

steward: **ops**  
name space id: **ops**:  
class: **Volume\_PDS3**  
version: **0.5.0.0.g**

- description: **The curating\_node\_id attribute provides the id of the node currently maintaining the data set or volume and is responsible for maintaining catalog information.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **data\_set\_desc**

steward: **ops**  
name space id: **ops**:  
class: **Data\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The data\_set\_desc attribute describes the content and type of a data set and provides information required to use the data (such as binning information).**
- value\_data\_type: **ASCII\_Text\_Preserved**
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

• **data\_set\_id**

steward: **ops**  
name space id: **ops**:  
class: **Data\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The data set id provides a formal name used to refer to a data set.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **data\_set\_name**

steward: **ops**  
name space id: **ops**:  
class: **Data\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The data\_set\_name attribute provides the full name given to a data set or a data product. The data\_set\_name typically identifies the instrument that acquired the data of that instrument Example value data\_set\_id. Note This attribute is defined in the AMMOS Magellan catalog as an alias for file\_name to provide backward compatibility**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **data\_set\_release\_date**

steward: **ops**  
name space id: **ops**:  
class: **Data\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The data\_set\_release\_date attribute provides the date when a data set is released by the data producer for archive or publication. In many systems this represents the end of a proprietary or validation period. Formation rule In AMMOS identify the date at which a product may be released to the general public from proprietary access. AMMOS-related systems should apply this attribute only to proprietary data.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **data\_set\_terse\_desc**

steward: **ops**  
name space id: **ops**:

class: **Data\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **A one line description of the data set**
- value\_data\_type: **ASCII\_Text\_Preserved**
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

- **data\_type**

steward: **pds**  
name space id: **meta**  
class: **Array\_Element**  
version: **0.5.0.0.g**

- description: **The data\_type attribute provides the hardware representation used to store a value.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **30**
- permissible values  
**IEEE754MSBDouble**  
**IEEE754MSBSingle**  
**UnsignedByte**  
**SignedMSB2**  
**SignedMSB4**  
**SignedLSB4**  
**SignedLSB2**  
**UnsignedLSB2**  
**UnsignedLSB4**  
**UnsignedMSB2**  
**UnsignedMSB4**  
**SignedMSB8**  
**UnsignedLSB8**  
**UnsignedMSB8**  
**SignedLSB8**  
**IEEE754LSBDouble**  
**IEEE754LSBSingle**  
**SignedByte**

- **data\_type**

steward: **pds**  
name space id: **meta**  
class: **Delimited\_Field**  
version: **0.5.0.0.g**

- description: **The data\_type attribute provides the hardware representation used to store a value.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- permissible values  
**ASCII\_Boolean\_TF**  
**ASCII\_Date\_YMD**  
**ASCII\_Integer**  
**ASCII\_Real**  
**ASCII\_AnyURI**  
**ASCII\_Date\_DOY**  
**ASCII\_Date\_Time\_DOY**  
**ASCII\_Date\_Time\_UTC**  
**ASCII\_Date\_Time\_YMD**  
**ASCII\_LID**  
**ASCII\_LIDVID**  
**ASCII\_MD5\_Checksum**  
**ASCII\_Short\_String\_Collapsed**  
**ASCII\_Text\_Preserved**  
**ASCII\_Short\_String\_Preserved**  
**ASCII\_Time**  
**ASCII\_VID**  
**ASCII\_DOI**  
**ASCII\_Numeric\_Base2**  
**ASCII\_Numeric\_Base16**  
**ASCII\_NonNegative\_Integer**  
**ASCII\_File\_Specification\_Name**  
**ASCII\_File\_Name**

- **data\_type**

steward: **pds**

name space id: **meta**

class: **Table\_Binary\_Field**

version: **0.5.0.0.g**

- description: **The data\_type attribute provides the hardware representation used to store a value.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values

**Bit**  
**ComplexMSB8**  
**ComplexMSB16**  
**SignedLSB2**  
**SignedLSB4**  
**SignedLSB8**  
**SignedMSB2**  
**SignedMSB4**  
**SignedMSB8**  
**UnsignedByte**  
**UnsignedLSB2**  
**UnsignedLSB4**  
**UnsignedMSB2**  
**UnsignedMSB4**  
**IEEE754MSBDouble**  
**IEEE754MSBSingle**  
**ASCII\_File\_Name**  
**ASCII\_Boolean\_TF**  
**ASCII\_Date\_YMD**  
**ASCII\_Integer**  
**ASCII\_Real**  
**ASCII\_AnyURI**  
**ASCII\_Date\_DOY**  
**ASCII\_Date\_Time\_DOY**  
**ASCII\_Date\_Time\_UTC**  
**ASCII\_Date\_Time\_YMD**  
**ASCII\_LID**  
**ASCII\_LIDVID**  
**ASCII\_MD5\_Checksum**  
**ASCII\_Short\_String\_Collapsed**  
**ASCII\_Text\_Preserved**  
**ASCII\_Short\_String\_Preserved**  
**ASCII\_Time**  
**ASCII\_VID**  
**ASCII\_DOI**  
**ASCII\_Numeric\_Base2**  
**ASCII\_Numeric\_Base16**  
**ASCII\_NonNegative\_Integer**  
**ASCII\_File\_Specification\_Name**  
**UnsignedLSB8**  
**UnsignedMSB8**  
**ComplexLSB8**  
**ComplexLSB16**  
**IEEE754LSBDouble**  
**IEEE754LSBSingle**  
**SignedByte**

- **data\_type**

steward: **pds**

name space id: **meta**

class: **Table\_Binary\_Grouped\_Bit\_Field**

version: **0.5.0.0.g**

- description: **The data\_type attribute provides the hardware representation used to store a value.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value

## Bit

- **data\_type**

steward: **pds**

name space id: **meta**

class: **Table\_Binary\_Grouped\_Field**

version: **0.5.0.0.g**

- description: **The data\_type attribute provides the hardware representation used to store a value.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values

**Bit**

**ComplexMSB8**

**ComplexMSB16**

**SignedLSB2**

**SignedLSB4**

**SignedLSB8**

**SignedMSB2**

**SignedMSB4**

**SignedMSB8**

**UnsignedByte**

**UnsignedLSB2**

**UnsignedLSB4**

**UnsignedMSB2**

**UnsignedMSB4**

**IEEE754MSBDouble**

**IEEE754MSBSingle**

**ASCII\_File\_Name**

**UnsignedLSB8**

**UnsignedMSB8**

**ComplexLSB8**

**ComplexLSB16**

**IEEE754LSBDouble**

**IEEE754LSBSingle**

**SignedByte**

- **data\_type**

steward: **pds**

name space id: **meta**

class: **Table\_Character\_Field**

version: **0.5.0.0.g**

- description: **The data\_type attribute provides the hardware representation used to store a value.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values

**ASCII\_Boolean\_TF**

**ASCII\_Date\_YMD**

**ASCII\_Integer**

**ASCII\_Real**

**ASCII\_AnyURI**

**ASCII\_Date\_DOY**

**ASCII\_Date\_Time\_DOY**

**ASCII\_Date\_Time\_UTC**

**ASCII\_Date\_Time\_YMD**

**ASCII\_LID**

**ASCII\_LIDVID**

**ASCII\_MD5\_Checksum**

**ASCII\_Short\_String\_Collapsed**

**ASCII\_Text\_Preserved**

**ASCII\_Short\_String\_Preserved**

**ASCII\_Time**

**ASCII\_VID**

**ASCII\_DOI**

**ASCII\_Numeric\_Base2**

**ASCII\_Numeric\_Base16**

**ASCII\_NonNegative\_Integer**

ASCII\_File\_Specification\_Name  
ASCII\_File\_Name

- **data\_type**

steward: **pds**  
name space id: **meta**  
class: **Table\_Character\_Grouped\_Field**  
version: **0.5.0.0.g**

- description: **The data\_type attribute provides the hardware representation used to store a value.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values
  - ASCII\_Boolean\_TF**
  - ASCII\_Date\_YMD**
  - ASCII\_Integer**
  - ASCII\_Real**
  - ASCII\_AnyURI**
  - ASCII\_Date\_DOY**
  - ASCII\_Date\_Time\_DOY**
  - ASCII\_Date\_Time\_UTC**
  - ASCII\_Date\_Time\_YMD**
  - ASCII\_LID**
  - ASCII\_LIDVID**
  - ASCII\_MD5\_Checksum**
  - ASCII\_Short\_String\_Collapsed**
  - ASCII\_Text\_Preserved**
  - ASCII\_Short\_String\_Preserved**
  - ASCII\_Time**
  - ASCII\_VID**
  - ASCII\_DOI**
  - ASCII\_Numeric\_Base2**
  - ASCII\_Numeric\_Base16**
  - ASCII\_NonNegative\_Integer**
  - ASCII\_File\_Specification\_Name**
  - ASCII\_File\_Name**

- **data\_type**

steward: **pds**  
name space id: **meta**  
class: **Table\_Field**  
version: **0.5.0.0.g**

- description: **The data\_type attribute provides the hardware representation used to store a value.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **data\_type**

steward: **pds**  
name space id: **meta**  
class: **Table\_Field\_Checksum**  
version: **0.5.0.0.g**

- description: **The data\_type attribute provides the hardware representation used to store a value.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value
  - ASCII\_MD5\_Checksum**

- **data\_type**

steward: **pds**  
name space id: **meta**  
class: **Table\_Field\_File\_Specification\_Name**  
version: **0.5.0.0.g**

- description: **The data\_type attribute provides the hardware representation used to store a value.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible value  
**ASCII\_File\_Specification\_Name**

- **data\_type**

steward: **pds**  
name space id: **meta**  
class: **Table\_Field\_LID**  
version: **0.5.0.0.g**

- description: **The data\_type attribute provides the hardware representation used to store a value.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible value  
**ASCII\_LID**

- **data\_type**

steward: **pds**  
name space id: **meta**  
class: **Table\_Field\_LIDVID**  
version: **0.5.0.0.g**

- description: **The data\_type attribute provides the hardware representation used to store a value.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible value  
**ASCII\_LIDVID**

- **date\_time**

steward: **pds**  
name space id: **pds**  
class: **Update\_Entry**  
version: **0.5.0.0.g**

- description: **The date\_time attribute provides the date and time of an event.**
- value\_data\_type: [ASCII\\_Date\\_Time](#)

- **dd\_version\_id**

steward: **pds**  
name space id: **pds**  
class: **Data\_Standards**  
version: **0.5.0.0.g**

- description: **The dd version id attribute provides the version identifier for the data dictionary.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **definition**

steward: **ops**  
name space id: **meta**  
class: **DD\_Attribute**  
version: **0.5.0.0.g**

- description: **The definition attribute provides a statement, picture in words, or account that defines the term.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

- **definition**

steward: **ops**  
name space id: **meta**  
class: **DD\_Class**  
version: **0.5.0.0.g**

- description: **The definition attribute provides a statement, picture in words, or account that defines the term.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

• **definition**

steward: **pds**  
name space id: **meta**  
class: **Terminological\_Entry**  
version: **0.5.0.0.g**

- description: **The definition attribute provides a statement, picture in words, or account that defines the term.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

• **description**

steward: **ops**  
name space id: **ops:**  
class: **Node**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **description**

steward: **ops**  
name space id: **ops:**  
class: **Personnel**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **description**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Desc**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

• **description**

steward: **ops**  
name space id: **ops:**  
class: **Volume\_PDS3**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

- **description**

steward: **ops**  
name space id: **ops:**  
class: **Volume\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

- **description**

steward: **pds**  
name space id: **pds:**  
class: **Archive\_Bundle**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

- **description**

steward: **pds**  
name space id: **pds:**  
class: **Bibliographic\_Reference**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

- **description**

steward: **pds**  
name space id: **pds:**  
class: **Detector**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **description**

steward: **pds**  
name space id: **pds:**  
class: **Document\_Desc**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

- **description**

steward: **pds**  
name space id: **pds:**

class: **Document\_Format**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

• **description**

steward: **pds**  
name space id: **pds:**  
class: **Field\_Statistics**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **description**

steward: **pds**  
name space id: **pds:**  
class: **Header**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

• **description**

steward: **pds**  
name space id: **pds:**  
class: **Header\_Binary**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **description**

steward: **pds**  
name space id: **pds:**  
class: **Instrument**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **description**

steward: **pds**  
name space id: **pds:**  
class: **Instrument\_Host**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

- minimum\_characters: 1
- maximum\_characters: 255

- **description**

steward: **pds**  
name space id: **pds**:  
class: **Investigation**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **description**

steward: **pds**  
name space id: **pds**:  
class: **Object\_Statistics**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **description**

steward: **pds**  
name space id: **pds**:  
class: **Observing\_System**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **description**

steward: **pds**  
name space id: **pds**:  
class: **Quaternion**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **description**

steward: **pds**  
name space id: **pds**:  
class: **Quaternion\_Component**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **description**

steward: **pds**  
name space id: **pds**:

class: **Reference**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

• **description**

steward: **pds**  
name space id: **pds:**  
class: **Resource**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **description**

steward: **pds**  
name space id: **pds:**  
class: **Table\_Field**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **description**

steward: **pds**  
name space id: **pds:**  
class: **Target**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **description**

steward: **pds**  
name space id: **pds:**  
class: **Update**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

• **description**

steward: **pds**  
name space id: **pds:**  
class: **Update\_Entry**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

- minimum\_characters: 1
- maximum\_characters: 2147483647

- **description**

steward: **pds**  
name space id: **pds**:  
class: **Vector**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

- **description**

steward: **pds**  
name space id: **pds**:  
class: **Vector\_Component**  
version: **0.5.0.0.g**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **directory\_path\_name**

steward: **pds**  
name space id: **pds**:  
class: **Document\_File**  
version: **0.5.0.0.g**

- description: **The directory\_path\_name attribute provides a sequence of names that locates a directory in a hierarchy of directories.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **document\_name**

steward: **pds**  
name space id: **pds**:  
class: **Document\_Desc**  
version: **0.5.0.0.g**

- description: **The document\_title attribute provides the full name of the published document. This optional attribute is used only if the title in the identification area of the document product is not sufficient.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **doi**

steward: **pds**  
name space id: **pds**:  
class: **Bibliographic\_Reference**  
version: **0.5.0.0.g**

- description: **The doi attribute provides the Digital Object Identifier for an object, assigned by the appropriate DOI System Registration Agency.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **doi**

steward: **pds**  
name space id: **pds**:

class: **Document\_Desc**  
version: **0.5.0.0.g**

- description: **The doi attribute provides the Digital Object Identifier for an object, assigned by the appropriate DOI System Registration Agency.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **doi**

steward: **pds**  
name space id: **pds:**  
class: **Reference**  
version: **0.5.0.0.g**

- description: **The doi attribute provides the Digital Object Identifier for an object, assigned by the appropriate DOI System Registration Agency.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **earth\_received\_start\_date\_time**

steward: **img**  
name space id: **img:**  
class: **Telemetry\_Parameters**  
version: **0.5.0.0.g**

- description: **The earth\_received\_start\_date\_time attribute provides the earliest time at which any component telemetry data for a particular product was received.**
- value\_data\_type: [ASCII\\_Date\\_Time\\_UTC](#)

- **earth\_received\_stop\_date\_time**

steward: **img**  
name space id: **img:**  
class: **Telemetry\_Parameters**  
version: **0.5.0.0.g**

- description: **The earth\_received\_stop\_date\_time attribute provides the latest time at which any component telemetry data for a particular product was received.**
- value\_data\_type: [ASCII\\_Date\\_Time\\_UTC](#)

- **editor\_list**

steward: **pds**  
name space id: **pds:**  
class: **Document\_Desc**  
version: **0.5.0.0.g**

- description: **The editor\_list attribute lists the editors of a work.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **510**

- **electronic\_mail\_address**

steward: **ops**  
name space id: **ops:**  
class: **PDS\_Affiliate**  
version: **0.5.0.0.g**

- description: **The electronic mail address attribute provides a multi-part email address: the first part (the user name), which identifies a unique user, is separated by an "at sign" from the host name, which uniquely identifies the mail server.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **electronic\_mail\_address**

steward: **ops**  
name space id: **ops**:  
class: **PDS\_Guest**  
version: **0.5.0.0.g**

- description: **The electronic mail address attribute provides a multi-part email address: the first part (the user name), which identifies a unique user, is separated by an "at sign" from the host name, which uniquely identifies the mail server.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **elements**

steward: **pds**  
name space id: **pds**:  
class: **Array\_Axis**  
version: **0.5.0.0.g**

- description: **The elements attribute provides the count of the number of elements along an array axis.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **encoding\_type**

steward: **pds**  
name space id: **pds**:  
class: **Array\_Base**  
version: **0.5.0.0.g**

- description: **The encoding\_type attribute provides the storage format (binary or character).**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **30**
- permissible value  
**BINARY**

- **encoding\_type**

steward: **pds**  
name space id: **pds**:  
class: **Document\_File**  
version: **0.5.0.0.g**

- description: **The encoding\_type attribute provides the storage format (binary or character).**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **30**
- permissible values  
**BINARY**  
**CHARACTER**

- **encoding\_type**

steward: **pds**  
name space id: **pds**:  
class: **Encoded\_Byte\_Stream**  
version: **0.5.0.0.g**

- description: **The encoding\_type attribute provides the storage format (binary or character).**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **30**
- permissible value  
**BINARY**

- **encoding\_type**

steward: **pds**  
name space id: **pds**:  
class: **Parsable\_Byte\_Stream**  
version: **0.5.0.0.g**

- description: **The encoding\_type attribute provides the storage format (binary or character).**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **30**
- permissible value  
**CHARACTER**

• **encoding\_type**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Base**  
version: **0.5.0.0.g**

- description: **The encoding\_type attribute provides the storage format (binary or character).**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **encoding\_type**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Base\_Binary**  
version: **0.5.0.0.g**

- description: **The encoding\_type attribute provides the storage format (binary or character).**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **30**
- permissible value  
**BINARY**

• **encoding\_type**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Base\_Character**  
version: **0.5.0.0.g**

- description: **The encoding\_type attribute provides the storage format (binary or character).**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **30**
- permissible value  
**CHARACTER**

• **encoding\_type**

steward: **pds**  
name space id: **pds**:  
class: **TDO\_Structures**  
version: **0.5.0.0.g**

- description: **The encoding\_type attribute provides the storage format (binary or character).**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**

• **enumeration\_flag**

steward: **ops**  
name space id: **meta**  
class: **DD\_Value\_Domain**  
version: **0.5.0.0.g**

- description: **The enumeration\_flag attribute indicates whether there is an enumerated set of permissible values.**

- value\_data\_type: [ASCII\\_Boolean\\_TF](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 1
- permissible values  
T  
F

- **error\_constant**

steward: **pds**  
name space id: **pds**:  
class: **Special\_Constants**  
version: **0.5.0.0.g**

- description: **The error\_constant attribute provides a value that indicates the original value was in error.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: **255**

- **expected\_packets**

steward: **img**  
name space id: **img**:  
class: **Telemetry\_Parameters**  
version: **0.5.0.0.g**

- description: **The expected\_packets attribute provides the total number of telemetry packets which constitute a complete data product, i.e., a data product without missing data.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **0**

- **external\_standard\_id**

steward: **pds**  
name space id: **pds**:  
class: **Delimited\_Table**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- permissible values  
CSV  
OTHER

- **external\_standard\_id**

steward: **pds**  
name space id: **pds**:  
class: **Delimited\_Table\_Grouped**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- permissible values  
CSV  
OTHER

- **external\_standard\_id**

steward: **pds**  
name space id: **pds**:  
class: **Document\_File**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: **255**

- permissible values  
**PDF-A**  
**ENCAPSULATED\_POSTSCRIPT**  
**GIF**  
**HTML**  
**JPG**  
**LaTeX**  
**MICROSOFT\_WORD**  
**PNG**  
**POSTSCRIPT**  
**RICH\_TEXT**  
**TEXT**  
**TIFF**  
**PDF**

- **external\_standard\_id**

steward: **pds**  
name space id: **pds**:  
class: **Encoded\_Binary**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value  
**System**

- **external\_standard\_id**

steward: **pds**  
name space id: **pds**:  
class: **Encoded\_Byte\_Stream**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **external\_standard\_id**

steward: **pds**  
name space id: **pds**:  
class: **Encoded\_Image**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**JPEG**  
**GIF**  
**TIFF**  
**PDF**  
**PNG**

- **external\_standard\_id**

steward: **pds**  
name space id: **pds**:  
class: **File\_PDF**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**

- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible value  
**PDF**

- **external\_standard\_id**

steward: **pds**  
name space id: **pds:**  
class: **Header**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values  
**VICAR**  
**ODL**  
**FITS**  
**PDS3**  
**PDS2**  
**PDS1**  
**ISIS2**  
**ISIS3**  
**TIFF**  
**FREE\_TEXT**  
**ISIS\_HISTORY**

