PDS4 Data Dictionary - Abridged - V.0.5.1.3.Beta

PDS4 Data Design Working Group

Version 0.5.1.3.Beta - Thu Jan 12 17:04:08 PST 2012

Generated from the PDS4 Information Model Version 0.5.1.3.Beta

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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 unabridge 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.

7. **PDS4 Class Definitions - Thu Jan 12 17:04:08 PST 2012**

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- **Collection_Volume_PDS3**

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

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: **value** Optional
        attribute: **alternate_title** value: **value** Optional
        attribute: **comment** value: **value** Optional
      - **End** Alias
    - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: **value** Optional
      attribute: **editor_list** value: **value** Optional
      attribute: **publication_year** value: **value**
      attribute: **keywords** value: **value** Optional
      attribute: **description** value: **value**
    - **End** Citation_Information

    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**

role: **Concrete**
attribute: **modification_date** value: ***value***
attribute: **version_id** value: ***value***
attribute: **description** value: ***value***
- **End** Modification_Detail
- **End** Modification_History
attribute: **logical_identifier** value: ***value***
attribute: **version_id** value: ***value***
attribute: **title** value: ***value***
attribute: **information_model_version** value: **0.5.1.2.B**
attribute: **product_class** value: ***value***
- **End** Identification_Area

- **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: **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***
  attribute: **description** value: ***value*** Optional
- **End** Volume_PDS3

- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** Optional
    attribute: **lidvid_reference** value: ***value*** Optional
    attribute: **reference_type** value: ***value***
    attribute: **comment** value: ***value*** Optional
  - **End** Internal_Reference

  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: ***value***
    attribute: **description** value: ***value*** Optional
  - **End** External_Reference
- **End** Reference_List
- **End** Collection_Volume_PDS3

- **Collection_Volume_Set_PDS3**

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

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
role: **Concrete**
attribute: **alternate_id** value: **value** Optional
attribute: **alternate_title** value: **value** Optional
attribute: **comment** value: **value** Optional
- **End** Alias
- **End** Alias_List

- **Citation_Information - Occurs 0 to 1 Times**

description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
role: **Concrete**
attribute: **author_list** value: **value** Optional
attribute: **editor_list** value: **value** Optional
attribute: **publication_year** value: **value**
attribute: **keywords** value: **value** Optional
attribute: **description** value: **value**
- **End** Citation_Information

- **Modification_History - Occurs 0 to 1 Times**

description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
role: **Concrete**

  - **Modification_Detail Occurs 1 Times**

  description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
  role: **Concrete**
  attribute: **modification_date** value: **value**
  attribute: **version_id** value: **value**
  attribute: **description** value: **value**
  - **End** Modification_Detail
- **End** Modification_History
attribute: **logical_identifier** value: **value**
attribute: **version_id** value: **value**
attribute: **title** value: **value**
attribute: **information_model_version** value: **0.5.1.2.B**
attribute: **product_class** value: **value**
- **End** Identification_Area

- **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: **volume_series_name** value: **value**
attribute: **volume_set_id** value: **value**
attribute: **volume_set_name** value: **value**
attribute: **volumes** value: **value**
attribute: **description** value: **value** Optional
- **End** Volume_Set_PDS3

- **Reference_List - Occurs 0 to 1 Times**

description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

  description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
  role: **Concrete**
  attribute: **lid_reference** value: **value** Optional
  attribute: **lidvid_reference** value: **value** Optional
  attribute: **reference_type** value: **value**
  attribute: **comment** value: **value** Optional
  - **End** Internal_Reference

  - **External_Reference - Occurs 0 to * Times**

  description: **The External_Reference class is used to reference a source outside the PDS registry system.**
  role: **Concrete**

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

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

- **End** External_Reference

- **End** Reference_List

- **End** Collection_Volume_Set_PDS3

- **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: **reference_type** value: **has_member**
  attribute: **offset** value: ***value***
  attribute: **records** value: ***value***
  attribute: **record_length** value: ***value***
  attribute: **fields** value: **2**
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **description** value: ***value*** Optional

  - **Record_Character Occurs 1 Times**

    description: **The Record_Character class is a component of the table class and defines a record of the table.**
    role: **Concrete**

    - **Field_Character - Occurs 1 to * Times**

      description: **The Field_Character class defines a field of the record.**
      role: **Concrete**
      attribute: **name** value: ***value***
      attribute: **field_number** value: ***value*** Optional
      attribute: **field_location** value: ***value***
      attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: ***value*** Optional
      attribute: **maximum_scaled_value** value: ***value*** Optional
      attribute: **minimum_scaled_value** value: ***value*** Optional
      attribute: **scaling_factor** value: ***value*** Optional
      attribute: **value_offset** value: ***value*** Optional
      attribute: **description** 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: **maximum** value: ***value*** Optional
        attribute: **minimum** value: ***value*** Optional
        attribute: **mean** value: ***value*** Optional
        attribute: **standard_deviation** value: ***value*** Optional
        attribute: **median** value: ***value*** Optional
        attribute: **description** 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** Field_Character