- **external\_standard\_id**

steward: **pds**  
name space id: **pds:**  
class: **Header\_Binary**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values  
**VICAR**  
**FITS**  
**ISIS2**  
**ISIS3**  
**TIFF**  
**ISIS\_HISTORY**

- **external\_standard\_id**

steward: **pds**  
name space id: **pds:**  
class: **Parsable\_Byte\_Stream**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **external\_standard\_id**

steward: **pds**  
name space id: **pds:**  
class: **Service\_Description**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values  
**WSDL**  
**WADL**

- **external\_standard\_id**

steward: **pds**  
name space id: **pds:**  
class: **SPICE\_Kernel\_Binary**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible value  
**SPICE**

- **external\_standard\_id**

steward: **pds**  
name space id: **pds:**  
class: **SPICE\_Kernel\_Text**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible value  
**SPICE**

- **external\_standard\_id**

steward: **pds**  
name space id: **pds:**  
class: **XML\_Schema**  
version: **0.5.0.0.g**

- description: **The external\_standard\_id attribute provides the formal name of a standard not under PDS governance.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible value  
**XML\_Schema**

- **fields**

steward: **pds**  
name space id: **pds:**  
class: **Delimited\_Table**  
version: **0.5.0.0.g**

- description: **The fields attribute provides a count of the fields**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: 1
- maximum\_value: 2147483647

- **fields**

steward: **pds**  
name space id: **pds:**  
class: **Delimited\_Table\_Grouped**

version: **0.5.0.0.g**

- description: **The fields attribute provides a count of the fields**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **1**
- maximum\_value: **2147483647**

• **fields**

steward: **pds**  
name space id: **pds**:  
class: **Inventory\_LIDVID\_Primary**  
version: **0.5.0.0.g**

- description: **The fields attribute provides a count of the fields**
- value\_data\_type: **ASCII\_Integer** - Enumerated
- minimum\_value: **1**
- maximum\_value: **2147483647**
- permissible value  
**2**

• **fields**

steward: **pds**  
name space id: **pds**:  
class: **Inventory\_LIDVID\_Secondary**  
version: **0.5.0.0.g**

- description: **The fields attribute provides a count of the fields**
- value\_data\_type: **ASCII\_Integer** - Enumerated
- minimum\_value: **1**
- maximum\_value: **2147483647**
- permissible value  
**1**

• **fields**

steward: **pds**  
name space id: **pds**:  
class: **Inventory\_LID\_Secondary**  
version: **0.5.0.0.g**

- description: **The fields attribute provides a count of the fields**
- value\_data\_type: **ASCII\_Integer** - Enumerated
- minimum\_value: **1**
- maximum\_value: **2147483647**
- permissible value  
**1**

• **fields**

steward: **pds**  
name space id: **pds**:  
class: **Manifest**  
version: **0.5.0.0.g**

- description: **The fields attribute provides a count of the fields**
- value\_data\_type: **ASCII\_Integer** - Enumerated
- minimum\_value: **1**
- maximum\_value: **2147483647**
- permissible value  
**2**

• **fields**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Base**  
version: **0.5.0.0.g**

- description: **The fields attribute provides a count of the fields**

- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: 1
- maximum\_value: 2147483647

- **field\_delimiter**

steward: **pds**  
name space id: **pds:**  
class: **Delimited\_Table**  
version: **0.5.0.0.g**

- description: **The field\_delimiter attribute provides the character or characters that indicate the end of a character string.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- permissible values  
**0x3B**  
**0x7C**  
**0x2C**

- **field\_delimiter**

steward: **pds**  
name space id: **pds:**  
class: **Delimited\_Table\_Grouped**  
version: **0.5.0.0.g**

- description: **The field\_delimiter attribute provides the character or characters that indicate the end of a character string.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- permissible values  
**0x09**  
**0x3B**  
**0x7C**  
**0x2C**

- **field\_format**

steward: **pds**  
name space id: **pds:**  
class: **Table\_Field**  
version: **0.5.0.0.g**

- description: **The field\_format attribute gives the magnitude and precision of the data value, providing a display format.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **field\_length**

steward: **pds**  
name space id: **pds:**  
class: **Table\_Field**  
version: **0.5.0.0.g**

- description: **The field\_length attribute sets an upper, inclusive bound on the number of bytes in the field**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: 1
- maximum\_value: 2147483647

- **field\_location**

steward: **pds**  
name space id: **pds:**  
class: **Table\_Field\_Checksum**  
version: **0.5.0.0.g**

- description: **The field\_location attribute provides the starting position for a field within a record, counting from 1.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: 1
- maximum\_value: 2147483647

- **field\_location**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field\_Extended**  
version: **0.5.0.0.g**

- description: **The field\_location attribute provides the starting position for a field within a record, counting from 1.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **field\_location**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field\_File\_Specification\_Name**  
version: **0.5.0.0.g**

- description: **The field\_location attribute provides the starting position for a field within a record, counting from 1.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **field\_location**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field\_LID**  
version: **0.5.0.0.g**

- description: **The field\_location attribute provides the starting position for a field within a record, counting from 1.**
- value\_data\_type: **ASCII\_Integer** - Enumerated
- minimum\_value: **1**
- maximum\_value: **2147483647**
- permissible value  
**1**

- **field\_location**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field\_LIDVID**  
version: **0.5.0.0.g**

- description: **The field\_location attribute provides the starting position for a field within a record, counting from 1.**
- value\_data\_type: **ASCII\_Integer** - Enumerated
- minimum\_value: **1**
- maximum\_value: **2147483647**
- permissible value  
**1**

- **field\_number**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field**  
version: **0.5.0.0.g**

- description: **The field\_number attribute provides the position of a field, within a series of fields, counting from 1.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **field\_number**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field\_File\_Specification\_Name**

version: **0.5.0.0.g**

- description: **The field\_number attribute provides the position of a field, within a series of fields, counting from 1.**
- value\_data\_type: **ASCII\_Integer** - Enumerated
- minimum\_value: **1**
- maximum\_value: **2147483647**
- permissible value  
**2**

- **field\_number**

steward: **pds**  
name space id: **pds:**  
class: **Table\_Field\_LID**  
version: **0.5.0.0.g**

- description: **The field\_number attribute provides the position of a field, within a series of fields, counting from 1.**
- value\_data\_type: **ASCII\_Integer** - Enumerated
- minimum\_value: **1**
- maximum\_value: **2147483647**
- permissible value  
**1**

- **field\_number**

steward: **pds**  
name space id: **pds:**  
class: **Table\_Field\_LIDVID**  
version: **0.5.0.0.g**

- description: **The field\_number attribute provides the position of a field, within a series of fields, counting from 1.**
- value\_data\_type: **ASCII\_Integer** - Enumerated
- minimum\_value: **1**
- maximum\_value: **2147483647**
- permissible value  
**1**

- **files**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Format**  
version: **0.5.0.0.g**

- description: **The files attribute provides the number of files.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **-2147483648**
- maximum\_value: **2147483647**

- **file\_name**

steward: **pds**  
name space id: **pds:**  
class: **File**  
version: **0.5.0.0.g**

- description: **The file\_name attribute provides the name of a file.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **file\_size**

steward: **pds**  
name space id: **pds:**  
class: **File**  
version: **0.5.0.0.g**

- description: **The file\_size attribute provides the size of the file.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **-2147483648**

- maximum\_value: 2147483647

- **file\_specification\_name**

steward: **pds**  
name space id: **pds**:  
class: **Bundle\_Member\_Entry**  
version: **0.5.0.0.g**

- description: **The file\_specification\_name attribute provides the file\_name prepended by the directory\_path to the file.**
- value\_data\_type: **ASCII\_File\_Specification\_Name**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **file\_specification\_name**

steward: **pds**  
name space id: **pds**:  
class: **Zipped\_Member\_Entry**  
version: **0.5.0.0.g**

- description: **The file\_specification\_name attribute provides the file\_name prepended by the directory\_path to the file.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **first\_line**

steward: **pds**  
name space id: **pds**:  
class: **Image\_2D\_Display**  
version: **0.5.0.0.g**

- description: **The first\_line attribute provides the line within a source image that corresponds to the first line in a sub-image.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **first\_line\_sample**

steward: **pds**  
name space id: **pds**:  
class: **Image\_2D\_Display**  
version: **0.5.0.0.g**

- description: **The first\_line\_sample attribute provides the sample within a source image line that corresponds to the first line in a sub-image.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **first\_sampling\_parameter\_value**

steward: **pds**  
name space id: **pds**:  
class: **Uniformly\_Sampled**  
version: **0.5.0.0.g**

- description: **The first\_sampling\_parameter\_value element provides the first value in an ascending series and is therefore the minimum value at which a given data item was sampled.**
- value\_data\_type: **ASCII\_Real**
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **formation\_rule**

steward: **ops**

name space id: **meta**  
class: **DD\_Value\_Domain**  
version: **0.5.0.0.g**

- description: **The formation\_rule attribute provides a 'user friendly' instruction for forming values.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **format\_type**

steward: **pds**  
name space id: **pds:**  
class: **Document\_Format**  
version: **0.5.0.0.g**

- description: **The format type attribute indicates the digital format used.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**HTML**  
**TEXT**  
**PDF-A**  
**PDF**

- **full\_name**

steward: **ops**  
name space id: **ops:**  
class: **Local\_DD**  
version: **0.5.0.0.g**

- description: **The full\_name attribute provides the complete name for a person performing the role of lexicographer.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **full\_name**

steward: **pds**  
name space id: **pds:**  
class: **Subject\_Area**  
version: **0.5.0.0.g**

- description: **The full\_name attribute provides the complete name for a person and includes titles and suffixes.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **full\_name**

steward: **pds**  
name space id: **pds:**  
class: **Update\_Entry**  
version: **0.5.0.0.g**

- description: **The full\_name attribute provides the complete name for a person and includes titles and suffixes.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **home**

steward: **ops**  
name space id: **ops**  
class: **Identification\_Area\_System**  
version: **0.5.0.0.g**

- description: **The home attribute indicates where an object resides. It provides sufficient information to be able to**

- **access the object.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **incidence\_angle**

steward: **rings**  
 name space id: **rings:**  
 class: **Rings\_Prod\_Info**  
 version: **0.5.0.0.g**

- description: **The incidence\_angle element provides a measure of the lighting condition at the intercept point. Incidence angle is the angle between the local vertical at the intercept point (surface) and a vector from the intercept point to the sun. The incidence\_angle varies from 0 degrees when the intercept point coincides with the sub\_solar point to 90 degrees when the intercept point is at the terminator (i.e., in the shadowed or dark portion of the target body). Thus, higher values of incidence\_angle indicate the existence of a greater number of surface shadows. Note: In PDS labels for Magellan's altimetry and radiometry products, incidence\_angle is defined as the value of the angle between the local vertical and the spacecraft direction, measured at the center of the radiometer footprint at rad\_spacecraft\_epoch\_time.**
- value\_data\_type: [ASCII\\_Real](#)

- **install\_notes**

steward: **ops**  
 name space id: **ops:**  
 class: **Software\_Script**  
 version: **0.5.0.0.g**

- description: **The install notes attribute provides a brief statement giving particulars about the installation of the software.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **institution\_name**

steward: **ops**  
 name space id: **ops:**  
 class: **Node**  
 version: **0.5.0.0.g**

- description: **The institution\_name attribute provides the name of the associated institution.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255
- pattern: `[a-zA-Z]{1}[/, ._a-zA-Z0-9]*`

- **institution\_name**

steward: **ops**  
 name space id: **ops:**  
 class: **PDS\_Affiliate**  
 version: **0.5.0.0.g**

- description: **The institution\_name attribute provides the name of the associated institution.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255
- pattern: `[a-zA-Z]{1}[/, ._a-zA-Z0-9]*`

- **instrument\_desc**

steward: **ops**  
 name space id: **ops:**  
 class: **Instrument\_PDS3**  
 version: **0.5.0.0.g**

- description: **The instrument\_desc attribute describes a given instrument.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)

- minimum\_characters: 1
- maximum\_characters: 2147483647

- **instrument\_host\_desc**

steward: **ops**  
 name space id: **ops:**  
 class: **Instrument\_Host\_PDS3**  
 version: **0.5.0.0.g**

- description: **The instrument\_host\_desc provides a description of an instrument host**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: 1
- maximum\_characters: 2147483647

- **instrument\_host\_id**

steward: **ops**  
 name space id: **ops:**  
 class: **Instrument\_Host\_PDS3**  
 version: **0.5.0.0.g**

- description: **The instrument\_host\_id attribute provides a unique identifier for the host on which an instrument is located. This host can be either a spacecraft or an earth base (e.g. earth).**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **instrument\_host\_name**

steward: **ops**  
 name space id: **ops:**  
 class: **Instrument\_Host\_PDS3**  
 version: **0.5.0.0.g**

- description: **The instrument\_host\_name attribute provides the full name of the platform or facility upon which an instrument or other device is mounted. For example, the host can be a spacecraft, a ground-based telescope, or a laboratory.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **instrument\_host\_name**

steward: **pds**  
 name space id: **pds:**  
 class: **Subject\_Area**  
 version: **0.5.0.0.g**

- description: **The instrument\_host\_name attribute provides the full name of the platform or facility upon which an instrument or other device is mounted. For example, the host can be a spacecraft, a ground-based telescope, or a laboratory.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **instrument\_host\_type**

steward: **ops**  
 name space id: **ops:**  
 class: **Instrument\_Host\_PDS3**  
 version: **0.5.0.0.g**

- description: **The instrument\_host\_type attribute provides the type of host on which an instrument is based. For example instrument is located on a spacecraft instrument\_host\_type attribute would have the value SPACECRAFT.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **instrument\_id**

steward: **ops**  
 name space id: **ops:**

class: **Instrument\_PDS3**  
version: **0.5.0.0.g**

- description: **The instrument id provides a formal name used to refer to an instrument.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **instrument\_name**

steward: **ops**  
name space id: **ops:**  
class: **Instrument\_PDS3**  
version: **0.5.0.0.g**

- description: **The instrument\_name attribute provides a unique name for an instrument.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **instrument\_name**

steward: **pds**  
name space id: **pds:**  
class: **Subject\_Area**  
version: **0.5.0.0.g**

- description: **The instrument\_name attribute provides a unique name for an instrument.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **instrument\_serial\_number**

steward: **ops**  
name space id: **ops:**  
class: **Instrument\_PDS3**  
version: **0.5.0.0.g**

- description: **TBD\_description**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **instrument\_type**

steward: **ops**  
name space id: **ops:**  
class: **Instrument\_PDS3**  
version: **0.5.0.0.g**

- description: **The instrument\_type attribute identifies the type of an instrument. Example values: POLARIMETER SPECTROMETER**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **instrument\_version\_id**

steward: **ops**  
name space id: **ops:**  
class: **Instrument\_PDS3**  
version: **0.5.0.0.g**

- description: **TBD\_description**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **invalid\_constant**

steward: **pds**  
name space id: **pds:**  
class: **Special\_Constants**  
version: **0.5.0.0.g**

- description: **The `invalid_constant` attribute provides a value that indicates the original value was outside the valid range for the parameter.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **investigation\_name**

steward: **pds**  
name space id: **pds**:  
class: **Subject\_Area**  
version: **0.5.0.0.g**

- description: **The `investigation_name` attribute provides a unique name for an investigation.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **kernel\_type**

steward: **pds**  
name space id: **pds**:  
class: **SPICE\_Kernel\_Binary**  
version: **0.5.0.0.g**

- description: **The `kernel_type` attribute identifies the type of SPICE kernel.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values  
**SPK**  
**PCK**  
**CK**  
**EK**  
**DSK**  
**DBK**

- **kernel\_type**

steward: **pds**  
name space id: **pds**:  
class: **SPICE\_Kernel\_Text**  
version: **0.5.0.0.g**

- description: **The `kernel_type` attribute identifies the type of SPICE kernel.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values  
**LSK**  
**SCLK**  
**PCK**  
**EK**  
**IK**  
**FK**  
**MK**

- **keywords**

steward: **pds**  
name space id: **pds**:  
class: **Subject\_Area**  
version: **0.5.0.0.g**

- description: **The `keywords` attribute provides one or more words to be used for keyword search.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **language**

steward: **pds**  
name space id: **meta**  
class: **Terminological\_Entry**  
version: **0.5.0.0.g**

- description: **The language attribute provides the language used for definition and designation of the term.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value  
**English**

- **last\_modification\_date\_time**

steward: **ops**  
name space id: **ops**:  
class: **Local\_DD**  
version: **0.5.0.0.g**

- description: **The last\_modification\_date\_time attribute gives the most recent date and time that a change was made.**
- value\_data\_type: **ASCII\_Date\_Time**

- **last\_modification\_date\_time**

steward: **pds**  
name space id: **pds**:  
class: **Identification\_Area**  
version: **0.5.0.0.g**

- description: **The last\_modification\_date\_time attribute gives the most recent date and time that a change was made.**
- value\_data\_type: **ASCII\_Date\_Time**

- **last\_sampling\_parameter\_value**

steward: **pds**  
name space id: **pds**:  
class: **Uniformly\_Sampled**  
version: **0.5.0.0.g**

- description: **The last\_sampling\_parameter\_value element provides the last value in an ascending series and is therefore the maximum value at which a given data item was sampled.**
- value\_data\_type: **ASCII\_Real**
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **lidvid\_reference**

steward: **pds**  
name space id: **pds**:  
class: **Reference\_Entry\_Generic**  
version: **0.5.0.0.g**

- description: **The lidvid\_reference attribute provides the logical\_identifier plus version\_id, which uniquely identifies a product.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**
- pattern: **urn:nasa:pds:{1}[a-zA-Z]{1}([<sup>^</sup>x20][-/\_a-zA-Z0-9])([\*])([0-9]\*)(.)([0-9]\*)**

- **lidvid\_reference**

steward: **pds**  
name space id: **pds**:  
class: **Zipped\_Member\_Entry**  
version: **0.5.0.0.g**

- description: **The lidvid\_reference attribute provides the logical\_identifier plus version\_id, which uniquely identifies a product.**

- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255
- pattern: `urn:nasa:pds:{1}[a-zA-Z]{1}([x20][-/a-zA-Z0-9])(.*)([0-9]*)(.?.)([0-9]*)`

- **lid\_reference**

steward: **pds**  
name space id: **pds:**  
class: **Name\_Resolution**  
version: **0.5.0.0.g**

- description: **The lid\_reference attribute provides the logical\_identifier for a product.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **lid\_reference**

steward: **pds**  
name space id: **pds:**  
class: **Reference\_Entry\_Generic**  
version: **0.5.0.0.g**

- description: **The lid\_reference attribute provides the logical\_identifier for a product.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **line\_display\_direction**

steward: **pds**  
name space id: **pds:**  
class: **Image\_2D\_Display**  
version: **0.5.0.0.g**

- description: **The line\_display\_direction attribute provides the preferred direction for displaying image lines on a display device. The default value is down, meaning lines are displayed top to bottom. When used, line\_display\_direction must be accompanied by sample\_display\_direction which gives the order of sample display within each line.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values  
**RIGHT**  
**UP**  
**LEFT**  
**DOWN**

- **local\_identifier**

steward: **ops**  
name space id: **ops:**  
class: **DD\_Association**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **local\_identifier**

steward: **ops**  
name space id: **ops:**  
class: **DD\_Attribute**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- minimum\_characters: 1
- maximum\_characters: 255

- **local\_identifier**

steward: **ops**  
name space id: **ops:**  
class: **DD\_Class**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **local\_identifier**

steward: **ops**  
name space id: **ops:**  
class: **Local\_DD**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **Array\_Base**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **Encoded\_Byte\_Stream**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **Field\_Statistics**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **File**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **Geometry**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

• **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **Object\_Statistics**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **Observing\_System**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **Parsable\_Byte\_Stream**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **Quaternion**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **Reference**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **Table\_Base**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **Update**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **local\_identifier**

steward: **pds**  
name space id: **pds:**  
class: **Vector**  
version: **0.5.0.0.g**

- description: **The local\_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **local\_mean\_solar\_time**

steward: **pds**  
name space id: **pds:**  
class: **Observation\_Area**  
version: **0.5.0.0.g**

- description: **The local\_mean\_solar\_time attribute provides the hour angle of the fictitious mean Sun at a fixed point on a rotating solar system body.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **8**
- maximum\_characters: **255**

- **local\_true\_solar\_time**

steward: **pds**  
name space id: **pds:**  
class: **Observation\_Area**  
version: **0.5.0.0.g**