- **Group_Field_Character - Occurs 1 to * Times**

  description: **The Group_Field_Character class allows a group of table fields.**
  role: **Concrete**
  attribute: **repetitions** value: *value*

  - **Field_Character Occurs 1 Times**

    description: **The Field_Character class defines a field of the record.**
    role: **Concrete**
    attribute: **name** value: *value*
    attribute: **field_number** value: *value* ^{Optional}
    attribute: **field_location** value: *value*
    attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: *value* ^{Optional}
    attribute: **maximum_scaled_value** value: *value* ^{Optional}
    attribute: **minimum_scaled_value** value: *value* ^{Optional}
    attribute: **scaling_factor** value: *value* ^{Optional}
    attribute: **value_offset** value: *value* ^{Optional}
    attribute: **description** 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: **maximum** value: *value* ^{Optional}
      attribute: **minimum** value: *value* ^{Optional}
      attribute: **mean** value: *value* ^{Optional}
      attribute: **standard_deviation** value: *value* ^{Optional}
      attribute: **median** value: *value* ^{Optional}
      attribute: **description** 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** Field_Character
- **End** Group_Field_Character
- **End** Record_Character
- **End** Delivery_Manifest

- **Detector**

  description: **The Detector class provides a description of a phyiscal object that collects data.**
  role: **Concrete**
  attribute: **name** value: *value* ^{Optional}
  attribute: **type** value: *value*
  attribute: **description** value: *value*
- **End** Detector

- **Header**

  description: **The Header class describes a data object header.**
  role: **Concrete**
  attribute: **name** value: *value* ^{Optional}

attribute: **local_identifier** value: **_value_**
attribute: **bytes** value: **_value_**
attribute: **offset** value: **_value_**
attribute: **external_standard_id** value: **FITS, FREE_TEXT, ISIS2, ISIS3, ISIS_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR**
attribute: **encoding_type** value: **CHARACTER**
attribute: **description** value: **_value_** Optional
- **End** Header

- **Header_Binary**

  description: **The Header Binary class describes a data object header.**
  role: **Concrete**
  attribute: **name** value: **_value_** Optional
  attribute: **local_identifier** value: **_value_**
  attribute: **bytes** value: **_value_**
  attribute: **offset** value: **_value_**
  attribute: **external_standard_id** value: **FITS, ISIS2, ISIS3, ISIS_HISTORY, TIFF, VICAR**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: **_value_** Optional
- **End** Header_Binary

- **Local_DD**

  description: **The Local_DD class provides a form for collecting class and attribute definitions for a data dictionary.**
  role: **Concrete**
  attribute: **full_name** value: **_value_**
  attribute: **local_identifier** value: **_value_**
  attribute: **last_modification_date_time** value: **_value_**
  attribute: **pds4_merge_flag** value: **F, T**
  attribute: **comment** value: **_value_** Optional
  - **DD_Attribute - Occurs 1 to * Times**

    description: **The DD_Attribute class defines an attribute for a data dictionary.**
    role: **Concrete**
    attribute: **version_id** value: **_value_**
    attribute: **name** value: **_value_**
    attribute: **local_identifier** value: **_value_**
    attribute: **steward_id** value: **atm, geo, img, naif, ops, pds, ppi, rings, rs, sbn** Optional
    attribute: **name_space_id** value: **_value_** Optional
    attribute: **submitter_id** value: **_value_** Optional
    attribute: **definition** value: **_value_**
    attribute: **comment** value: **_value_** Optional
    - **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_**
      - **External_Reference_Extended - Occurs 0 to * Times**

        description: **The External_Reference_Extended class is used to reference a source outside the PDS registry system. This extension is used in the local data dictionary.**
        role: **Concrete**
        attribute: **name** value: **_value_** Optional
        attribute: **url** value: **_value_** Optional
        attribute: **reference_text** value: **_value_**
        attribute: **description** value: **_value_** Optional
      - **End** External_Reference_Extended
    - **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_** Optional
      attribute: **value_data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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*** ^{Optional}

attribute: **minimum_characters** value: ***value*** ^{Optional}

attribute: **maximum_characters** value: ***value*** ^{Optional}

attribute: **minimum_value** value: ***value*** ^{Optional}

attribute: **maximum_value** value: ***value*** ^{Optional}

attribute: **pattern** value: ***value*** ^{Optional}

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** ^{Optional}

- **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*** ^{Optional}
  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: **version_id** value: ***value*** ^{Optional}
  attribute: **name** value: ***value***
  attribute: **local_identifier** value: ***value***
  attribute: **steward_id** value: **atm, geo, img, naif, ops, pds, ppi, rings, rs, sbn** ^{Optional}
  attribute: **name_space_id** value: ***value*** ^{Optional}
  attribute: **submitter_id** value: ***value*** ^{Optional}
  attribute: **definition** value: ***value*** ^{Optional}