- description: **The local\_true\_solar\_time (LTST) attribute provides the local time on a rotating solar system body where LTST is 12 h at the sub-solar point (SSP) and increases 1 h for each 15 degree increase in east longitude away from the SSP for prograde rotation.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 8
- maximum\_characters: 255

- **logical\_identifier**

steward: **pds**  
name space id: **pds**:  
class: **Identification\_Area**  
version: **0.5.0.0.g**

- description: **A logical identifier identifies the set of all versions of an object. It is an object identifier without a version.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **maximum**

steward: **pds**  
name space id: **pds**:  
class: **Field\_Statistics**  
version: **0.5.0.0.g**

- description: **The maximum attribute provides the largest stored value which actually appears in the (repeating) field; empty and Special\_Constant field values are excluded.**
- value\_data\_type: [ASCII\\_Real](#)
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **maximum**

steward: **pds**  
name space id: **pds**:  
class: **Object\_Statistics**  
version: **0.5.0.0.g**

- description: **The maximum attribute provides the largest stored value which actually appears in the (repeating) field; empty and Special\_Constant field values are excluded.**
- value\_data\_type: [ASCII\\_Real](#)
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **maximum\_characters**

steward: **ops**  
name space id: **meta**  
class: **DD\_Value\_Domain**  
version: **0.5.0.0.g**

- description: **The maximum\_characters attribute provides the upper, inclusive bound on the number of characters.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **maximum\_occurrences**

steward: **ops**  
name space id: **ops**:  
class: **DD\_Association**  
version: **0.5.0.0.g**

- description: **The maximum occurrences attribute indicates the number of times something may occur and is also called the maximum cardinality.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1

- maximum\_characters: 255

- **maximum\_record\_bytes**

steward: pds  
name space id: pds:  
class: File  
version: 0.5.0.0.g

- description: The maximum\_record\_bytes attribute provides the maximum number of bytes that may be contained in a record.
- value\_data\_type: ASCII\_Integer
- minimum\_value: 1
- maximum\_value: 2147483647

- **maximum\_record\_length**

steward: pds  
name space id: pds:  
class: Delimited\_Table  
version: 0.5.0.0.g

- description: The maximum\_record\_length attribute provides the upper, inclusive bound on the length of a record, including any record delimiter.
- value\_data\_type: ASCII\_Integer
- minimum\_value: 1
- maximum\_value: 2147483647

- **maximum\_record\_length**

steward: pds  
name space id: pds:  
class: Delimited\_Table\_Grouped  
version: 0.5.0.0.g

- description: The maximum\_record\_length attribute provides the upper, inclusive bound on the length of a record, including any record delimiter.
- value\_data\_type: ASCII\_Integer
- minimum\_value: 1
- maximum\_value: 2147483647

- **maximum\_ring\_radius**

steward: rings  
name space id: rings:  
class: Rings\_Prod\_Info  
version: 0.5.0.0.g

- description: The maximum\_ring\_radius element indicates the maximum (outermost) radial location of an area within a planetary ring system. Radii are measured from the center of the planet along the nominal ring plane.
- value\_data\_type: ASCII\_Real

- **maximum\_scaled\_value**

steward: pds  
name space id: pds:  
class: Delimited\_Field  
version: 0.5.0.0.g

- description: The maximum\_scaled\_value attribute provides the maximum value after application of scaling\_value and value\_offset (see their definitions; maximum\_scaled\_value is the maximum of Ov).
- value\_data\_type: ASCII\_Short\_String\_Collapsed

- **maximum\_scaled\_value**

steward: pds  
name space id: pds:  
class: Table\_Field\_Extended  
version: 0.5.0.0.g

- description: **The maximum\_scaled\_value attribute provides the maximum value after application of scaling\_value and value\_offset (see their definitions; maximum\_scaled\_value is the maximum of Ov).**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **maximum\_value**

steward: **ops**  
name space id: **meta**  
class: **DD\_Value\_Domain**  
version: **0.5.0.0.g**

- description: **The maximum\_value attribute provides the upper, inclusive bound on the value.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **md5\_checksum**

steward: **pds**  
name space id: **pds:**  
class: **File**  
version: **0.5.0.0.g**

- description: **The md5\_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 32
- maximum\_characters: 32
- pattern: **([a-f0-9]{32})**

- **md5\_checksum**

steward: **pds**  
name space id: **pds:**  
class: **Object\_Statistics**  
version: **0.5.0.0.g**

- description: **The md5\_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 32
- maximum\_characters: 32
- pattern: **([a-f0-9]{32})**

- **md5\_checksum**

steward: **pds**  
name space id: **pds:**  
class: **Zipped\_Member\_Entry**  
version: **0.5.0.0.g**

- description: **The md5\_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 32
- maximum\_characters: 32
- pattern: **([a-f0-9]{32})**

- **mean**

steward: **pds**  
name space id: **pds:**  
class: **Field\_Statistics**  
version: **0.5.0.0.g**

- description: **The mean attribute provides the sum of the field values divided by the number of values (empty or Special\_Constants values in the repeating fields are excluded).**
- value\_data\_type: [ASCII\\_Real](#)

- minimum\_value: **-INF**
- maximum\_value: **INF**

- **mean**

steward: **pds**  
name space id: **pds:**  
class: **Object\_Statistics**  
version: **0.5.0.0.g**

- description: **The mean attribute provides the sum of the field values divided by the number of values (empty or Special\_Constants values in the repeating fields are excluded).**
- value\_data\_type: **ASCII\_Real**
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **median**

steward: **pds**  
name space id: **pds:**  
class: **Field\_Statistics**  
version: **0.5.0.0.g**

- description: **The median attribute provides the number separating the higher half of field values from the lower half; empty and Special\_Constants values in the repeating fields are excluded.**
- value\_data\_type: **ASCII\_Real**
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **median**

steward: **pds**  
name space id: **pds:**  
class: **Object\_Statistics**  
version: **0.5.0.0.g**

- description: **The median attribute provides the number separating the higher half of field values from the lower half; empty and Special\_Constants values in the repeating fields are excluded.**
- value\_data\_type: **ASCII\_Real**
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **medium\_type**

steward: **ops**  
name space id: **ops:**  
class: **NSSDC**  
version: **0.5.0.0.g**

- description: **The medium\_type attribute identifies the physical storage medium for a data volume. Examples: CD-ROM, CARTRIDGE TAPE.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **medium\_type**

steward: **ops**  
name space id: **ops:**  
class: **Volume\_PDS3**  
version: **0.5.0.0.g**

- description: **The medium\_type attribute identifies the physical storage medium for a data volume. Examples: CD-ROM, CARTRIDGE TAPE.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **minimum**

steward: **pds**  
name space id: **pds**:  
class: **Field\_Statistics**  
version: **0.5.0.0.g**

- description: **The minimum attribute provides the largest stored value which actually appears in the (repeating) field; empty and Special\_Constant field values are excluded.**
- value\_data\_type: [ASCII\\_Real](#)
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **minimum**

steward: **pds**  
name space id: **pds**:  
class: **Object\_Statistics**  
version: **0.5.0.0.g**

- description: **The minimum attribute provides the largest stored value which actually appears in the (repeating) field; empty and Special\_Constant field values are excluded.**
- value\_data\_type: [ASCII\\_Real](#)
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **minimum\_characters**

steward: **ops**  
name space id: **meta**  
class: **DD\_Value\_Domain**  
version: **0.5.0.0.g**

- description: **The minimum\_characters attribute provides the lower, inclusive bound on the number of characters.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **minimum\_occurrences**

steward: **ops**  
name space id: **ops**:  
class: **DD\_Association**  
version: **0.5.0.0.g**

- description: **The minimum occurrences attribute indicates the number of times something may occur and is also called the minimum cardinality.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **minimum\_ring\_radius**

steward: **rings**  
name space id: **rings**:  
class: **Rings\_Prod\_Info**  
version: **0.5.0.0.g**

- description: **The minimum\_ring\_radius element indicates the minimum (innermost) radial location of an area within a planetary ring system. Radii are measured from the center of the planet along the nominal ring plane.**
- value\_data\_type: [ASCII\\_Real](#)

- **minimum\_scaled\_value**

steward: **pds**  
name space id: **pds**:  
class: **Delimited\_Field**  
version: **0.5.0.0.g**

- description: **The minimum\_scaled\_value attribute provides the minimum value after application of scaling\_value and value\_offset (see their definitions; minimum\_scaled\_value is the minimum of Ov).**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **minimum\_scaled\_value**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field\_Extended**  
version: **0.5.0.0.g**

- description: **The minimum\_scaled\_value attribute provides the minimum value after application of scaling\_value and value\_offset (see their definitions; minimum\_scaled\_value is the minimum of Ov).**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **minimum\_value**

steward: **ops**  
name space id: **meta**  
class: **DD\_Value\_Domain**  
version: **0.5.0.0.g**

- description: **The minimum\_value attribute provides the lower inclusive bound on the value.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **missing\_constant**

steward: **pds**  
name space id: **pds**:  
class: **Special\_Constants**  
version: **0.5.0.0.g**

- description: **The missing\_constant attribute provides a value that indicates the original value was missing, such as due to a gap in coverage.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **mission\_desc**

steward: **ops**  
name space id: **ops**:  
class: **Mission\_PDS3**  
version: **0.5.0.0.g**

- description: **The mission\_desc attribute summarizes major aspects of a planetary mission or project, including the number and type of spacecraft, the target body or bodies and major accomplishments.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

- **mission\_name**

steward: **ops**  
name space id: **ops**:  
class: **Mission\_PDS3**  
version: **0.5.0.0.g**

- description: **The mission\_name attribute identifies a major planetary mission or project. A given planetary mission may be associated with one or more spacecraft.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **mission\_objectives\_summary**

steward: **ops**  
name space id: **ops**:  
class: **Mission\_PDS3**  
version: **0.5.0.0.g**

- description: **The mission\_objectives\_summary attribute describes the major scientific objectives of a planetary**

- mission or project.
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: 1
- maximum\_characters: 2147483647

- **mission\_phase\_name**

steward: **pds**  
name space id: **pds**:  
class: **Observation\_Area**  
version: **0.5.0.0.g**

- description: **The mission\_phase\_name attribute provides the commonly recognized name for a mission phase.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **mission\_start\_date**

steward: **ops**  
name space id: **ops**:  
class: **Mission\_PDS3**  
version: **0.5.0.0.g**

- description: **The mission\_start\_date attribute provides the date of the beginning of a mission in UTC system format.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **mission\_stop\_date**

steward: **ops**  
name space id: **ops**:  
class: **Mission\_PDS3**  
version: **0.5.0.0.g**

- description: **The mission\_stop\_date attribute provides the date of the end of a mission in UTC system format.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **naif\_host\_id**

steward: **pds**  
name space id: **pds**:  
class: **Instrument\_Host**  
version: **0.5.0.0.g**

- description: **The naif\_instrument\_id element provides the numeric ID used within the SPICE system to identify the spacecraft, spacecraft structure or science instrument.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **naif\_instrument\_id**

steward: **pds**  
name space id: **pds**:  
class: **Instrument**  
version: **0.5.0.0.g**

- description: **The naif\_instrument\_id element provides the numeric ID used within the SPICE system to identify the spacecraft, spacecraft structure or science instrument.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **name**

steward: **ops**  
name space id: **ops**:  
class: **DD\_Attribute**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **name**

steward: **ops**  
name space id: **ops**:  
class: **DD\_Class**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **name**

steward: **ops**  
name space id: **ops**:  
class: **Node**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**Geosciences**  
**Imaging**  
**Navigation\_Ancillary\_Information\_Facility**  
**Planetary\_Atmospheres**  
**Planetary\_Plasma\_Interactions**  
**Planetary\_Rings**  
**Radio\_Science**  
**Small\_Bodies**  
**Engineering**

• **name**

steward: **ops**  
name space id: **ops**:  
class: **Personnel**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **name**

steward: **ops**  
name space id: **ops**:  
class: **Software\_Desc**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **name**

steward: **pds**  
name space id: **pds**:  
class: **Bibliographic\_Reference**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **name**

steward: **pds**  
name space id: **pds**:  
class: **Detector**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **name**

steward: **pds**  
name space id: **pds**:  
class: **Header**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **61**

• **name**

steward: **pds**  
name space id: **pds**:  
class: **Header\_Binary**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **name**

steward: **pds**  
name space id: **pds**:  
class: **Instrument**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **name**

steward: **pds**  
name space id: **pds**:  
class: **Instrument\_Host**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **name**

steward: **pds**  
name space id: **pds**:  
class: **Investigation**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **name**

steward: **pds**  
name space id: **pds**:  
class: **Name\_Resolution**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **61**

- **name**

steward: **pds**  
name space id: **pds**:  
class: **Observing\_System**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **name**

steward: **pds**  
name space id: **pds**:  
class: **Observing\_System\_Component**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **name**

steward: **pds**  
name space id: **pds**:  
class: **Quaternion**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **name**

steward: **pds**  
name space id: **pds**:  
class: **Quaternion\_Component**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **name**

steward: **pds**  
name space id: **pds**:  
class: **Resource**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **name**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **name**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field\_Checksum**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value  
**MD5\_checksum**

- **name**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field\_File\_Specification\_Name**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value  
**file\_specification\_name**

- **name**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field\_LID**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value  
**LID**

- **name**

steward: **pds**  
name space id: **pds**:

class: **Table\_Field\_LIDVID**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value  
**LIDVID**

• **name**

steward: **pds**  
name space id: **pds**:  
class: **Target**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **name**

steward: **pds**  
name space id: **pds**  
class: **Terminological\_Entry**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **name**

steward: **pds**  
name space id: **pds**:  
class: **Vector**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

• **name**

steward: **pds**  
name space id: **pds**:  
class: **Vector\_Component**  
version: **0.5.0.0.g**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **name\_space\_id**

steward: **ops**  
name space id: **meta**  
class: **DD\_Attribute**  
version: **0.5.0.0.g**

- description: **The name\_space\_id attribute provides the abbreviation of the XML schema namespace container for this logical grouping of classes and attributes. It is assigned by the steward.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

• **name\_space\_id**

steward: **ops**  
name space id: **meta**  
class: **DD\_Attribute\_Full**  
version: **0.5.0.0.g**

- description: **The name\_space\_id attribute provides the abbreviation of the XML schema namespace container for this logical grouping of classes and attributes. It is assigned by the steward.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **name\_space\_id**

steward: **ops**  
name space id: **meta**  
class: **DD\_Class**  
version: **0.5.0.0.g**

- description: **The name\_space\_id attribute provides the abbreviation of the XML schema namespace container for this logical grouping of classes and attributes. It is assigned by the steward.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **node\_id**

steward: **rings**  
name space id: **rings:**  
class: **Rings\_Prod\_Info**  
version: **0.5.0.0.g**

- description: **The node\_id element provides the node id assigned to a science community node.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- permissible value  
**RINGS**

- **node\_name**

steward: **ops**  
name space id: **ops:**  
class: **PDS\_Affiliate**  
version: **0.5.0.0.g**

- description: **The node\_name attribute provides the name of a PDS Node.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**Engineering**  
**Geosciences**  
**Imaging**  
**Navigation\_Ancillary\_Information\_Facility**  
**Planetary\_Atmospheres**  
**Planetary\_Plasma\_Interactions**  
**Planetary\_Rings**  
**Radio\_Science**  
**Small\_Bodies**  
**unk**  
**HQ**  
**National\_Space\_Science\_Data\_Center**  
**PDS\_Management**

- **node\_name**

steward: **rings**  
name space id: **rings:**  
class: **Rings\_Prod\_Info**  
version: **0.5.0.0.g**

- description: **The node\_name element provides the officially recognized name of a PDS Node.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated

- permissible value  
**Planetary\_Rings**

- **not\_applicable\_constant**

steward: **pds**  
name space id: **pds:**  
class: **Special\_Constants**  
version: **0.5.0.0.g**

- description: **The not\_applicable\_constant attribute provides a value that indicates the parameter is not applicable.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **nssdc\_collection\_id**

steward: **ops**  
name space id: **ops:**  
class: **NSSDC**  
version: **0.5.0.0.g**

- description: **An NSSDC Collection ID is an NSSDC assigned identifier for a collection of PDS datasets.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **observing\_system\_component\_type**

steward: **pds**  
name space id: **pds:**  
class: **Observing\_System\_Component**  
version: **0.5.0.0.g**

- description: **The Observing System Component Type attribute indicates the type of the observing system component'.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**Analyst**  
**Ground-based\_Laboratory**  
**Ground-based\_Observatory**  
**Ground-based\_Telescope**  
**Instrument**  
**Literature\_Search**  
**PDS\_Archived\_Data**  
**Spacecraft**  
**Artificial\_Illumination**

- **observing\_system\_name**

steward: **pds**  
name space id: **pds:**  
class: **Subject\_Area**  
version: **0.5.0.0.g**

- description: **The observing\_system\_name attribute provides a unique name for an observing system.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **occultation\_type**

steward: **rings**  
name space id: **rings:**  
class: **Rings\_Prod\_Info**  
version: **0.5.0.0.g**

- description: **The occultation type element distinguishes between two types of occultation experiments, stellar**

and radio. Stellar occultations involve observing a star as a targeted ring or body passes in front, as seen from either a spacecraft or Earth-based observatory. Radio occultations typically involve observing the continuous-wave radio transmissions from a spacecraft as it passes behind the target as seen from a radio telescope on Earth.

- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- permissible value  
**STELLAR**

- **offset**

steward: **pds**  
name space id: **pds**:  
class: **Array\_Base**  
version: **0.5.0.0.g**

- description: **The offset attribute provides the displacement of the object starting position from the beginning of the parent structure (file, record, etc.). If there is no displacement, offset=0.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **0**
- maximum\_value: **2147483647**
- unit\_of\_measure\_type: **UnitOfMeasure\_Storage**
- specified\_unit\_id: **byte**

- **offset**

steward: **pds**  
name space id: **pds**:  
class: **Encoded\_Byte\_Stream**  
version: **0.5.0.0.g**

- description: **The offset attribute provides the displacement of the object starting position from the beginning of the parent structure (file, record, etc.). If there is no displacement, offset=0.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **0**
- maximum\_value: **2147483647**
- unit\_of\_measure\_type: **UnitOfMeasure\_Storage**
- specified\_unit\_id: **byte**

- **offset**

steward: **pds**  
name space id: **pds**:  
class: **Parsable\_Byte\_Stream**  
version: **0.5.0.0.g**

- description: **The offset attribute provides the displacement of the object starting position from the beginning of the parent structure (file, record, etc.). If there is no displacement, offset=0.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **0**
- maximum\_value: **2147483647**
- unit\_of\_measure\_type: **UnitOfMeasure\_Storage**
- specified\_unit\_id: **byte**

- **offset**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Base**  
version: **0.5.0.0.g**

- description: **The offset attribute provides the displacement of the object starting position from the beginning of the parent structure (file, record, etc.). If there is no displacement, offset=0.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **0**
- maximum\_value: **2147483647**
- unit\_of\_measure\_type: **UnitOfMeasure\_Storage**
- specified\_unit\_id: **byte**

- **orbit\_number**

steward: **pds**  
name space id: **pds**:  
class: **Observation\_Area**  
version: **0.5.0.0.g**

- description: **The orbit\_number attribute provides the number of the orbital revolution of one body around another.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **0**
- maximum\_value: **2147483647**

- **os\_version**

steward: **ops**  
name space id: **ops**:  
class: **Software\_Binary**  
version: **0.5.0.0.g**

- description: **The OS version attribute indicates the version of an operating system.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **os\_version**

steward: **ops**  
name space id: **ops**:  
class: **Software\_Source**  
version: **0.5.0.0.g**

- description: **The OS version attribute indicates the version of an operating system.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **packet\_map\_mask**

steward: **img**  
name space id: **img**:  
class: **Telemetry\_Parameters**  
version: **0.5.0.0.g**

- description: **The packet\_map\_mask attribute is a binary or hexadecimal number identifying which of a data file's expected packets were actually received. The digits correspond positionally with the relative packet numbers of the data file. The bits are to be read left to right; i.e., the first (left-most) digit of the number corresponds to the first packet of the data file. A bit value of 1 indicates that the packet was received; a value of 0 indicates that it was not received.**
- value\_data\_type: [ASCII\\_Numeric\\_Base16](#)

- **pattern**

steward: **ops**  
name space id: **meta**  
class: **DD\_Value\_Domain**  
version: **0.5.0.0.g**

- description: **The pattern attribute provides a symbolic instruction for forming values.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **pds4\_merge\_flag**

steward: **ops**  
name space id: **ops**:  
class: **Local\_DD**  
version: **0.5.0.0.g**

- description: **The PDS4 merge flag attribute indicates that the local data dictionary should be merged with the PDS4 data dictionary and accept the PDS as the data dictionary's registration authority. The merge process requires validation that the local data dictionary conforms to PDS data standards.**