  - **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: **reference_type** value: **attribute_of, subclass_of**
    attribute: **constant_value** value: ***value*** ^{Optional}
    attribute: **maximum_occurrences** value: ***value***
    attribute: **minimum_occurrences** value: ***value***
    - **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***

    - **External_Reference_Extended - Occurs 0 to * Times**

      description: **The External_Reference_Extended class is used to reference a source outside the PDS registry system. This extension is used in the local data dictionary.**
      role: **Concrete**
      attribute: **name** value: ***value*** ^{Optional}
      attribute: **url** value: ***value*** ^{Optional}
      attribute: **reference_text** value: ***value***
      attribute: **description** value: ***value*** ^{Optional}
      - **End** External_Reference_Extended
    - **End** Terminological_Entry
  - **End** DD_Class
- **End** Local_DD

- **Product_Archive_Bundle**

  description: **A Product_Archive_Bundle is a aggregate product that references primary collections.**
  role: **Concrete**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: **value** Optional
        attribute: **alternate_title** value: **value** Optional
        attribute: **comment** value: **value** Optional
      - **End** Alias
    - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: **value** Optional
      attribute: **editor_list** value: **value** Optional
      attribute: **publication_year** value: **value**
      attribute: **keywords** value: **value** Optional
      attribute: **description** value: **value**
    - **End** Citation_Information

    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**
        attribute: **modification_date** value: **value**
        attribute: **version_id** value: **value**
        attribute: **description** value: **value**
      - **End** Modification_Detail
    - **End** Modification_History
      attribute: **logical_identifier** value: **value**
      attribute: **version_id** value: **value**
      attribute: **title** value: **value**
      attribute: **information_model_version** value: **0.5.1.2.B**
      attribute: **product_class** value: **value**
  - **End** Identification_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**

    - **Time_Coordinates Occurs 1 Times**

      description: **The Time_Coordinates class provides a list of time coordinates.**
      role: **Concrete**
      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: **solar_longitude** value: **value** Optional
    - **End** Time_Coordinates

    - **Primary_Result_Description - Occurs 0 to 1 Times**

description: **The Primary_Result_Description class provides a high-level description of the types of products included in the collection or bundle**
role: **Concrete**
attribute: **type** value: **Astrometry, B-Field_Vectors, Column_Density, Comet_Nuclear_Properties, Count, Count_Rate, Data_Number, Digital_Elevation_Model, E-Field_Vectors, Environment, Environment:Hardware_Temperature, Filter_Curve, Flux, Flux:Electron, Flux:Ion, Flux:Photometric, Gravity_Model, Gravity_Model:Spherical_Harmonics, Image, Image:Anaglyph, Image:Color, Image:Filtered, Impact_Characteristics, Instrument, Instrument:Geometry, Instrument:Parameters, Lightcurve, Magnetometry, Magnitude, Map, Map:Radiance, Map:Thermal, Morphology, Null_Result, Photometry, Photometry:Aperture, Photometry:High-Speed, Photometry:Magnitude, Point_Spread_Function, Polarimetry, Pressure, Production_Rate, Pulse_Heights, Radiometry, Shape_Model, Shape_Model:Spherical_Harmonics, Shape_Model:Triangular_Plate, Spectrometry, Spectrophotometry, Spectroscopy, Spectrum, Spectrum:Frequency, Spectrum:Grism, Spectrum:Image, Spectrum:Lines, Spectrum:Mass, Spectrum:Time-Of-Flight, Spin_State** Optional
attribute: **purpose** value: **Calibration, Checkout, Engineering, Navigation, Science**
attribute: **data_regime** value: **Dust:Dust_Particle_Counts, Dust:Impacts, Dust:Mass_Spectra, Electric_Field, Electrons, Far_Infrared, Gamma_Ray, Infrared, Ions, Magnetic_Field, Microwave, Millimeter, Near_Infrared, Optical, Particles, Radio, Sub-Millimeter, Ultraviolet, Visible, X-Ray**
attribute: **reduction_level** value: **Analytic, Calibrated, Derived, Raw**
attribute: **description** value: **value** Optional

- **End** Primary_Result_Description

- **Investigation_Area - Occurs 1 to * Times**

description: **The Investigation_Area class provides iformation about an investigation (mission, observing campaign or other coordinated, large-scale data collection effort).**
role: **Concrete**
attribute: **name** value: **value**
attribute: **type** value: **value**