- value\_data\_type: [ASCII\\_Boolean\\_TF](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 1
- permissible values  
T  
F

- **phone\_book\_flag**

steward: **ops**  
name space id: **ops**:  
class: **PDS\_Affiliate**  
version: **0.5.0.0.g**

- description: **The phone\_book\_flag attribute indicates whether or not this person should be included in the phone book.**
- value\_data\_type: [ASCII\\_Boolean\\_TF](#)
- minimum\_characters: 1
- maximum\_characters: 1

- **planetary\_occultation\_flag**

steward: **rings**  
name space id: **rings**:  
class: **Rings\_Prod\_Info**  
version: **0.5.0.0.g**

- description: **The planetary\_occultation\_flag element is a yes-or-no flag hat indicates whether a ring occultation track also intersects the planet.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **planet\_day\_number**

steward: **pds**  
name space id: **pds**:  
class: **Observation\_Area**  
version: **0.5.0.0.g**

- description: **The planet\_day\_number attribute provides the number of solar days (sols) on a rotating solar system body since a reference event, such as the landing of a spacecraft. The day of landing is usually defined as planet\_day\_number=0.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: 0
- maximum\_value: 2147483647

- **postal\_address\_text**

steward: **ops**  
name space id: **ops**:  
class: **PDS\_Affiliate**  
version: **0.5.0.0.g**

- description: **The postal address text attribute provides a mailing address.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: 1
- maximum\_characters: 2147483647

- **preferred\_flag**

steward: **ops**  
name space id: **ops**:  
class: **Terminological\_Entry**  
version: **0.5.0.0.g**

- description: **The preferred\_flag indicates whether this entry is preferred over all other entries.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **primary\_body\_name**

steward: **ops**  
name space id: **ops**:  
class: **Target\_PDS3**  
version: **0.5.0.0.g**

- description: **The primary\_body\_name attribute identifies the primary body with which a given target body is associated as a secondary body.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **processing\_level\_id**

steward: **pds**  
name space id: **pds**:  
class: **Product\_Collection\_Data**  
version: **0.5.0.0.g**

- description: **The processing\_level\_id attribute provides the state to which data have been processed.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**RAW**  
**RDC**  
**CLB**  
**DRV**

- **producer\_full\_name**

steward: **ops**  
name space id: **ops**:  
class: **Data\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The producer\_full\_name attribute provides the full\_name of the individual mainly responsible for the production of the data set. This individual does not have to be registered with the PDS.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **product\_class**

steward: **pds**  
name space id: **pds**:  
class: **Identification\_Area**  
version: **0.5.0.0.g**

- description: **The product\_class attribute provides the class of the product.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **programmers\_manual\_identifier**

steward: **ops**  
name space id: **ops**:  
class: **Software\_Desc**  
version: **0.5.0.0.g**

- description: **The programmers manual identifier attribute provides an identifier to a document giving instruction about the programming of the software.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **program\_notes\_identifier**

steward: **ops**  
name space id: **ops**:

class: **Software\_Binary**  
version: **0.5.0.0.g**

- description: **The program notes identifier attribute provides an identifier to a brief statement giving particulars about a software program.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **program\_notes\_identifier**

steward: **ops**  
name space id: **ops**:  
class: **Software\_Source**  
version: **0.5.0.0.g**

- description: **The program notes identifier attribute provides an identifier to a brief statement giving particulars about a software program.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **publication\_date**

steward: **ops**  
name space id: **ops**:  
class: **Volume\_PDS3**  
version: **0.5.0.0.g**

- description: **The publication\_date attribute provides the date on which an item was published.**
- value\_data\_type: [ASCII\\_Date\\_YMD](#)

- **publication\_date**

steward: **pds**  
name space id: **pds**:  
class: **Document\_Desc**  
version: **0.5.0.0.g**

- description: **The publication\_date attribute provides the date on which an item was published.**
- value\_data\_type: [ASCII\\_Date\\_YMD](#)

- **quaternion\_components**

steward: **pds**  
name space id: **pds**:  
class: **Quaternion**  
version: **0.5.0.0.g**

- description: **The quaternion\_components attribute provides a count of quaternion components.**
- value\_data\_type: [ASCII\\_Integer](#)

- **radial\_resolution**

steward: **rings**  
name space id: **rings**:  
class: **Rings\_Prod\_Info**  
version: **0.5.0.0.g**

- description: **The radial\_resolution element indicates the nominal radial distance over which changes in ring properties can be detected within a data product. Note: this value may be larger than the radial\_sampling\_interval value, since many data products are over-sampled.**
- value\_data\_type: [ASCII\\_Real](#)

- **received\_packets**

steward: **img**  
name space id: **img**:  
class: **Telemetry\_Parameters**  
version: **0.5.0.0.g**

- description: **The received\_packets attribute provides the total number of telemetry packets which constitute a reconstructed data product, cf. expected\_packets.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **0**

- **records**

steward: **pds**  
name space id: **pds:**  
class: **Delimited\_Table**  
version: **0.5.0.0.g**

- description: **The records attribute provides a count of records.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **records**

steward: **pds**  
name space id: **pds:**  
class: **Delimited\_Table\_Grouped**  
version: **0.5.0.0.g**

- description: **The records attribute provides a count of records.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **records**

steward: **pds**  
name space id: **pds:**  
class: **File**  
version: **0.5.0.0.g**

- description: **The records attribute provides a count of records.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **records**

steward: **pds**  
name space id: **pds:**  
class: **Table\_Base**  
version: **0.5.0.0.g**

- description: **The records attribute provides a count of records.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **record\_delimiter**

steward: **pds**  
name space id: **pds:**  
class: **Delimited\_Table**  
version: **0.5.0.0.g**

- description: **The record\_delimiter attribute provides the character or characters used to indicate the end of a record.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- permissible values  
**0x0A**  
**0x0D**  
**0x0D0x0A**

- **record\_delimiter**

steward: **pds**  
name space id: **pds:**  
class: **Delimited\_Table\_Grouped**  
version: **0.5.0.0.g**

- description: **The record\_delimiter attribute provides the character or characters used to indicate the end of a record.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- permissible values  
**0x0A**  
**0x0D**  
**0x0D0x0A**

• **record\_length**

steward: **pds**  
name space id: **pds:**  
class: **Table\_Base**  
version: **0.5.0.0.g**

- description: **The record\_length attribute provides the length of a record, including a record delimiter if present.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **1**
- maximum\_value: **2147483647**
- unit\_of\_measure\_type: **UnitOfMeasure\_Storage**
- specified\_unit\_id: **byte**

• **reference\_association\_type**

steward: **ops**  
name space id: **ops:**  
class: **DD\_Association**  
version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**subclass\_of**  
**attribute\_of**

• **reference\_association\_type**

steward: **pds**  
name space id: **pds:**  
class: **Bundle\_Member\_Entry**  
version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**has\_miscellaneous\_collection**  
**has\_browse\_collection**  
**has\_calibration\_collection**  
**has\_data\_collection**  
**has\_document\_collection**  
**has\_geometry\_collection**  
**has\_spice\_collection**  
**has\_xml\_schema\_collection**  
**has\_member\_collection**  
**has\_context\_collection**

• **reference\_association\_type**

steward: **pds**  
name space id: **pds:**  
class: **Inventory\_LIDVID\_Primary**  
version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value  
**has\_member\_LIDVID\_Primary**

- **reference\_association\_type**

steward: **pds**  
name space id: **pds:**  
class: **Inventory\_LIDVID\_Secondary**  
version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value  
**has\_member\_LIDVID\_Secondary**

- **reference\_association\_type**

steward: **pds**  
name space id: **pds:**  
class: **Inventory\_LID\_Secondary**  
version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value  
**has\_member\_LID\_Secondary**

- **reference\_association\_type**

steward: **pds**  
name space id: **pds**  
class: **Manifest**  
version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value  
**has\_member**

- **reference\_association\_type**

steward: **pds**  
name space id: **pds:**  
class: **Reference\_Entry**  
version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**has\_association**  
**member\_of**

- **reference\_association\_type**

steward: **pds**  
name space id: **pds:**  
class: **Reference\_Entry\_Collection**  
version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values
  - has\_update\_collection**
  - has\_associated\_collection**
  - has\_investigation\_collection**
  - has\_node\_collection**
  - has\_publication\_collection**
  - has\_target\_collection**

- **reference\_association\_type**

steward: **pds**  
 name space id: **pds**:  
 class: **Reference\_Entry\_Context**  
 version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values
  - has\_instrument\_host**
  - has\_instrument**
  - has\_investigation**
  - has\_node**
  - has\_personnel**
  - has\_publication**
  - has\_resource**
  - has\_target**
  - has\_association**
  - has\_data\_producer**
  - has\_data\_set**

- **reference\_association\_type**

steward: **pds**  
 name space id: **pds**:  
 class: **Reference\_Entry\_Generic**  
 version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **reference\_association\_type**

steward: **pds**  
 name space id: **pds**:  
 class: **Reference\_Entry\_Observing\_System\_Component**  
 version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values
  - Analyst**
  - Ground-based\_Laboratory**
  - Ground-based\_Observatory**
  - Ground-based\_Telescope**
  - Instrument**
  - Literature\_Search**
  - PDS\_Archived\_Data**
  - Spacecraft**
  - Artificial\_Illumination**

- **reference\_association\_type**

steward: **pds**  
name space id: **pds**:  
class: **Reference\_Entry\_Product**  
version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values
  - has\_browse**
  - has\_calibration**
  - has\_publication**
  - has\_geometry**
  - has\_personnel**
  - has\_spice**
  - has\_target**
  - has\_thumbnail**
  - curated\_by\_node**
  - has\_association**
  - has\_document**
  - has\_investigation**
  - has\_node**
  - has\_instrument**
  - has\_instrument\_host**
  - has\_primary\_collection**
  - has\_resource**
  - has\_primary\_product**

- **reference\_association\_type**

steward: **pds**  
name space id: **pds**:  
class: **Zipped\_Member\_Entry**  
version: **0.5.0.0.g**

- description: **The reference\_association\_type attribute provides the name of the association used in a reference.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values
  - manifest\_product**
  - contained\_product**

- **reference\_text**

steward: **pds**  
name space id: **pds**:  
class: **Bibliographic\_Reference**  
version: **0.5.0.0.g**

- description: **The reference\_text attribute provides a complete bibliographic citation for a published work.**
- value\_data\_type: **ASCII\_Text\_Preserved**
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

- **reference\_text**

steward: **pds**  
name space id: **pds**:  
class: **Reference**  
version: **0.5.0.0.g**

- description: **The reference\_text attribute provides a complete bibliographic citation for a published work.**
- value\_data\_type: **ASCII\_Text\_Preserved**
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

- **registered\_by**

steward: **ops**  
name space id: **meta**  
class: **DD\_Attribute\_Full**  
version: **0.5.0.0.g**

- description: **The registered\_by attribute provides the name of the person or organization that registered the object.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **registration\_authority\_id**

steward: **ops**  
name space id: **meta**  
class: **DD\_Attribute\_Full**  
version: **0.5.0.0.g**

- description: **The registration\_authority\_id attribute provides the name of the organization that registered the object.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible value  
**0001\_NASA\_PDS\_1**

- **registration\_date**

steward: **ops**  
name space id: **ops**  
class: **Personnel**  
version: **0.5.0.0.g**

- description: **The registration\_date attribute provides the date of registration within the PDS system.**
- value\_data\_type: **ASCII\_Date\_YMD**

- **repetitions**

steward: **pds**  
name space id: **pds**  
class: **Delimited\_Grouped\_Sequence**  
version: **0.5.0.0.g**

- description: **The repetitions attribute provides the number of occurrences.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **repetitions**

steward: **pds**  
name space id: **pds**  
class: **Table\_Binary\_Grouped\_Sequence**  
version: **0.5.0.0.g**

- description: **The repetitions attribute provides the number of occurrences.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **repetitions**

steward: **pds**  
name space id: **pds**  
class: **Table\_Character\_Grouped\_Sequence**  
version: **0.5.0.0.g**

- description: **The repetitions attribute provides the number of occurrences.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **revision\_id**

steward: **pds**  
name space id: **pds**:  
class: **Document\_Desc**  
version: **0.5.0.0.g**

- description: **The revision\_id attribute provides the revision level of a document, which may be set outside PDS and may be different from its version\_id.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **ring\_event\_start\_time**

steward: **rings**  
name space id: **rings**:  
class: **Rings\_Prod\_Info**  
version: **0.5.0.0.g**

- description: **The ring\_event\_start\_time element indicates the starting instant of a data product as measured at the ring plane. This element differs from the observation start time because it allows for light travel time.**
- value\_data\_type: **ASCII\_Date\_Time**

- **ring\_event\_stop\_time**

steward: **rings**  
name space id: **rings**:  
class: **Rings\_Prod\_Info**  
version: **0.5.0.0.g**

- description: **The ring\_event\_stop\_time element indicates the stopping instant of a data product as measured at the ring plane. This element differs from the observation stop time because it allows for light travel time.**
- value\_data\_type: **ASCII\_Date\_Time**

- **ring\_occultation\_direction**

steward: **rings**  
name space id: **rings**:  
class: **Rings\_Prod\_Info**  
version: **0.5.0.0.g**

- description: **The ring\_occultation\_direction element indicates the radial direction of a ring occultation track.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**

- **sample\_bit\_mask**

steward: **pds**  
name space id: **pds**:  
class: **Object\_Statistics**  
version: **0.5.0.0.g**

- description: **The sample\_bit\_mask attribute identifies the active bits in a sample. Note: In the PDS, the domain of sample\_bit\_mask is dependent upon the currently-described value in the sample\_bits attribute and only applies to integer values. For an 8-bit sample where all bits are active the sample\_bit\_mask would be 2#11111111#.**
- value\_data\_type: **ASCII\_Numeric\_Base2**

- **sample\_display\_direction**

steward: **pds**  
name space id: **pds**:  
class: **Image\_2D\_Display**  
version: **0.5.0.0.g**

- description: **The sample\_display\_direction attribute provides the preferred orientation of samples within a line for viewing on a display device. The default is right, meaning samples are viewed from left to right on the display. sample\_display\_direction must be used with line\_display\_direction.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**

- maximum\_characters: 255
- permissible values  
RIGHT  
DOWN  
LEFT  
UP

- **sampling\_parameter\_interval**

steward: pds  
name space id: pds:  
class: Uniformly\_Sampled  
version: 0.5.0.0.g

- description: The **sampling\_parameter\_interval** element identifies the spacing of points at which data are sampled and at which a value for an instrument or dataset parameter is available. This sampling interval can be either the original (raw) sampling or the result of some resampling process. For example, in 48-second magnetometer data the sampling interval is 48. The sampling parameter (time, in the example) is identified by the **sampling\_parameter\_name** element.
- value\_data\_type: [ASCII\\_Real](#)
- minimum\_value: -INF
- maximum\_value: INF

- **sampling\_parameter\_name**

steward: pds  
name space id: pds:  
class: Uniformly\_Sampled  
version: 0.5.0.0.g

- description: The **sampling\_parameter\_name** element provides the name of the parameter which determines the sampling interval of a particular instrument or dataset parameter. For example, magnetic field intensity is sampled in time increments, and a spectrum is sampled in wavelength or frequency.
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **sampling\_parameter\_scale**

steward: pds  
name space id: pds:  
class: Uniformly\_Sampled  
version: 0.5.0.0.g

- description: The **sampling\_parameter\_scale** element specifies whether the sampling interval is linear or something other such as logarithmic.
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values  
LINEAR  
LOGARITHMIC  
EXPONENTIAL

- **sampling\_parameter\_unit**

steward: pds  
name space id: pds:  
class: Uniformly\_Sampled  
version: 0.5.0.0.g

- description: The **sampling\_parameter\_unit** element specifies the unit of measure of associated data sampling parameters.
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **saturated\_constant**

steward: pds  
name space id: pds:  
class: Special\_Constants  
version: 0.5.0.0.g

- description: The **saturated\_constant** attribute provides a value that indicates the original value was invalid

- because of sensor saturation.
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **scaling\_factor**

steward: **pds**  
name space id: **pds**:  
class: **Array\_Element**  
version: **0.5.0.0.g**

- description: **The scaling\_factor attribute is the scaling factor to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus:  $Ov = (Sv * scaling\_factor) + value\_offset$ .**
- value\_data\_type: [ASCII\\_Real](#)
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **scaling\_factor**

steward: **pds**  
name space id: **pds**:  
class: **Delimited\_Field**  
version: **0.5.0.0.g**

- description: **The scaling\_factor attribute is the scaling factor to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus:  $Ov = (Sv * scaling\_factor) + value\_offset$ .**
- value\_data\_type: [ASCII\\_Real](#)

- **scaling\_factor**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field\_Extended**  
version: **0.5.0.0.g**

- description: **The scaling\_factor attribute is the scaling factor to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus:  $Ov = (Sv * scaling\_factor) + value\_offset$ .**
- value\_data\_type: [ASCII\\_Real](#)
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **sequence\_number**

steward: **pds**  
name space id: **pds**:  
class: **Array\_Axis**  
version: **0.5.0.0.g**

- description: **The sequence\_number attribute provides a number that is used to order axes in an array.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **1**
- maximum\_value: **16**

- **sequence\_number**

steward: **pds**  
name space id: **pds**:  
class: **Quaternion\_Component**  
version: **0.5.0.0.g**

- description: **The sequence\_number attribute provides a number that is used to order axes in an array.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **-2147483648**
- maximum\_value: **2147483647**

- **sequence\_number**

steward: **pds**  
name space id: **pds:**  
class: **Vector\_Component**  
version: **0.5.0.0.g**

- description: **The sequence\_number attribute provides a number that is used to order axes in an array.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **1**
- maximum\_value: **2147483647**

#### • **serial\_number**

steward: **pds**  
name space id: **pds:**  
class: **Instrument**  
version: **0.5.0.0.g**

- description: **The serial number element provides the assigned manufacturer's serial number.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

#### • **serial\_number**

steward: **pds**  
name space id: **pds:**  
class: **Instrument\_Host**  
version: **0.5.0.0.g**

- description: **TBD\_description**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

#### • **software\_dialect**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Source**  
version: **0.5.0.0.g**

- description: **The software dialect attribute indicates the variety of a language used to write the software.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

#### • **software\_id**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Desc**  
version: **0.5.0.0.g**

- description: **The software id attribute provides a formal name used to refer to the software.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

#### • **software\_language**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Source**  
version: **0.5.0.0.g**

- description: **The software language attribute identifies the language used to write the software.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **software\_type**

steward: **ops**  
name space id: **ops**:  
class: **Software\_Desc**  
version: **0.5.0.0.g**

- description: **The software\_type attribute identifies the class of which the software is a member.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **solar\_longitude**

steward: **pds**  
name space id: **pds**:  
class: **Observation\_Area**  
version: **0.5.0.0.g**

- description: **The solar\_longitude attribute provides the angle between the body-Sun line at the time of interest and the body-Sun line at its vernal equinox.**
- value\_data\_type: [ASCII\\_Real](#)
- minimum\_value: **0**
- maximum\_value: **360**

- **sort\_name**

steward: **ops**  
name space id: **ops**:  
class: **Personnel**  
version: **0.5.0.0.g**

- description: **The sort\_name attribute provides a string to be used in ordering. For people, the last name (surname) is typically first, followed by a comma and then other names.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**
- pattern: **[a-zA-Z]{1}([- ,\_a-zA-Z0-9]\*)**

- **spacecraft\_clock\_count\_partition**

steward: **pds**  
name space id: **pds**:  
class: **Observation\_Area**  
version: **0.5.0.0.g**

- description: **The spacecraft\_clock\_count\_partition attribute provides the clock partition active for spacecraft\_clock\_start\_count and spacecraft\_clock\_stop\_count.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **0**
- maximum\_value: **2147483647**

- **spacecraft\_clock\_start\_count**

steward: **pds**  
name space id: **pds**:  
class: **Observation\_Area**  
version: **0.5.0.0.g**

- description: **The spacecraft\_clock\_start\_count attribute provides the value of the spacecraft clock at the beginning of a time period of interest.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **spacecraft\_clock\_stop\_count**

steward: **pds**  
name space id: **pds**:  
class: **Observation\_Area**  
version: **0.5.0.0.g**

- description: **The spacecraft\_clock\_stop\_count attribute provides the value of the spacecraft clock at the end of a time period of interest.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **specified\_unit\_id**

steward: **ops**  
name space id: **meta**  
class: **DD\_Value\_Domain**  
version: **0.5.0.0.g**

- description: **The specified\_unit\_id attribute provides the units chosen for maximum\_value, minimum\_value, and permissible\_value.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **spice\_file\_name**

steward: **img**  
name space id: **img**  
class: **Telemetry\_Parameters**  
version: **0.5.0.0.g**

- description: **The spice\_file\_name attribute provides the names of the SPICE files used in processing the data.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **standard\_deviation**

steward: **pds**  
name space id: **pds**  
class: **Field\_Statistics**  
version: **0.5.0.0.g**

- description: **The standard\_deviation attribute provides the standard deviation of values in the associated object; empty and Special\_Constants values are excluded.**
- value\_data\_type: [ASCII\\_Real](#)
- minimum\_value: 0
- maximum\_value: INF

- **standard\_deviation**

steward: **pds**  
name space id: **pds**  
class: **Object\_Statistics**  
version: **0.5.0.0.g**

- description: **The standard\_deviation attribute provides the standard deviation of values in the repeating field; empty and Special\_Constants field values are excluded.**
- value\_data\_type: [ASCII\\_Real](#)
- minimum\_value: 0.0
- maximum\_value: INF

- **starting\_point\_identifier**

steward: **pds**  
name space id: **pds**  
class: **Document\_Format**  
version: **0.5.0.0.g**

- description: **The starting\_point attribute provides the local\_identifier of the object to be accessed first.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **start\_bit**

steward: **pds**

name space id: **pds**:  
class: **Table\_Binary\_Grouped\_Bit\_Field**  
version: **0.5.0.0.g**

- description: **The start\_bit attribute provides the position of the first bit within an ordered sequence of bits.**
- value\_data\_type: [ASCII\\_Integer](#)
- minimum\_value: **1**
- maximum\_value: **2147483647**

- **start\_date**

steward: **pds**  
name space id: **pds**:  
class: **Investigation**  
version: **0.5.0.0.g**

- description: **The start\_date attribute provides the date when an activity began.**
- value\_data\_type: [ASCII\\_Date\\_YMD](#)

- **start\_date\_time**

steward: **ops**  
name space id: **ops**:  
class: **Data\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The start\_date\_time attribute provides the date and time at the beginning of a time interval of interest.**
- value\_data\_type: [ASCII\\_Date\\_Time\\_YMD](#)
- minimum\_characters: **4**
- maximum\_characters: **30**

- **start\_date\_time**

steward: **pds**  
name space id: **pds**:  
class: **Archive\_Bundle**  
version: **0.5.0.0.g**

- description: **The start\_date\_time attribute provides the date and time at the beginning of a time interval of interest.**
- value\_data\_type: [ASCII\\_Date\\_Time\\_YMD](#)
- minimum\_characters: **4**
- maximum\_characters: **30**

- **start\_date\_time**

steward: **pds**  
name space id: **pds**:  
class: **Observation\_Area**  
version: **0.5.0.0.g**

- description: **The start\_date\_time attribute provides the date and time at the beginning of a time interval of interest.**
- value\_data\_type: [ASCII\\_Date\\_Time](#)

- **star\_name**

steward: **rings**  
name space id: **rings**:  
class: **Rings\_Prod\_Info**  
version: **0.5.0.0.g**

- description: **The star\_name element provides the identifying name of star, including the catalog name if necessary. Examples include 'sigma Sgr' and 'SAO 123456' (for star number 123456 in the Smithsonian Astrophysical Observatory catalog).**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **std\_ref\_version\_id**

steward: **pds**  
name space id: **pds**:  
class: **Data\_Standards**  
version: **0.5.0.0.g**

- description: **The std ref version id attribute provides the version identifier for the standard reference document.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **steward\_id**

steward: **ops**  
name space id: **meta**  
class: **DD\_Attribute**  
version: **0.5.0.0.g**

- description: **The steward\_id attribute provides the abbreviation of the organization that manages the set of registered attributes and classes.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**pds**  
**atm**  
**geo**  
**img**  
**naif**  
**ppi**  
**rings**  
**rs**  
**sbn**  
**ops**

- **steward\_id**

steward: **ops**  
name space id: **meta**  
class: **DD\_Attribute\_Full**  
version: **0.5.0.0.g**

- description: **The steward attribute indicates the person or organization who manages a set of registered attributes and classes.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**pds**  
**atm**  
**geo**  
**img**  
**naif**  
**ppi**  
**rings**  
**rs**  
**sbn**  
**ops**

- **steward\_id**

steward: **ops**  
name space id: **meta**  
class: **DD\_Class**  
version: **0.5.0.0.g**

- description: **The steward\_id attribute provides the abbreviation of the organization that manages the set of registered attributes and classes.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values

pds  
atm  
geo  
img  
naif  
ppi  
rings  
rs  
sbn  
ops

- **stop\_date**

steward: **pds**  
name space id: **pds:**  
class: **Investigation**  
version: **0.5.0.0.g**

- description: **The stop\_date attribute provides the date when an activity ended.**
- value\_data\_type: [ASCII\\_Date\\_YMD](#)

- **stop\_date\_time**

steward: **ops**  
name space id: **ops:**  
class: **Data\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The stop\_date\_time attribute provides the date and time at the end of a time interval of interest.**
- value\_data\_type: [ASCII\\_Date\\_Time\\_YMD](#)
- minimum\_characters: **4**
- maximum\_characters: **30**

- **stop\_date\_time**

steward: **pds**  
name space id: **pds:**  
class: **Archive\_Bundle**  
version: **0.5.0.0.g**

- description: **The stop\_date\_time attribute provides the date and time at the end of a time interval of interest.**
- value\_data\_type: [ASCII\\_Date\\_Time\\_YMD](#)
- minimum\_characters: **4**
- maximum\_characters: **30**

- **stop\_date\_time**

steward: **pds**  
name space id: **pds:**  
class: **Observation\_Area**  
version: **0.5.0.0.g**

- description: **The stop\_date\_time attribute provides the date and time at the end of a time interval of interest.**
- value\_data\_type: [ASCII\\_Date\\_Time](#)

- **submitter\_id**

steward: **ops**  
name space id: **meta**  
class: **DD\_Attribute**  
version: **0.5.0.0.g**

- description: **The submitter\_id attribute provides the name of the author, who submits the item to the steward.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **submitter\_id**

steward: **ops**

name space id: **meta**  
class: **DD\_Attribute\_Full**  
version: **0.5.0.0.g**

- description: **The submitter\_id attribute provides the name of the author, who submits the item to the steward.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **supported\_architecture**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Binary**  
version: **0.5.0.0.g**

- description: **The supported architecture attribute identifies the hardware architecture that can process the software.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **supported\_architecture**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Source**  
version: **0.5.0.0.g**

- description: **The supported architecture attribute identifies the hardware architecture that can process the software.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **supported\_environment**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Script**  
version: **0.5.0.0.g**

- description: **The supported environment attribute identifies the environment that can process the software.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **supported\_os**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Binary**  
version: **0.5.0.0.g**

- description: **The supported OS attribute identifies the Operating System that supports the software.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **supported\_os**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Source**  
version: **0.5.0.0.g**

- description: **The supported OS attribute identifies the Operating System that supports the software.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **sw\_format\_type**

steward: **ops**  
name space id: **ops**:  
class: **Software\_Binary**  
version: **0.5.0.0.g**

- description: **The sw format type attribute classifies the format of the software.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **sw\_format\_type**

steward: **ops**  
name space id: **ops**:  
class: **Software\_Source**  
version: **0.5.0.0.g**

- description: **The sw format type attribute classifies the format of the software.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **system\_requirements**

steward: **ops**  
name space id: **ops**:  
class: **Software\_Format**  
version: **0.5.0.0.g**

- description: **The system requirements attribute identifies what is necessary to process the software.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **target\_desc**

steward: **ops**  
name space id: **ops**:  
class: **Target\_PDS3**  
version: **0.5.0.0.g**

- description: **The target\_desc attribute describes the characteristics of a particular target.**
- value\_data\_type: [ASCII\\_Text\\_Preserved](#)
- minimum\_characters: **1**
- maximum\_characters: **2147483647**

- **target\_name**

steward: **ops**  
name space id: **ops**:  
class: **Target\_PDS3**  
version: **0.5.0.0.g**

- description: **The target\_name attribute provides a name by which the target is formally known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **target\_name**

steward: **pds**  
name space id: **pds**:  
class: **Subject\_Area**  
version: **0.5.0.0.g**

- description: **The target\_name attribute provides a name by which the target is formally known.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**

- maximum\_characters: 255

- **target\_type**

steward: **ops**  
name space id: **ops**:  
class: **Target\_PDS3**  
version: **0.5.0.0.g**

- description: **The target\_type attribute identifies the type of a named target.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: 1
- maximum\_characters: 255

- **telemetry\_format\_id**

steward: **img**  
name space id: **img**:  
class: **Telemetry\_Parameters**  
version: **0.5.0.0.g**

- description: **The telemetry\_format\_id attribute supplies a telemetry format code.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: 1
- maximum\_characters: 4

- **telemetry\_provider\_id**

steward: **img**  
name space id: **img**:  
class: **Telemetry\_Parameters**  
version: **0.5.0.0.g**

- description: **The telemetry\_provider\_id attribute identifies the provider and or version of the telemetry data used in the generation of this data.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- maximum\_characters: 20

- **telemetry\_source\_name**

steward: **img**  
name space id: **img**:  
class: **Telemetry\_Parameters**  
version: **0.5.0.0.g**

- description: **The telemetry\_source\_name attribute identifies the telemetry source used in creation of a data set.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: 1
- maximum\_characters: 60

- **telemetry\_source\_type**

steward: **img**  
name space id: **img**:  
class: **Telemetry\_Parameters**  
version: **0.5.0.0.g**

- description: **The telemetry\_source\_type attribute classifies the source of the telemetry used in creation of this data collection.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed** - Enumerated
- unit\_of\_measure\_type: **UnitOfMeasure\_None**
- permissible values  
**SFDU**  
**DATA\_PRODUCT**

- **telephone\_number**

steward: **ops**  
name space id: **ops**:  
class: **PDS\_Affiliate**

version: **0.5.0.0.g**

- description: **The telephone\_number attribute provides a telephone number in international notation in compliance with the E.164 telephone number format recommendation.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **title**

steward: **pds**  
name space id: **pds:**  
class: **Identification\_Area**  
version: **0.5.0.0.g**

- description: **The name given to the resource. Typically, a Title will be a name by which the resource is formally known. - Dublin Core - The title is used to refer to an object in a version independent manner.**
- value\_data\_type: [UTF8\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **type**

steward: **pds**  
name space id: **pds:**  
class: **Identification\_Area**  
version: **0.5.0.0.g**

- description: **The type attribute provides a classification for the resource.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **type**

steward: **pds**  
name space id: **pds:**  
class: **Identification\_Area\_Collection**  
version: **0.5.0.0.g**

- description: **The type attribute provides a classification for the resource.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: **1**
- maximum\_characters: **255**
- permissible values  
**Browse**  
**Calibration**  
**Context**  
**Document**  
**Miscellaneous**  
**SPICE**  
**XML\_Schema**  
**Geometry**  
**Data**

- **type**

steward: **pds**  
name space id: **pds:**  
class: **Name\_Resolution**  
version: **0.5.0.0.g**

- description: **The type attribute provides a classification for the resource.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **type**

steward: **pds**  
name space id: **pds:**  
class: **Quaternion**  
version: **0.5.0.0.g**

- description: **The type attribute provides a classification for the resource.**

- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- permissible values  
**type1**  
**type2**

- **type**

steward: **pds**  
name space id: **pds**:  
class: **Vector**  
version: **0.5.0.0.g**

- description: **The type attribute provides a classification for the resource.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- permissible values  
**POSITION**  
**VELOCITY**

- **unit**

steward: **pds**  
name space id: **pds**:  
class: **Array\_Axis**  
version: **0.5.0.0.g**

- description: **The unit attribute provides the unit of measurement.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **unit**

steward: **pds**  
name space id: **pds**:  
class: **Array\_Element**  
version: **0.5.0.0.g**

- description: **The unit attribute provides the unit of measurement.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **unit**

steward: **pds**  
name space id: **pds**:  
class: **Delimited\_Field**  
version: **0.5.0.0.g**

- description: **The unit attribute provides the unit of measurement.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **unit**

steward: **pds**  
name space id: **pds**:  
class: **Quaternion\_Component**  
version: **0.5.0.0.g**

- description: **The unit attribute provides the unit of measurement.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **unit**

steward: **pds**  
name space id: **pds**:  
class: **Table\_Field\_Extended**  
version: **0.5.0.0.g**

- description: **The unit attribute provides the unit of measurement.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)

- **unit**

steward: **pds**  
name space id: **pds:**  
class: **Vector\_Component**  
version: **0.5.0.0.g**

- description: **The unit attribute provides the unit of measurement.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **unit\_of\_measure\_type**

steward: **ops**  
name space id: **meta**  
class: **DD\_Value\_Domain**  
version: **0.5.0.0.g**

- description: **The unit\_of\_measure\_type attribute provides the named grouping of units to be used for this attribute - for example UnitofMeasure\_Length and UnitofMeasure\_Time.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values  
**UnitOfMeasure\_AmountOfSubstance**  
**UnitOfMeasure\_Angle**  
**UnitOfMeasure\_AngularVelocity**  
**UnitOfMeasure\_Area**  
**UnitOfMeasure\_Frequency**  
**UnitOfMeasure\_Length**  
**UnitOfMeasure\_Mass**  
**UnitOfMeasure\_Misc**  
**UnitOfMeasure\_None**  
**UnitOfMeasure\_OpticalPathLength**  
**UnitOfMeasure\_Pressure**  
**UnitOfMeasure\_Radiance**  
**UnitOfMeasure\_Rates**  
**UnitOfMeasure\_MapScale**  
**UnitOfMeasure\_SolidAngle**  
**UnitOfMeasure\_Storage**  
**UnitOfMeasure\_Temperature**  
**UnitOfMeasure\_Time**  
**UnitOfMeasure\_Velocity**  
**UnitOfMeasure\_Voltage**  
**UnitOfMeasure\_Volume**

- **unknown\_constant**

steward: **pds**  
name space id: **pds:**  
class: **Special\_Constants**  
version: **0.5.0.0.g**

- description: **The unknown\_constant attribute provides a value that indicates the original value was unknown.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **url**

steward: **pds**  
name space id: **pds:**  
class: **Bibliographic\_Reference**  
version: **0.5.0.0.g**

- description: **The url attribute provides a Uniform Resource Identifier (URI) that specifies where a resource is available and the mechanism for retrieving it.**
- value\_data\_type: [ASCII\\_AnyURI](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **url**

steward: **pds**  
name space id: **pds:**  
class: **Resource**  
version: **0.5.0.0.g**

- description: **The url attribute provides a Uniform Resource Identifier (URI) that specifies where a resource is available and the mechanism for retrieving it.**
- value\_data\_type: **ASCII\_AnyURI**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **users\_manual\_identifier**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Desc**  
version: **0.5.0.0.g**

- description: **The users manual identifier attribute provides a formal name used to refer to a manual that describes how to use the software.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **value**

steward: **ops**  
name space id: **meta**  
class: **DD\_Permissible\_Value**  
version: **0.5.0.0.g**

- description: **The value attribute provides a single, allowed numerical or character string value.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **value**

steward: **pds**  
name space id: **meta**  
class: **Quaternion\_Component**  
version: **0.5.0.0.g**

- description: **The value attribute provides a single, allowed numerical or character string value.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **value**

steward: **pds**  
name space id: **meta**  
class: **Vector\_Component**  
version: **0.5.0.0.g**

- description: **The value attribute provides a single, allowed numerical or character string value.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

- **value\_begin\_date**

steward: **ops**  
name space id: **meta**  
class: **DD\_Permissible\_Value**  
version: **0.5.0.0.g**

- description: **The value\_begin\_date attribute provides the first date on which the permissible value is in effect.**

- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **value\_data\_type**

steward: **ops**  
name space id: **ops**  
class: **DD\_Value\_Domain**  
version: **0.5.0.0.g**

- description: **The value\_data\_type attribute provides the data type used to represent the value.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#) - Enumerated
- minimum\_characters: 1
- maximum\_characters: 255
- permissible values
  - ASCII\_Boolean\_TF**
  - ASCII\_Date\_YMD**
  - ASCII\_Integer**
  - ASCII\_Real**
  - ASCII\_AnyURI**
  - ASCII\_Date\_DOY**
  - ASCII\_Date\_Time\_UTC**
  - ASCII\_Date\_Time\_YMD**
  - ASCII\_LID**
  - ASCII\_LIDVID**
  - ASCII\_MD5\_Checksum**
  - ASCII\_Short\_String\_Collapsed**
  - ASCII\_Text\_Preserved**
  - ASCII\_Short\_String\_Preserved**
  - ASCII\_Time**
  - ASCII\_VID**
  - ASCII\_DOI**
  - ASCII\_Numeric\_Base2**
  - ASCII\_Numeric\_Base16**
  - ASCII\_NonNegative\_Integer**
  - ASCII\_File\_Specification\_Name**

- **value\_end\_date**

steward: **ops**  
name space id: **meta**  
class: **DD\_Permissible\_Value**  
version: **0.5.0.0.g**

- description: **The value\_end\_date attribute provides the last date on which the permissible value is in effect.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **value\_meaning**

steward: **ops**  
name space id: **meta**  
class: **DD\_Permissible\_Value**  
version: **0.5.0.0.g**

- description: **The value\_meaning attribute provides the meaning, or semantic content, of the associated permissible value.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **value\_offset**

steward: **pds**  
name space id: **pds**  
class: **Array\_Element**  
version: **0.5.0.0.g**

- description: **The value\_offset attribute is the offset to be applied to each stored value in order to recover an**

**original value. The observed value (Ov) is calculated from the stored value (Sv) thus:  $Ov = (Sv * scaling\_factor) + value\_offset$ .**

- value\_data\_type: [ASCII\\_Real](#)
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **value\_offset**

steward: **pds**  
name space id: **pds:**  
class: **Delimited\_Field**  
version: **0.5.0.0.g**

- description: **The value\_offset attribute is the offset to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus:  $Ov = (Sv * scaling\_factor) + value\_offset$ .**
- value\_data\_type: [ASCII\\_Real](#)

- **value\_offset**

steward: **pds**  
name space id: **pds:**  
class: **Table\_Field\_Extended**  
version: **0.5.0.0.g**

- description: **The value\_offset attribute is the offset to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus:  $Ov = (Sv * scaling\_factor) + value\_offset$ .**
- value\_data\_type: [ASCII\\_Real](#)
- minimum\_value: **-INF**
- maximum\_value: **INF**

- **vector\_components**

steward: **pds**  
name space id: **pds:**  
class: **Vector**  
version: **0.5.0.0.g**

- description: **The vector\_components attribute provides a count of vector components.**
- value\_data\_type: [ASCII\\_Integer](#)

- **version\_id**

steward: **ops**  
name space id: **ops:**  
class: **DD\_Attribute**  
version: **0.5.0.0.g**

- description: **The version\_id attribute provides the version of the product, expressed in the PDS [m.n] notation.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **version\_id**

steward: **ops**  
name space id: **ops:**  
class: **DD\_Attribute\_Full**  
version: **0.5.0.0.g**

- description: **The version\_id attribute provides the version of the product, expressed in the PDS [m.n] notation.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

- **version\_id**

steward: **ops**  
name space id: **ops:**

class: **DD\_Class**  
version: **0.5.0.0.g**

- description: **The version\_id attribute provides the version of the product, expressed in the PDS [m.n] notation.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **version\_id**

steward: **ops**  
name space id: **ops:**  
class: **Software\_Desc**  
version: **0.5.0.0.g**

- description: **The version\_id attribute provides the version of the product, expressed in the PDS [m.n] notation.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **version\_id**

steward: **pds**  
name space id: **pds:**  
class: **Identification\_Area**  
version: **0.5.0.0.g**

- description: **The version\_id attribute provides the version of the product, expressed in the PDS [m.n] notation.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**
- pattern: **([-\_a-zA-Z0-9]\*)**

• **version\_id**

steward: **pds**  
name space id: **pds:**  
class: **Instrument**  
version: **0.5.0.0.g**

- description: **The version\_id attribute provides the version of the product, expressed in the PDS [m.n] notation.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **version\_id**

steward: **pds**  
name space id: **pds:**  
class: **Instrument\_Host**  
version: **0.5.0.0.g**

- description: **The version\_id attribute provides the version of the product, expressed in the PDS [m.n] notation.**
- value\_data\_type: **ASCII\_Short\_String\_Collapsed**
- minimum\_characters: **1**
- maximum\_characters: **255**

• **volumes**

steward: **ops**  
name space id: **ops:**  
class: **Volume\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The volumes element provides the number of physical data volumes contained in a volume set.**
- value\_data\_type: **ASCII\_Integer**
- minimum\_value: **0**
- maximum\_value: **2147483647**

• **volume\_de\_fullname**

steward: **ops**  
name space id: **ops**:  
class: **Volume\_PDS3**  
version: **0.5.0.0.g**

- description: **The volume\_de\_fullname attribute provide the full name of the data engineer.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

#### • **volume\_format**

steward: **ops**  
name space id: **ops**:  
class: **Volume\_PDS3**  
version: **0.5.0.0.g**

- description: **The volume\_format attribute identifies the logical format used in writing a data volume.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

#### • **volume\_id**

steward: **ops**  
name space id: **ops**:  
class: **Volume\_PDS3**  
version: **0.5.0.0.g**

- description: **The volume\_id attribute provides a unique identifier for a data volume. Example: MG\_1001.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

#### • **volume\_name**

steward: **ops**  
name space id: **ops**:  
class: **Volume\_PDS3**  
version: **0.5.0.0.g**

- description: **The volume\_name attribute contains the name of a data volume.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

#### • **volume\_series\_name**

steward: **ops**  
name space id: **ops**:  
class: **Volume\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The volume\_series\_name element provides a full, formal name that describes a broad categorization of data products or data sets related to a planetary body or a research campaign (e.g. International Halley Watch). A volume series consists of one or more volume sets that represent data from one or more missions or campaigns.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: **1**
- maximum\_characters: **255**

#### • **volume\_set\_id**

steward: **ops**  
name space id: **ops**:  
class: **Volume\_PDS3**  
version: **0.5.0.0.g**

- description: **The volume\_set\_id attribute identifies a data volume or a set of volumes. Volume sets are normally considered as a single orderable entity. Examples: USA\_NASA\_PDS\_MG\_1001,**

- **USA\_NASA\_PDS\_GR\_0001\_TO\_GR\_0009**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **volume\_set\_id**

steward: **ops**  
name space id: **ops**:  
class: **Volume\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The volume\_set\_id attribute identifies a data volume or a set of volumes. Volume sets are normally considered as a single orderable entity. Examples: USA\_NASA\_PDS\_MG\_1001, USA\_NASA\_PDS\_GR\_0001\_TO\_GR\_0009**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **volume\_set\_name**

steward: **ops**  
name space id: **ops**:  
class: **Volume\_Set\_PDS3**  
version: **0.5.0.0.g**

- description: **The volume\_set\_name element provides the full, formal name of one or more data volumes containing a single data set or a collection of related data sets. Volume sets are normally considered as a single orderable entity.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **volume\_size**

steward: **ops**  
name space id: **ops**:  
class: **Volume\_PDS3**  
version: **0.5.0.0.g**

- description: **The volume\_size attribute provide the number of bytes in the volume.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **volume\_version\_id**

steward: **ops**  
name space id: **ops**:  
class: **Volume\_PDS3**  
version: **0.5.0.0.g**

- description: **The volume\_version\_id attribute identifies the version of a data volume. All original volumes should use a volume\_version\_id of 'Version 1'.**
- value\_data\_type: [ASCII\\_Short\\_String\\_Collapsed](#)
- minimum\_characters: 1
- maximum\_characters: 255

- **CD\_BOOLEAN**

version\_identifier: **0.5.0.0.g**  
definition: **The values true and false, such that true is not equal to false. - ISO/IEC 11404**

- **CD\_CHARACTER**

version\_identifier: **0.5.0.0.g**  
definition: **The value space of a character datatype comprises exactly the members of the character-sets identified by the repertoire-list. - ISO/IEC 11404**

- **CD\_COMPLEX**

version\_identifier: 0.5.0.0.g

definition: **The value space of the mathematical complex type is the field which is the solution space of all polynomial equations having real coefficients. The value space of a computational complex datatype shall be a subset of the mathematical complex type, characterized by two parametric values, radix and factor, which, taken together, describe the precision to which values of the datatype are distinguishable. - ISO/IEC 11404**

- **CD\_ENUMERATED**

version\_identifier: 0.5.0.0.g

definition: **The value space of an enumerated datatype is the set comprising exactly the named values in the enumerated-value-list, each of which is designated by a unique enumerated-literal. The order of these values is given by the sequence of their occurrence in the enumerated-value-list, which shall be referred to as the naming sequence of the enumerated datatype. - ISO/IEC 11404**

- **CD\_INTEGER**

version\_identifier: 0.5.0.0.g

definition: **Mathematically, the infinite ring produced from the additive identity (0) and the multiplicative identity (1) by requiring  $0 = 1$  and  $\text{Add}(x,1) = y$  for any  $y = x$ . That is: ..., -2, -1, 0, 1, 2, ... (a denumerably infinite list). - ISO/IEC 11404**

- **CD\_OCTET**

version\_identifier: 0.5.0.0.g

definition: **Each value of datatype octet is a code, represented by a non-negative integer value in the range [0, 255]. - ISO/IEC 11404**

- **CD\_REAL**

version\_identifier: 0.5.0.0.g

definition: **The value space of the mathematical real type comprises all values which are the limits of convergent sequences of rational numbers. The value space of a computational real datatype shall be a subset of the mathematical real type. - ISO/IEC 11404**

- **CD\_SCALED**

version\_identifier: 0.5.0.0.g

definition: **The value space of a scaled datatype is that set of values of the rational datatype which are expressible as a value of datatype Integer divided by radix raised to the power factor. - ISO/IEC 11404**

- **CD\_TIME**

version\_identifier: 0.5.0.0.g

definition: **The value-space of a date-and-time datatype is the denumerably infinite set of all possible points in time with the resolution (time-unit, radix, factor). The time-literal denotes the date-and-time value specified by the characterstring as interpreted under ISO 8601. - ISO/IEC 11404**

- **CD\_TIME\_INTERVAL**

version\_identifier: 0.5.0.0.g

definition: **All values which are integral multiples of one radix ^ (-factor) unit of the specified timeunit. - ISO/IEC 11404**

- **CD\_VOID**

version\_identifier: 0.5.0.0.g

definition: **Conceptually, the value space of the void datatype is empty, but a single nominal value is necessary to perform the "presence required" function. - ISO/IEC 11404**

- **DEC\_COUNT**

version\_identifier: 0.5.0.0.g

definition: **A numeric value indicating a current total or tally.**

- **DEC\_DATE**

version\_identifier: 0.5.0.0.g

definition: **A representation of time in which the smallest unit of measure is a day.**

- **DEC\_DATE\_TIME**

version\_identifier: **0.5.0.0.g**

definition: **A value that measures the point of occurrence of an event expressed in date and time in a standard form.**

- **DEC\_DESCRIPTION**

version\_identifier: **0.5.0.0.g**

definition: **A free-form, unlimited-length character string that provides a description of the item identified.**

- **DEC\_DIRECTION**

version\_identifier: **0.5.0.0.g**

definition: **TBD**

- **DEC\_FLAG**

version\_identifier: **0.5.0.0.g**

definition: **A boolean condition indicator, limited to two states.**

- **DEC\_FORMAT**

version\_identifier: **0.5.0.0.g**

definition: **A specified or predetermined arrangement of data within a file or on a storage medium.**

- **DEC\_GROUP**

version\_identifier: **0.5.0.0.g**

definition: **Names a collection or aggregation of elements. Example: ALT FLAG GROUP**

- **DEC\_GUID**

version\_identifier: **0.5.0.0.g**

definition: **A globally unique, immutable, and opaque product identifier.**

- **DEC\_ID**

version\_identifier: **0.5.0.0.g**

definition: **A shorthand alphanumeric identifier.**

- **DEC\_IDENTIFIER**

version\_identifier: **0.5.0.0.g**

definition: **A shorthand alphanumeric identifier.**

- **DEC\_LOCAL\_IDENTIFIER**

version\_identifier: **0.5.0.0.g**

definition: **An identifier unique within a product label. When appended to the LID, it provides a global identifier for a component of a product.**

- **DEC\_LOGICAL\_IDENTIFIER**

version\_identifier: **0.5.0.0.g**

definition: **A unique product identifier without the version. It identifies the set of all versions of a product.**

- **DEC\_MASK**

version\_identifier: **0.5.0.0.g**

definition: **An unsigned numeric value representing the bit positions within a value.**

- **DEC\_NAME**

version\_identifier: **0.5.0.0.g**

definition: **A literal value representing the common term used to identify an element.**

- **DEC\_NOTE**

version\_identifier: **0.5.0.0.g**

definition: **A textual expression of opinion, an observation, or a criticism; a remark.**

- **DEC\_NUMBER**

version\_identifier: **0.5.0.0.g**

definition: **A quantity.**

- **DEC\_QUATERNION**

version\_identifier: **0.5.0.0.g**

definition: **TBD**

- **DEC\_RATIO**

version\_identifier: **0.5.0.0.g**

definition: **The relation between two quantities with respect to the number of times the first contains the second.**

- **DEC\_SEQUENCE**

version\_identifier: **0.5.0.0.g**

definition: **1) an arrangement of items in accordance with some criterion that defines their spacewise or timewise succession; 2) an orderly progression of items or operations in accordance with some rule, such as alphabetical or numerical order.**

- **DEC\_SET**

version\_identifier: **0.5.0.0.g**

definition: **A collection of items having some feature in common or which bear a certain relation to one another, e.g. all even numbers.**

- **DEC\_SUMMARY**

version\_identifier: **0.5.0.0.g**

definition: **An abridged description.**

- **DEC\_TEXT**

version\_identifier: **0.5.0.0.g**

definition: **A free-form, unlimited length character string.**

- **DEC\_TYPE**

version\_identifier: **0.5.0.0.g**

definition: **A literal that indicates membership in a predefined class.**

- **DEC\_UNIT**

version\_identifier: **0.5.0.0.g**

definition: **A determinate quantity adopted as a standard of measurement.**

- **DEC\_VALUE**

version\_identifier: **0.5.0.0.g**

definition: **The default class word for data element names not terminated with a class word.**

- **DEC\_VECTOR**

version\_identifier: **0.5.0.0.g**

definition: **A quantity that has both length and direction which are independent of both the units and of the coordinate system in which each are measured. The vector direction is uniquely defined in terms of an ordered set of components with respect to the particular coordinate system for which those components have been defined.**

- **AdministrationRecord**

identifier: **DD\_0.5.0.0.g**  
administrative\_note: Test load from PDS4 Master Model  
administrative\_status: Final  
change\_description: \*In development.  
creation\_date: **2009-10-10**  
effective\_date: **2009-10-10**  
last\_change\_date: **2009-10-10**  
origin: **Planetary Data System**  
registration\_status: **Preferred**  
unresolved\_issue: **Issues still being determined.**  
until\_date: **2019-12-31**  
label: **DD\_0.5.0.0.g**  
explanatory\_comment: This is a test load of a ISO/IEC 11179 Data Dictionary from the PDS4 master model.

- **Steward**

identifier: **Steward\_PDS**  
label: **Steward\_PDS**  
contact: **Elizabeth\_Rye**  
organization: **RA\_0001\_NASA\_PDS\_1**

- **Submitter**

identifier: **Submitter\_PDS**  
label: **Submitter\_PDS**  
contact: **Elizabeth\_Rye**  
organization: **RA\_0001\_NASA\_PDS\_1**

- **RegistrationAuthority**

Identifier: **RA\_0001\_NASA\_PDS\_1**  
organization\_mailing\_address: **4800 Oak Grove Drive, Pasadena, CA 91109**  
organization\_name: **NASA Planetary Data System**  
label: **RA\_0001\_NASA\_PDS\_1**  
documentation\_language\_identifier: **LI\_English**  
language\_used: **LI\_English**  
registrar: **PDS\_Registrar**  
registration\_authority\_identifier: **0001\_NASA\_PDS\_1**

## 9. PDS4 Data Type Definitions Fri Oct 28 10:17:55 PDT 2011

Generated from the PDS4 Information Model Version 0.5.0.0.g

- **Data Type:ASCII\_AnyURI**

description: **The ASCII\_AnyURI class indicates a URI or its subclasses URN and URL.**  
minimum\_characters: **1**  
maximum\_characters: **255**  
xml\_schema\_base\_type: **xsd:anyURI**  
enumeration\_flag: **F**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Boolean**

description: **The ASCII\_Boolean class indicates a boolean.**  
xml\_schema\_base\_type: **xsd:boolean**  
enumeration\_flag: **F**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Boolean\_TF**

description: **The ASCII\_Boolean\_TF class indicates a boolean with a permissible value of either T or F.**  
minimum\_characters: **1**  
maximum\_characters: **1**  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **T**  
character\_constraint: **ASCII**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_DOI**

description: **The ASCII\_DOI class indicates a digital object identifier (DOI).**  
minimum\_characters: **1**  
maximum\_characters: **255**  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
formation\_rule: **nn.nnnn/nnn**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Date**

description: **The ASCII\_Date class indicates a date in either YMD or DOY format.**  
minimum\_characters: **1**  
maximum\_characters: **10**  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
formation\_rule: **yyyy-mm-dd/yyyy-doy**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Date\_DOY**

description: **The ASCII\_Date\_DOY class indicates a date in DOY format.**  
minimum\_characters: **4**  
maximum\_characters: **8**  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
formation\_rule: **yyyy-doy**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Date\_Time**

description: **The ASCII\_Date\_Time class indicates a date in either YMD or DOY format and time.**  
minimum\_characters: **4**  
maximum\_characters: **255**  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
formation\_rule: **yyyy-mm-ddThh:mm:ss.sss/yyyy-doyThh:mm:ss.sss**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Date\_Time\_DOY**

description: **The ASCII\_Date\_Time\_DOY class indicates a date in DOY format and time.**  
minimum\_characters: **4**  
maximum\_characters: **30**  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
formation\_rule: **yyyy-doyThh:mm:ss.sss**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Date\_Time\_UTC**

description: **The ASCII\_Date\_Time\_UTC class indicates a date and time in UTC format.**  
minimum\_characters: **4**  
maximum\_characters: **30**  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
formation\_rule: **yyyy-mm-ddThh:mm:ss.sssZ**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Date\_Time\_YMD**

description: **The ASCII\_Date\_Time\_YMD class indicates a date in YMD format and time.**

minimum\_characters: 4  
maximum\_characters: 30  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: F  
character\_constraint: **ASCII**  
formation\_rule: **yyyy-mm-ddThh:mm:ss.sss**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Date\_YMD**

description: **The ASCII\_Date\_YMD class indicates a date in YMD format.**  
minimum\_characters: 4  
maximum\_characters: 10  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: F  
character\_constraint: **ASCII**  
formation\_rule: **yyyy-mm-dd**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Directory\_Path\_Name**

description: **The ASCII Directory Path Name class indicates a system directory path.**  
minimum\_characters: 1  
maximum\_characters: 255  
xml\_schema\_base\_type: **xsd:token**  
enumeration\_flag: F  
character\_constraint: **ASCII**  
formation\_rule: **dir1/dir2/**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_File\_Name**

description: **The ASCII File Name class indicates a system file name.**  
minimum\_characters: 1  
maximum\_characters: 255  
xml\_schema\_base\_type: **xsd:token**  
enumeration\_flag: F  
character\_constraint: **ASCII**  
formation\_rule: **file\_name.file\_extension**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_File\_Specification\_Name**

description: **The ASCII File Specification Name class indicates a system file including directory path, file name, and file extension.**  
minimum\_characters: 1  
maximum\_characters: 255  
xml\_schema\_base\_type: **xsd:token**  
enumeration\_flag: F  
character\_constraint: **ASCII**  
formation\_rule: **dir1/dir2/file\_name.file\_extension**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Identifier**

description: **The ASCII\_Identifier class indicates a identifier.**  
minimum\_characters: 1  
maximum\_characters: 100  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: F  
character\_constraint: **ASCII**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Integer**

description: **The ASCII\_Integer class indicates an integer.**  
maximum\_value: **2147483647**  
xml\_schema\_base\_type: **xsd:integer**  
enumeration\_flag: F

minimum\_value: -2147483648  
character\_encoding: UTF-8

- **Data Type:ASCII\_LID**

description: **The ASCII\_LID class indicates a logical identifier.**  
minimum\_characters: 14  
maximum\_characters: 255  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
formation\_rule: **urn:nasa:pds:xxxx**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_LIDVID**

description: **The ASCII\_LIDVID class indicates a logical identifier and version identifier.**  
minimum\_characters: 19  
maximum\_characters: 255  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
formation\_rule: **urn:nasa:pds:xxxx::M.n**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_MD5\_Checksum**

description: **The ASCII MD5 Checksum class indicates a checksum computed by the Message-Digest algorithm 5 (MD5).**  
minimum\_characters: 32  
maximum\_characters: 32  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
formation\_rule: **0123456789abcdef**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_NonNegative\_Integer**

description: **The ASCII\_NonNegative\_Integer class indicates a non-negative integer.**  
maximum\_value: **4294967295**  
xml\_schema\_base\_type: **xsd:integer**  
enumeration\_flag: **F**  
minimum\_value: **0**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Numeric\_Base16**

description: **The ASCII Numeric Base16 class indicates a ASCII encoded string constrained to hexadecimal digits.**  
minimum\_characters: 1  
maximum\_characters: 255  
xml\_schema\_base\_type: **xsd:hexBinary**  
enumeration\_flag: **F**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Numeric\_Base2**

description: **The ASCII Numeric Base2 class indicates a ASCII encoded string constrained to binary digits.**  
minimum\_characters: 1  
maximum\_characters: 255  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Numeric\_Base8**

description: **The ASCII Numeric Base8 class indicates a ASCII encoded string constrained to octal digits.**  
minimum\_characters: 1  
maximum\_characters: 255

xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Real**

description: **The ASCII\_Real class indicates a real.**  
maximum\_value: **INF**  
xml\_schema\_base\_type: **xsd:double**  
enumeration\_flag: **F**  
minimum\_value: **-INF**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Short\_String\_Collapsed**

description: **The ASCII\_Short\_String\_Collapsed class indicates a limited length, whitespace-collapsed string.**  
minimum\_characters: **1**  
maximum\_characters: **255**  
xml\_schema\_base\_type: **xsd:token**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Short\_String\_Preserved**

description: **The ASCII\_Short\_String\_Preserved class indicates a limited length, whitespace-preserved string.**  
minimum\_characters: **1**  
maximum\_characters: **255**  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Text\_Collapsed**

description: **The ASCII\_Text\_Collapsed class indicates an unlimited length, whitespace-collapsed text string.**  
minimum\_characters: **1**  
maximum\_characters: **2147483647**  
xml\_schema\_base\_type: **xsd:token**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Text\_Preserved**

description: **The ASCII\_Text\_Preserved class indicates an unlimited length, whitespace-preserved text string.**  
minimum\_characters: **1**  
maximum\_characters: **2147483647**  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_Time**

description: **The ASCII\_Time class indicates a time value.**  
minimum\_characters: **1**  
maximum\_characters: **20**  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: **F**  
character\_constraint: **ASCII**  
formation\_rule: **\*hh:mm:ss.sss \***  
character\_encoding: **UTF-8**

- **Data Type:ASCII\_VID**

description: **The ASCII\_VID class indicates a version identifier.**  
minimum\_characters: **3**

maximum\_characters: 100  
xml\_schema\_base\_type: xsd:string  
enumeration\_flag: F  
character\_constraint: ASCII  
formation\_rule: M.m  
character\_encoding: UTF-8

- **Data Type:Bit**

description: A single binary digit.  
enumeration\_flag: TRUE

- **Data Type:ComplexLSB16**

description: Complex number consisting of two LSB 8 byte decimal reals.  
enumeration\_flag: FALSE

- **Data Type:ComplexLSB8**

description: Complex number consisting of two LSB 4 byte decimal reals.  
enumeration\_flag: FALSE

- **Data Type:ComplexMSB16**

description: Complex number consisting of two MSB 8 byte decimal reals.  
enumeration\_flag: FALSE

- **Data Type:ComplexMSB8**

description: Complex number consisting of two MSB 4 byte decimal reals.  
enumeration\_flag: FALSE

- **Data Type:Float3Vector**

description: The Float3Vector data type class is a prototype of Anne's simple demo schema for float3vector.  
xml\_schema\_base\_type: xsd:token  
enumeration\_flag: F  
character\_encoding: UTF-8

- **Data Type:IEEE754LSBDouble**

description: IEEE 754 LSB double precision floating point  
enumeration\_flag: FALSE

- **Data Type:IEEE754LSBSingle**

description: IEEE 754 LSB single precision floating point  
enumeration\_flag: FALSE

- **Data Type:IEEE754MSBDouble**

description: IEEE 754 MSB double precision floating point  
enumeration\_flag: FALSE

- **Data Type:IEEE754MSBSingle**

description: IEEE 754 MSB single precision floating point  
enumeration\_flag: FALSE

- **Data Type:SignedByte**

description: Signed 8-bit byte  
enumeration\_flag: FALSE

- **Data Type:SignedLSB2**

description: Signed 2's-complement LSB 2-byte integer

enumeration\_flag: FALSE

- **Data Type:SignedLSB4**

description: **Signed 2's-complement LSB 4-byte integer**  
enumeration\_flag: FALSE

- **Data Type:SignedLSB8**

description: **Signed 2's-complement LSB 8-byte integer**  
enumeration\_flag: FALSE

- **Data Type:SignedMSB2**

description: **Signed 2's-complement MSB 2-byte integer**  
enumeration\_flag: FALSE

- **Data Type:SignedMSB4**

description: **Signed 2's-complement MSB 4-byte integer**  
enumeration\_flag: FALSE

- **Data Type:SignedMSB8**

description: **Signed 2's-complement MSB 8-byte integer**  
enumeration\_flag: FALSE

- **Data Type:UTF8\_Short\_String\_Collapsed**

description: **The UTF8\_Short\_String\_Collapsed class indicates a limited length, whitespace-collapsed string constrained to the UTF-8 character encoding.**  
minimum\_characters: 1  
maximum\_characters: 255  
xml\_schema\_base\_type: **xsd:token**  
enumeration\_flag: F  
character\_encoding: **UTF-8**

- **Data Type:UTF8\_Short\_String\_Preserved**

description: **The UTF8\_Short\_String\_Preserved class indicates a limited length, whitespace-preserved string constrained to the UTF-8 character encoding.**  
minimum\_characters: 1  
maximum\_characters: 255  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: F  
character\_encoding: **UTF-8**

- **Data Type:UTF8\_Text\_Preserved**

description: **The UTF8\_Text\_Preserved class indicates an unlimited length, whitespace-preserved text string constrained to the UTF-8 character encoding.**  
minimum\_characters: 1  
maximum\_characters: 2147483647  
xml\_schema\_base\_type: **xsd:string**  
enumeration\_flag: F  
character\_encoding: **UTF-8**

- **Data Type:UnsignedByte**

description: **Unsigned 8-bit byte**  
enumeration\_flag: FALSE

- **Data Type:UnsignedLSB2**

description: **Unsigned 2's-complement LSB 2-byte integer**  
enumeration\_flag: FALSE

- **Data Type:UnsignedLSB4**

description: **Unsigned 2's-complement LSB 4-byte integer**  
enumeration\_flag: **FALSE**

- **Data Type:UnsignedLSB8**

description: **Unsigned 2's-complement LSB 8-byte integer**  
enumeration\_flag: **FALSE**

- **Data Type:UnsignedMSB2**

description: **Unsigned 2's-complement MSB 2-byte integer**  
enumeration\_flag: **FALSE**

- **Data Type:UnsignedMSB4**

description: **Unsigned 2's-complement MSB 4-byte integer**  
enumeration\_flag: **FALSE**

- **Data Type:UnsignedMSB8**

description: **Unsigned 2's-complement MSB 8-byte integer**  
enumeration\_flag: **FALSE**

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- external\_standard\_id** - **external\_standard\_id** in pds:Delimited\_Table, **external\_standard\_id** in pds:Delimited\_Table\_Grouped, **external\_standard\_id** in pds:Document\_File, **external\_standard\_id** in pds:Encoded\_Binary, **external\_standard\_id** in pds:Encoded\_Byte\_Stream, **external\_standard\_id** in pds:Encoded\_Image, **external\_standard\_id** in pds:File\_PDF, **external\_standard\_id** in pds:Header, **external\_standard\_id** in pds:Header\_Binary, **external\_standard\_id** in pds:Parseable\_Byte\_Stream, **external\_standard\_id** in pds:Service\_Description, **external\_standard\_id** in pds:SPICE\_Kernel\_Binary, **external\_standard\_id** in pds:SPICE\_Kernel\_Text, **external\_standard\_id** in pds:XML\_Schema
- fields** - **fields** in pds:Delimited\_Table, **fields** in pds:Delimited\_Table\_Grouped, **fields** in pds:Inventory\_LIDVID\_Primary, **fields** in pds:Inventory\_LIDVID\_Secondary, **fields** in pds:Inventory\_LID\_Secondary, **fields** in ops:Manifest, **fields** in pds:Table\_Base
- field\_delimiter** - **field\_delimiter** in pds:Delimited\_Table, **field\_delimiter** in pds:Delimited\_Table\_Grouped
- field\_format** - **field\_format** in pds:Table\_Field
- field\_length** - **field\_length** in pds:Table\_Field
- field\_location** - **field\_location** in pds:Table\_Field\_Checksum, **field\_location** in pds:Table\_Field\_Extended, **field\_location** in pds:Table\_Field\_File\_Specification\_Name, **field\_location** in pds:Table\_Field\_LID, **field\_location** in pds:Table\_Field\_LIDVID
- field\_number** - **field\_number** in pds:Table\_Field, **field\_number** in pds:Table\_Field\_File\_Specification\_Name, **field\_number** in pds:Table\_Field\_LID, **field\_number** in pds:Table\_Field\_LIDVID
- files** - **files** in ops:Software\_Format
- file\_name** - **file\_name** in pds:File
- file\_size** - **file\_size** in pds:File
- file\_specification\_name** - **file\_specification\_name** in pds:Bundle\_Member\_Entry, **file\_specification\_name** in pds:Zipped\_Member\_Entry
- first\_line** - **first\_line** in pds:Image\_2D\_Display
- first\_line\_sample** - **first\_line\_sample** in pds:Image\_2D\_Display
- first\_sampling\_parameter\_value** - **first\_sampling\_parameter\_value** in pds:Uniformly\_Sampled
- formation\_rule** - **formation\_rule** in ops:DD\_Value\_Domain, **formation\_rule** in pds:ASCII\_Date, **formation\_rule** in pds:ASCII\_Date\_DOY, **formation\_rule** in pds:ASCII\_Date\_Time, **formation\_rule** in pds:ASCII\_Date\_Time\_DOY,

- formation\_rule** in pds:ASCII\_Date\_Time\_UTC, **formation\_rule** in pds:ASCII\_Date\_Time\_YMD, **formation\_rule** in pds:ASCII\_Date\_YMD, **formation\_rule** in pds:ASCII\_Directory\_Path\_Name, **formation\_rule** in pds:ASCII\_DOI, **formation\_rule** in pds:ASCII\_File\_Name, **formation\_rule** in pds:ASCII\_File\_Specification\_Name, **formation\_rule** in pds:ASCII\_LID, **formation\_rule** in pds:ASCII\_LIDVID, **formation\_rule** in pds:ASCII\_MD5\_Checksum, **formation\_rule** in pds:ASCII\_Time, **formation\_rule** in pds:ASCII\_VID, **formation\_rule** in pds:Character\_Data\_Type
- format\_type** - **format\_type** in pds:Document\_Format
- full\_name** - **full\_name** in ops:Local\_DD, **full\_name** in pds:Subject\_Area, **full\_name** in pds:Update\_Entry
- home** - **home** in pds:Identification\_Area\_System
- incidence\_angle** - **incidence\_angle** in rings:Rings\_Prod\_Info
- install\_notes** - **install\_notes** in ops:Software\_Script
- institution\_name** - **institution\_name** in ops:Node, **institution\_name** in ops:PDS\_Affiliate
- instrument\_desc** - **instrument\_desc** in ops:Instrument\_PDS3
- instrument\_host\_desc** - **instrument\_host\_desc** in ops:Instrument\_Host\_PDS3
- instrument\_host\_id** - **instrument\_host\_id** in ops:Instrument\_Host\_PDS3
- instrument\_host\_name** - **instrument\_host\_name** in ops:Instrument\_Host\_PDS3, **instrument\_host\_name** in pds:Subject\_Area
- instrument\_host\_type** - **instrument\_host\_type** in ops:Instrument\_Host\_PDS3
- instrument\_id** - **instrument\_id** in ops:Instrument\_PDS3
- instrument\_name** - **instrument\_name** in ops:Instrument\_PDS3, **instrument\_name** in pds:Subject\_Area
- instrument\_serial\_number** - **instrument\_serial\_number** in ops:Instrument\_PDS3
- instrument\_type** - **instrument\_type** in ops:Instrument\_PDS3
- instrument\_version\_id** - **instrument\_version\_id** in ops:Instrument\_PDS3
- invalid\_constant** - **invalid\_constant** in pds:Special\_Constants
- investigation\_name** - **investigation\_name** in pds:Subject\_Area
- kernel\_type** - **kernel\_type** in pds:SPICE\_Kernel\_Binary, **kernel\_type** in pds:SPICE\_Kernel\_Text
- keywords** - **keywords** in pds:Subject\_Area
- language** - **language** in ops:Terminological\_Entry
- last\_modification\_date\_time** - **last\_modification\_date\_time** in ops:Local\_DD, **last\_modification\_date\_time** in pds:Identification\_Area
- last\_sampling\_parameter\_value** - **last\_sampling\_parameter\_value** in pds:Uniformly\_Sampled
- lidvid\_reference** - **lidvid\_reference** in pds:Reference\_Entry\_Generic, **lidvid\_reference** in pds:Zipped\_Member\_Entry
- lid\_reference** - **lid\_reference** in pds:Name\_Resolution, **lid\_reference** in pds:Reference\_Entry\_Generic
- line\_display\_direction** - **line\_display\_direction** in pds:Image\_2D\_Display
- local\_identifier** - **local\_identifier** in ops:DD\_Association, **local\_identifier** in ops:DD\_Attribute, **local\_identifier** in ops:DD\_Class, **local\_identifier** in ops:Local\_DD, **local\_identifier** in pds:Array\_Base, **local\_identifier** in pds:Encoded\_Byte\_Stream, **local\_identifier** in pds:Field\_Statistics, **local\_identifier** in pds:File, **local\_identifier** in pds:Geometry, **local\_identifier** in pds:Object\_Statistics, **local\_identifier** in pds:Observing\_System, **local\_identifier** in pds:Parsable\_Byte\_Stream, **local\_identifier** in pds:Quaternion, **local\_identifier** in pds:Reference, **local\_identifier** in pds:Table\_Base, **local\_identifier** in pds:Update, **local\_identifier** in pds:Vector
- local\_mean\_solar\_time** - **local\_mean\_solar\_time** in pds:Observation\_Area
- local\_true\_solar\_time** - **local\_true\_solar\_time** in pds:Observation\_Area
- logical\_identifier** - **logical\_identifier** in pds:Identification\_Area
- maximum** - **maximum** in pds:Field\_Statistics, **maximum** in pds:Object\_Statistics
- maximum\_characters** - **maximum\_characters** in ops:DD\_Value\_Domain, **maximum\_characters** in pds:ASCII\_AnyURI, **maximum\_characters** in pds:ASCII\_Boolean\_TF, **maximum\_characters** in pds:ASCII\_Date, **maximum\_characters** in pds:ASCII\_Date\_DOY, **maximum\_characters** in pds:ASCII\_Date\_Time\_UTC, **maximum\_characters** in pds:ASCII\_Date\_Time\_YMD, **maximum\_characters** in pds:ASCII\_Date\_YMD, **maximum\_characters** in pds:ASCII\_Directory\_Path\_Name, **maximum\_characters** in pds:ASCII\_DOI, **maximum\_characters** in pds:ASCII\_File\_Name, **maximum\_characters** in pds:ASCII\_File\_Specification\_Name, **maximum\_characters** in pds:ASCII\_Identifier, **maximum\_characters** in pds:ASCII\_Integer, **maximum\_characters** in pds:ASCII\_LID, **maximum\_characters** in pds:ASCII\_LIDVID, **maximum\_characters** in pds:ASCII\_MD5\_Checksum, **maximum\_characters** in pds:ASCII\_NonNegative\_Integer, **maximum\_characters** in pds:ASCII\_Numeric\_Base16, **maximum\_characters** in pds:ASCII\_Numeric\_Base2, **maximum\_characters** in pds:ASCII\_Numeric\_Base8, **maximum\_characters** in pds:ASCII\_Real, **maximum\_characters** in pds:ASCII\_Short\_String\_Collapsed, **maximum\_characters** in pds:ASCII\_Short\_String\_Preserved, **maximum\_characters** in pds:ASCII\_Text\_Collapsed, **maximum\_characters** in pds:ASCII\_Text\_Preserved, **maximum\_characters** in pds:ASCII\_Time, **maximum\_characters** in pds:ASCII\_VID, **maximum\_characters** in pds:Character\_Data\_Type, **maximum\_characters** in pds:UTF8\_Short\_String\_Collapsed, **maximum\_characters** in pds:UTF8\_Short\_String\_Preserved, **maximum\_characters** in pds:UTF8\_Text\_Preserved
- maximum\_occurrences** - **maximum\_occurrences** in ops:DD\_Association
- maximum\_record\_bytes** - **maximum\_record\_bytes** in pds:File
- maximum\_record\_length** - **maximum\_record\_length** in pds:Delimited\_Table, **maximum\_record\_length** in pds:Delimited\_Table\_Grouped
- maximum\_ring\_radius** - **maximum\_ring\_radius** in rings:Rings\_Prod\_Info
- maximum\_scaled\_value** - **maximum\_scaled\_value** in pds:Delimited\_Field, **maximum\_scaled\_value** in pds:Table\_Field\_Extended
- maximum\_value** - **maximum\_value** in ops:DD\_Value\_Domain, **maximum\_value** in pds:ASCII\_Date\_Time, **maximum\_value** in pds:ASCII\_Date\_Time\_DOY, **maximum\_value** in pds:ASCII\_Date\_Time\_UTC, **maximum\_value** in

- pds:ASCII\_Date\_Time\_YMD, **maximum\_value** in pds:ASCII\_Identifier, **maximum\_value** in pds:ASCII\_Integer, **maximum\_value** in pds:ASCII\_LID, **maximum\_value** in pds:ASCII\_NonNegative\_Integer, **maximum\_value** in pds:ASCII\_Numeric\_Base16, **maximum\_value** in pds:ASCII\_Numeric\_Base2, **maximum\_value** in pds:ASCII\_Real, **maximum\_value** in pds:ASCII\_Short\_String\_Collapsed, **maximum\_value** in pds:ASCII\_Short\_String\_Preserved, **maximum\_value** in pds:ASCII\_Text\_Preserved, **maximum\_value** in pds:ASCII\_Time, **maximum\_value** in pds:ASCII\_VID, **maximum\_value** in pds:Character\_Data\_Type, **maximum\_value** in pds:UTF8\_Short\_String\_Collapsed, **maximum\_value** in pds:UTF8\_Short\_String\_Preserved, **maximum\_value** in pds:UTF8\_Text\_Preserved
- **md5\_checksum - md5\_checksum** in pds:File, **md5\_checksum** in pds:Object\_Statistics, **md5\_checksum** in pds:Zipped\_Member\_Entry
  - **mean - mean** in pds:Field\_Statistics, **mean** in pds:Object\_Statistics
  - **median - median** in pds:Field\_Statistics, **median** in pds:Object\_Statistics
  - **medium\_type - medium\_type** in ops:NSSDC, **medium\_type** in ops:Volume\_PDS3
  - **minimum - minimum** in pds:Field\_Statistics, **minimum** in pds:Object\_Statistics
  - **minimum\_characters - minimum\_characters** in ops:DD\_Value\_Domain, **minimum\_characters** in pds:ASCII\_AnyURI, **minimum\_characters** in pds:ASCII\_Boolean\_TF, **minimum\_characters** in pds:ASCII\_Date, **minimum\_characters** in pds:ASCII\_Date\_DOY, **minimum\_characters** in pds:ASCII\_Date\_Time, **minimum\_characters** in pds:ASCII\_Date\_Time\_DOY, **minimum\_characters** in pds:ASCII\_Date\_Time\_UTC, **minimum\_characters** in pds:ASCII\_Date\_Time\_YMD, **minimum\_characters** in pds:ASCII\_Date\_YMD, **minimum\_characters** in pds:ASCII\_Directory\_Path\_Name, **minimum\_characters** in pds:ASCII\_DOI, **minimum\_characters** in pds:ASCII\_File\_Name, **minimum\_characters** in pds:ASCII\_File\_Specification\_Name, **minimum\_characters** in pds:ASCII\_Identifier, **minimum\_characters** in pds:ASCII\_Integer, **minimum\_characters** in pds:ASCII\_LID, **minimum\_characters** in pds:ASCII\_LIDVID, **minimum\_characters** in pds:ASCII\_MD5\_Checksum, **minimum\_characters** in pds:ASCII\_NonNegative\_Integer, **minimum\_characters** in pds:ASCII\_Numeric\_Base16, **minimum\_characters** in pds:ASCII\_Numeric\_Base2, **minimum\_characters** in pds:ASCII\_Numeric\_Base8, **minimum\_characters** in pds:ASCII\_Real, **minimum\_characters** in pds:ASCII\_Short\_String\_Collapsed, **minimum\_characters** in pds:ASCII\_Short\_String\_Preserved, **minimum\_characters** in pds:ASCII\_Text\_Collapsed, **minimum\_characters** in pds:ASCII\_Text\_Preserved, **minimum\_characters** in pds:ASCII\_Time, **minimum\_characters** in pds:ASCII\_VID, **minimum\_characters** in pds:Character\_Data\_Type, **minimum\_characters** in pds:UTF8\_Short\_String\_Collapsed, **minimum\_characters** in pds:UTF8\_Short\_String\_Preserved, **minimum\_characters** in pds:UTF8\_Text\_Preserved
  - **minimum\_occurrences - minimum\_occurrences** in ops:DD\_Association
  - **minimum\_ring\_radius - minimum\_ring\_radius** in rings:Rings\_Prod\_Info
  - **minimum\_scaled\_value - minimum\_scaled\_value** in pds:Delimited\_Field, **minimum\_scaled\_value** in pds:Table\_Field\_Extended
  - **minimum\_value - minimum\_value** in ops:DD\_Value\_Domain, **minimum\_value** in pds:ASCII\_Date\_Time, **minimum\_value** in pds:ASCII\_Date\_Time\_DOY, **minimum\_value** in pds:ASCII\_Date\_Time\_UTC, **minimum\_value** in pds:ASCII\_Date\_Time\_YMD, **minimum\_value** in pds:ASCII\_Identifier, **minimum\_value** in pds:ASCII\_Integer, **minimum\_value** in pds:ASCII\_LID, **minimum\_value** in pds:ASCII\_NonNegative\_Integer, **minimum\_value** in pds:ASCII\_Numeric\_Base16, **minimum\_value** in pds:ASCII\_Numeric\_Base2, **minimum\_value** in pds:ASCII\_Numeric\_Base8, **minimum\_value** in pds:ASCII\_Real, **minimum\_value** in pds:ASCII\_Short\_String\_Collapsed, **minimum\_value** in pds:ASCII\_Short\_String\_Preserved, **minimum\_value** in pds:ASCII\_Text\_Preserved, **minimum\_value** in pds:ASCII\_Time, **minimum\_value** in pds:ASCII\_VID, **minimum\_value** in pds:Character\_Data\_Type, **minimum\_value** in pds:UTF8\_Short\_String\_Collapsed, **minimum\_value** in pds:UTF8\_Short\_String\_Preserved, **minimum\_value** in pds:UTF8\_Text\_Preserved
  - **missing\_constant - missing\_constant** in pds:Special\_Constants
  - **mission\_desc - mission\_desc** in ops:Mission\_PDS3
  - **mission\_name - mission\_name** in ops:Mission\_PDS3
  - **mission\_objectives\_summary - mission\_objectives\_summary** in ops:Mission\_PDS3
  - **mission\_phase\_name - mission\_phase\_name** in pds:Observation\_Area
  - **mission\_start\_date - mission\_start\_date** in ops:Mission\_PDS3
  - **mission\_stop\_date - mission\_stop\_date** in ops:Mission\_PDS3
  - **naif\_host\_id - naif\_host\_id** in pds:Instrument\_Host
  - **naif\_instrument\_id - naif\_instrument\_id** in pds:Instrument
  - **name - name** in ops:DD\_Attribute, **name** in ops:DD\_Class, **name** in ops:Node, **name** in ops:Personnel, **name** in ops:Software\_Desc, **name** in pds:Bibliographic\_Reference, **name** in pds:Detector, **name** in pds:Header, **name** in pds:Header\_Binary, **name** in pds:Instrument, **name** in pds:Instrument\_Host, **name** in pds:Investigation, **name** in pds:Name\_Resolution, **name** in pds:Observing\_System, **name** in pds:Observing\_System\_Component, **name** in pds:Quaternion, **name** in pds:Quaternion\_Component, **name** in pds:Resource, **name** in pds:Table\_Field, **name** in pds:Table\_Field\_Checksum, **name** in pds:Table\_Field\_File\_Specification\_Name, **name** in pds:Table\_Field\_LID, **name** in pds:Table\_Field\_LIDVID, **name** in pds:Target, **name** in ops:Terminological\_Entry, **name** in pds:Vector, **name** in pds:Vector\_Component
  - **name\_space\_id - name\_space\_id** in ops:DD\_Attribute, **name\_space\_id** in ops:DD\_Attribute\_Full, **name\_space\_id** in ops:DD\_Class
  - **node\_id - node\_id** in rings:Rings\_Prod\_Info
  - **node\_name - node\_name** in ops:PDS\_Affiliate, **node\_name** in rings:Rings\_Prod\_Info
  - **not\_applicable\_constant - not\_applicable\_constant** in pds:Special\_Constants
  - **nssdc\_collection\_id - nssdc\_collection\_id** in ops:NSSDC
  - **observing\_system\_component\_type - observing\_system\_component\_type** in pds:Observing\_System\_Component
  - **observing\_system\_name - observing\_system\_name** in pds:Subject\_Area
  - **occultation\_type - occultation\_type** in rings:Rings\_Prod\_Info
  - **offset - offset** in pds:Array\_Base, **offset** in pds:Encoded\_Byte\_Stream, **offset** in pds:Parsable\_Byte\_Stream, **offset** in pds:Table\_Base
  - **orbit\_number - orbit\_number** in pds:Observation\_Area
  - **os\_version - os\_version** in ops:Software\_Binary, **os\_version** in ops:Software\_Source

- **packet\_map\_mask - packet\_map\_mask** in img:Telemetry\_Parameters
  - **pattern - pattern** in ops:DD\_Value\_Domain, **pattern** in pds:ASCII\_Boolean\_TF, **pattern** in pds:ASCII\_Date\_DOY, **pattern** in pds:ASCII\_Date\_Time\_DOY, **pattern** in pds:ASCII\_Date\_YMD, **pattern** in pds:ASCII\_Date\_YMD, **pattern** in pds:ASCII\_DOI, **pattern** in pds:ASCII\_Identifier, **pattern** in pds:ASCII\_LID, **pattern** in pds:ASCII\_MD5\_Checksum, **pattern** in pds:ASCII\_Numeric\_Base16, **pattern** in pds:ASCII\_Numeric\_Base2, **pattern** in pds:ASCII\_Numeric\_Base8, **pattern** in pds:ASCII\_Time, **pattern** in pds:ASCII\_VID, **pattern** in pds:Character\_Data\_Type, **pattern** in pds:Float3Vector
  - **pds4\_merge\_flag - pds4\_merge\_flag** in ops:Local\_DD
  - **phone\_book\_flag - phone\_book\_flag** in ops:PDS\_Affiliate
  - **planetary\_occultation\_flag - planetary\_occultation\_flag** in rings:Rings\_Prod\_Info
  - **planet\_day\_number - planet\_day\_number** in pds:Observation\_Area
  - **postal\_address\_text - postal\_address\_text** in ops:PDS\_Affiliate
  - **preferred\_flag - preferred\_flag** in ops:Terminological\_Entry
  - **primary\_body\_name - primary\_body\_name** in ops:Target\_PDS3
  - **processing\_level\_id - processing\_level\_id** in pds:Product\_Collection\_Data
  - **producer\_full\_name - producer\_full\_name** in ops>Data\_Set\_PDS3
  - **product\_class - product\_class** in pds:Identification\_Area
  - **programmers\_manual\_identifier - programmers\_manual\_identifier** in ops:Software\_Desc
  - **program\_notes\_identifier - program\_notes\_identifier** in ops:Software\_Binary, **program\_notes\_identifier** in ops:Software\_Source
  - **publication\_date - publication\_date** in ops:Volume\_PDS3, **publication\_date** in pds:Document\_Desc
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- **quaternion\_components - quaternion\_components** in pds:Quaternion
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- **radial\_resolution - radial\_resolution** in rings:Rings\_Prod\_Info
  - **received\_packets - received\_packets** in img:Telemetry\_Parameters
  - **records - records** in pds:Delimited\_Table, **records** in pds:Delimited\_Table\_Grouped, **records** in pds:File, **records** in pds:Table\_Base
  - **record\_delimiter - record\_delimiter** in pds:Delimited\_Table, **record\_delimiter** in pds:Delimited\_Table\_Grouped
  - **record\_length - record\_length** in pds:Table\_Base
  - **reference\_association\_type - reference\_association\_type** in ops:DD\_Association, **reference\_association\_type** in pds:Bundle\_Member\_Entry, **reference\_association\_type** in pds:Inventory\_LIDVID\_Primary, **reference\_association\_type** in pds:Inventory\_LIDVID\_Secondary, **reference\_association\_type** in pds:Inventory\_LID\_Secondary, **reference\_association\_type** in ops:Manifest, **reference\_association\_type** in pds:Reference\_Entry, **reference\_association\_type** in pds:Reference\_Entry\_Collection, **reference\_association\_type** in pds:Reference\_Entry\_Context, **reference\_association\_type** in pds:Reference\_Entry\_Generic, **reference\_association\_type** in pds:Reference\_Entry\_Product, **reference\_association\_type** in pds:Zipped\_Member\_Entry
  - **reference\_text - reference\_text** in pds:Bibliographic\_Reference, **reference\_text** in pds:Reference
  - **registered\_by - registered\_by** in ops:DD\_Attribute\_Full
  - **registration\_authority\_id - registration\_authority\_id** in ops:DD\_Attribute\_Full
  - **registration\_date - registration\_date** in ops:Personnel
  - **repetitions - repetitions** in pds:Delimited\_Grouped\_Sequence, **repetitions** in pds:Table\_Binary\_Grouped\_Sequence, **repetitions** in pds:Table\_Character\_Grouped\_Sequence
  - **revision\_id - revision\_id** in pds:Document\_Desc
  - **ring\_event\_start\_time - ring\_event\_start\_time** in rings:Rings\_Prod\_Info
  - **ring\_event\_stop\_time - ring\_event\_stop\_time** in rings:Rings\_Prod\_Info
  - **ring\_occultation\_direction - ring\_occultation\_direction** in rings:Rings\_Prod\_Info
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- **sample\_bit\_mask - sample\_bit\_mask** in pds:Object\_Statistics
  - **sample\_display\_direction - sample\_display\_direction** in pds:Image\_2D\_Display
  - **sampling\_parameter\_interval - sampling\_parameter\_interval** in pds:Uniformly\_Sampled
  - **sampling\_parameter\_name - sampling\_parameter\_name** in pds:Uniformly\_Sampled
  - **sampling\_parameter\_scale - sampling\_parameter\_scale** in pds:Uniformly\_Sampled
  - **sampling\_parameter\_unit - sampling\_parameter\_unit** in pds:Uniformly\_Sampled
  - **saturated\_constant - saturated\_constant** in pds:Special\_Constants
  - **scaling\_factor - scaling\_factor** in pds:Array\_Element, **scaling\_factor** in pds:Delimited\_Field, **scaling\_factor** in pds:Table\_Field\_Extended
  - **sequence\_number - sequence\_number** in pds:Array\_Axis, **sequence\_number** in pds:Quaternion\_Component, **sequence\_number** in pds:Vector\_Component
  - **serial\_number - serial\_number** in pds:Instrument\_Host
  - **software\_dialect - software\_dialect** in ops:Software\_Source
  - **software\_id - software\_id** in ops:Software\_Desc
  - **software\_language - software\_language** in ops:Software\_Source
  - **software\_type - software\_type** in ops:Software\_Desc
  - **solar\_longitude - solar\_longitude** in pds:Observation\_Area
  - **sort\_name - sort\_name** in ops:Personnel
  - **spacecraft\_clock\_count\_partition - spacecraft\_clock\_count\_partition** in pds:Observation\_Area
  - **spacecraft\_clock\_start\_count - spacecraft\_clock\_start\_count** in pds:Observation\_Area
  - **spacecraft\_clock\_stop\_count - spacecraft\_clock\_stop\_count** in pds:Observation\_Area
  - **specified\_unit\_id - specified\_unit\_id** in ops:DD\_Value\_Domain, **specified\_unit\_id** in pds:UnitOfMeasure, **specified\_unit\_id** in pds:UnitOfMeasure\_AmountOfSubstance, **specified\_unit\_id** in pds:UnitOfMeasure\_Angle, **specified\_unit\_id** in pds:UnitOfMeasure\_AngularVelocity, **specified\_unit\_id** in pds:UnitOfMeasure\_Area, **specified\_unit\_id** in

- pds:UnitOfMeasure\_Frequency, **specified\_unit\_id** in pds:UnitOfMeasure\_Length, **specified\_unit\_id** in pds:UnitOfMeasure\_MapScale, **specified\_unit\_id** in pds:UnitOfMeasure\_Mass, **specified\_unit\_id** in pds:UnitOfMeasure\_Misc, **specified\_unit\_id** in pds:UnitOfMeasure\_None, **specified\_unit\_id** in pds:UnitOfMeasure\_OpticalPathLength, **specified\_unit\_id** in pds:UnitOfMeasure\_Pressure, **specified\_unit\_id** in pds:UnitOfMeasure\_Radiance, **specified\_unit\_id** in pds:UnitOfMeasure\_Rates, **specified\_unit\_id** in pds:UnitOfMeasure\_SolidAngle, **specified\_unit\_id** in pds:UnitOfMeasure\_Storage, **specified\_unit\_id** in pds:UnitOfMeasure\_Temperature, **specified\_unit\_id** in pds:UnitOfMeasure\_Time, **specified\_unit\_id** in pds:UnitOfMeasure\_Velocity, **specified\_unit\_id** in pds:UnitOfMeasure\_Voltage, **specified\_unit\_id** in pds:UnitOfMeasure\_Volume
- **spice\_file\_name** - **spice\_file\_name** in img:Telemetry\_Parameters
  - **standard\_deviation** - **standard\_deviation** in pds:Field\_Statistics, **standard\_deviation** in pds:Object\_Statistics
  - **starting\_point\_identifier** - **starting\_point\_identifier** in pds:Document\_Format
  - **start\_bit** - **start\_bit** in pds:Table\_Binary\_Grouped\_Bit\_Field
  - **start\_date** - **start\_date** in pds:Investigation
  - **start\_date\_time** - **start\_date\_time** in ops:Data\_Set\_PDS3, **start\_date\_time** in pds:Archive\_Bundle, **start\_date\_time** in pds:Observation\_Area
  - **star\_name** - **star\_name** in rings:Rings\_Prod\_Info
  - **std\_ref\_version\_id** - **std\_ref\_version\_id** in pds:Data\_Standards
  - **steward\_id** - **steward\_id** in ops:DD\_Attribute, **steward\_id** in ops:DD\_Attribute\_Full, **steward\_id** in ops:DD\_Class
  - **stop\_date** - **stop\_date** in pds:Investigation
  - **stop\_date\_time** - **stop\_date\_time** in ops:Data\_Set\_PDS3, **stop\_date\_time** in pds:Archive\_Bundle, **stop\_date\_time** in pds:Observation\_Area
  - **submitter\_id** - **submitter\_id** in ops:DD\_Attribute, **submitter\_id** in ops:DD\_Attribute\_Full
  - **supported\_architecture** - **supported\_architecture** in ops:Software\_Binary, **supported\_architecture** in ops:Software\_Source
  - **supported\_environment** - **supported\_environment** in ops:Software\_Script
  - **supported\_os** - **supported\_os** in ops:Software\_Binary, **supported\_os** in ops:Software\_Source
  - **sw\_format\_type** - **sw\_format\_type** in ops:Software\_Binary, **sw\_format\_type** in ops:Software\_Source
  - **system\_requirements** - **system\_requirements** in ops:Software\_Format
- 
- **target\_desc** - **target\_desc** in ops:Target\_PDS3
  - **target\_name** - **target\_name** in ops:Target\_PDS3, **target\_name** in pds:Subject\_Area
  - **target\_type** - **target\_type** in ops:Target\_PDS3
  - **telemetry\_format\_id** - **telemetry\_format\_id** in img:Telemetry\_Parameters
  - **telemetry\_provider\_id** - **telemetry\_provider\_id** in img:Telemetry\_Parameters
  - **telemetry\_source\_name** - **telemetry\_source\_name** in img:Telemetry\_Parameters
  - **telemetry\_source\_type** - **telemetry\_source\_type** in img:Telemetry\_Parameters
  - **telephone\_number** - **telephone\_number** in ops:PDS\_Affiliate
  - **title** - **title** in pds:Identification\_Area
  - **type** - **type** in pds:Identification\_Area, **type** in pds:Identification\_Area\_Collection, **type** in pds:Name\_Resolution, **type** in pds:Quaternion, **type** in pds:UnitOfMeasure, **type** in pds:UnitOfMeasure\_AmountOfSubstance, **type** in pds:UnitOfMeasure\_Angle, **type** in pds:UnitOfMeasure\_AngularVelocity, **type** in pds:UnitOfMeasure\_Area, **type** in pds:UnitOfMeasure\_Frequency, **type** in pds:UnitOfMeasure\_Length, **type** in pds:UnitOfMeasure\_MapScale, **type** in pds:UnitOfMeasure\_Mass, **type** in pds:UnitOfMeasure\_Misc, **type** in pds:UnitOfMeasure\_None, **type** in pds:UnitOfMeasure\_OpticalPathLength, **type** in pds:UnitOfMeasure\_Pressure, **type** in pds:UnitOfMeasure\_Radiance, **type** in pds:UnitOfMeasure\_Rates, **type** in pds:UnitOfMeasure\_SolidAngle, **type** in pds:UnitOfMeasure\_Storage, **type** in pds:UnitOfMeasure\_Temperature, **type** in pds:UnitOfMeasure\_Time, **type** in pds:UnitOfMeasure\_Velocity, **type** in pds:UnitOfMeasure\_Voltage, **type** in pds:UnitOfMeasure\_Volume, **type** in pds:Vector
- 
- **unit** - **unit** in pds:Array\_Axis, **unit** in pds:Array\_Element, **unit** in pds:Delimited\_Field, **unit** in pds:Quaternion\_Component, **unit** in pds:Table\_Field\_Extended, **unit** in pds:Vector\_Component
  - **unit\_id** - **unit\_id** in pds:UnitOfMeasure, **unit\_id** in pds:UnitOfMeasure\_AmountOfSubstance, **unit\_id** in pds:UnitOfMeasure\_Angle, **unit\_id** in pds:UnitOfMeasure\_AngularVelocity, **unit\_id** in pds:UnitOfMeasure\_Area, **unit\_id** in pds:UnitOfMeasure\_Frequency, **unit\_id** in pds:UnitOfMeasure\_Length, **unit\_id** in pds:UnitOfMeasure\_MapScale, **unit\_id** in pds:UnitOfMeasure\_Mass, **unit\_id** in pds:UnitOfMeasure\_Misc, **unit\_id** in pds:UnitOfMeasure\_None, **unit\_id** in pds:UnitOfMeasure\_OpticalPathLength, **unit\_id** in pds:UnitOfMeasure\_Pressure, **unit\_id** in pds:UnitOfMeasure\_Radiance, **unit\_id** in pds:UnitOfMeasure\_Rates, **unit\_id** in pds:UnitOfMeasure\_SolidAngle, **unit\_id** in pds:UnitOfMeasure\_Storage, **unit\_id** in pds:UnitOfMeasure\_Temperature, **unit\_id** in pds:UnitOfMeasure\_Time, **unit\_id** in pds:UnitOfMeasure\_Velocity, **unit\_id** in pds:UnitOfMeasure\_Voltage, **unit\_id** in pds:UnitOfMeasure\_Volume
  - **unit\_of\_measure\_type** - **unit\_of\_measure\_type** in ops:DD\_Value\_Domain
  - **unknown\_constant** - **unknown\_constant** in pds:Special\_Constants
  - **url** - **url** in pds:Bibliographic\_Reference, **url** in pds:Resource
  - **users\_manual\_identifier** - **users\_manual\_identifier** in ops:Software\_Desc
- 
- **value** - **value** in ops:DD\_Permissible\_Value, **value** in pds:Quaternion\_Component, **value** in pds:Vector\_Component
  - **value\_begin\_date** - **value\_begin\_date** in ops:DD\_Permissible\_Value
  - **value\_data\_type** - **value\_data\_type** in ops:DD\_Value\_Domain
  - **value\_end\_date** - **value\_end\_date** in ops:DD\_Permissible\_Value
  - **value\_meaning** - **value\_meaning** in ops:DD\_Permissible\_Value
  - **value\_offset** - **value\_offset** in pds:Array\_Element, **value\_offset** in pds:Delimited\_Field, **value\_offset** in pds:Table\_Field\_Extended
  - **vector\_components** - **vector\_components** in pds:Vector
  - **version\_id** - **version\_id** in ops:DD\_Attribute, **version\_id** in ops:DD\_Attribute\_Full, **version\_id** in ops:DD\_Class, **version\_id** in ops:Software\_Desc, **version\_id** in pds:Identification\_Area, **version\_id** in pds:Instrument, **version\_id** in pds:Instrument\_Host
  - **volumes** - **volumes** in ops:Volume\_Set\_PDS3

- **volume\_de\_fullname** - **volume\_de\_fullname** in ops:Volume\_PDS3
- **volume\_format** - **volume\_format** in ops:Volume\_PDS3
- **volume\_id** - **volume\_id** in ops:Volume\_PDS3
- **volume\_name** - **volume\_name** in ops:Volume\_PDS3
- **volume\_series\_name** - **volume\_series\_name** in ops:Volume\_Set\_PDS3
- **volume\_set\_id** - **volume\_set\_id** in ops:Volume\_PDS3, **volume\_set\_id** in ops:Volume\_Set\_PDS3
- **volume\_set\_name** - **volume\_set\_name** in ops:Volume\_Set\_PDS3
- **volume\_size** - **volume\_size** in ops:Volume\_PDS3
- **volume\_version\_id** - **volume\_version\_id** in ops:Volume\_PDS3
  
- **xml\_schema\_base\_type** - **xml\_schema\_base\_type** in pds:ASCII\_AnyURI, **xml\_schema\_base\_type** in pds:ASCII\_Boolean\_TF, **xml\_schema\_base\_type** in pds:ASCII\_Date\_DOY, **xml\_schema\_base\_type** in pds:ASCII\_Date\_Time, **xml\_schema\_base\_type** in pds:ASCII\_Date\_Time\_DOY, **xml\_schema\_base\_type** in pds:ASCII\_Date\_Time\_UTC, **xml\_schema\_base\_type** in pds:ASCII\_Date\_Time\_YMD, **xml\_schema\_base\_type** in pds:ASCII\_Date\_YMD, **xml\_schema\_base\_type** in pds:ASCII\_Directory\_Path\_Name, **xml\_schema\_base\_type** in pds:ASCII\_DOI, **xml\_schema\_base\_type** in pds:ASCII\_File\_Name, **xml\_schema\_base\_type** in pds:ASCII\_File\_Specification\_Name, **xml\_schema\_base\_type** in pds:ASCII\_Identifier, **xml\_schema\_base\_type** in pds:ASCII\_Integer, **xml\_schema\_base\_type** in pds:ASCII\_LID, **xml\_schema\_base\_type** in pds:ASCII\_LIDVID, **xml\_schema\_base\_type** in pds:ASCII\_MD5\_Checksum, **xml\_schema\_base\_type** in pds:ASCII\_NonNegative\_Integer, **xml\_schema\_base\_type** in pds:ASCII\_Real, **xml\_schema\_base\_type** in pds:ASCII\_Short\_String\_Collapsed, **xml\_schema\_base\_type** in pds:ASCII\_Short\_String\_Preserved, **xml\_schema\_base\_type** in pds:ASCII\_Text\_Preserved, **xml\_schema\_base\_type** in pds:ASCII\_Time, **xml\_schema\_base\_type** in pds:ASCII\_VID, **xml\_schema\_base\_type** in pds:UTF8\_Short\_String\_Collapsed, **xml\_schema\_base\_type** in pds:UTF8\_Short\_String\_Preserved, **xml\_schema\_base\_type** in pds:UTF8\_Text\_Preserved, **xml\_schema\_base\_type** in pds:ASCII\_Boolean, **xml\_schema\_base\_type** in pds:ASCII\_Date, **xml\_schema\_base\_type** in pds:ASCII\_Numeric\_Base16, **xml\_schema\_base\_type** in pds:ASCII\_Numeric\_Base2, **xml\_schema\_base\_type** in pds:ASCII\_Numeric\_Base8, **xml\_schema\_base\_type** in pds:ASCII\_Text\_Collapsed, **xml\_schema\_base\_type** in pds:Character\_Data\_Type, **xml\_schema\_base\_type** in pds:Float3Vector