  - **Internal_Reference Occurs 1 Times**

  description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
  role: **Concrete**
  attribute: **lid_reference** value: **value** Optional
  attribute: **lidvid_reference** value: **value** Optional
  attribute: **reference_type** value: **value**
  attribute: **comment** value: **value** Optional
  - **End** Internal_Reference
- **End** Investigation_Area

- **Observing_System - Occurs 0 to * Times**

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

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

    - **Internal_Reference - Occurs 0 to 1 Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: **value** Optional
    attribute: **lidvid_reference** value: **value** Optional
    attribute: **reference_type** value: **value**
    attribute: **comment** value: **value** Optional
    - **End** Internal_Reference

    - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**

role: **Concrete**

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

attribute: **description** value: *value* ^{Optional}

- **End** External_Reference

- **End** Observing_System_Component

attribute: **name** value: *value* ^{Optional}

attribute: **description** value: *value* ^{Optional}

- **End** Observing_System

- **Target_Identification - Occurs 1 to * Times**

  description: **The Target_Identification class provides detailed target identification information.**
  role: **Concrete**
  attribute: **name** value: *value*

  attribute: **alternate_designation** value: *value* ^{Optional}

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

  attribute: **description** value: *value* ^{Optional}

  - **Internal_Reference - Occurs 0 to 1 Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**

    attribute: **lid_reference** value: *value* ^{Optional}

    attribute: **lidvid_reference** value: *value* ^{Optional}

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

    attribute: **comment** value: *value* ^{Optional}

  - **End** Internal_Reference

- **End** Target_Identification

- **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: **name** value: *value*

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

    attribute: **type** value: **POSITION, VELOCITY**

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

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

      attribute: **unit** value: *value* ^{Optional}

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

      attribute: **description** value: *value* ^{Optional}

    - **End** Vector_Component

  - **End** Vector

- **End** Geometry

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

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

- **End** Cartography

- **Mission_Area - Occurs 0 to * Times**

  description: **The mission area allows the insertion of mission specific metadata.**
  role: **Concrete**

- **End** Mission_Area

  attribute: **comment** value: *value* ^{Optional}

- **Node_Area - Occurs 0 to * Times**

  description: **The node area allows the insertion of node specific metadata.**
  role: **Concrete**

- **End** Node_Area

- **End** Observation_Area

- **Archive_Bundle - Occurs 0 to 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*

- **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_type** value: **has_browse_collection, has_calibration_collection, has_context_collection, has_data_collection, has_document_collection, has_geometry_collection, has_member_collection, has_spice_kernels_collection, has_xml_schema_collection**

- **End** Bundle_Member_Entry

- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**

    attribute: **lid_reference** value: *value* Optional

    attribute: **lidvid_reference** value: *value* Optional
    attribute: **reference_type** value: *value*

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

    - **End** Internal_Reference

  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: *value*

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

    - **End** External_Reference

- **End** Reference_List

- **File_Area_Text - Occurs 0 to 1 Times**

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

  - **Stream_Text Occurs 1 Times**

    description: **The Stream text class defines a text file.**
    role: **Concrete**
    attribute: **name** value: *value* Optional
    attribute: **local_identifier** value: *value*
    attribute: **offset** value: *value*
    attribute: **external_standard_id** value: *value*
    attribute: **encoding_type** value: **CHARACTER**

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

    - **End** Stream_Text

  - **File Occurs 1 Times**

    description: **The File class consists of attributes that describe a file in a data store.**
    role: **Concrete**
    attribute: **file_name** value: *value*

    attribute: **local_identifier** value: *value* Optional

    attribute: **creation_date_time** value: *value* Optional

    attribute: **file_size** value: *value* Optional

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

    attribute: **maximum_record_bytes** value: *value* Optional

    attribute: **md5_checksum** value: *value* Optional

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

    - **End** File

- **End** File_Area_Text

- **End** Product_Archive_Bundle

- **Product_Attribute_Definition**

  description: **The Product Attribute Definition provides an attribute definition in XML encoding.**
  role: **Concrete**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: **value** Optional
        attribute: **alternate_title** value: **value** Optional
        attribute: **comment** value: **value** Optional
      - **End** Alias
    - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: **value** Optional
      attribute: **editor_list** value: **value** Optional
      attribute: **publication_year** value: **value**
      attribute: **keywords** value: **value** Optional
      attribute: **description** value: **value**
    - **End** Citation_Information

    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**
        attribute: **modification_date** value: **value**
        attribute: **version_id** value: **value**
        attribute: **description** value: **value**
      - **End** Modification_Detail
    - **End** Modification_History
      attribute: **logical_identifier** value: **value**
      attribute: **version_id** value: **value**
      attribute: **title** value: **value**
      attribute: **information_model_version** value: **0.5.1.2.B**
      attribute: **product_class** value: **value**
  - **End** Identification_Area

  - **DD_Attribute_Full Occurs 1 Times**

    description: **The DD_Attribute_Full class provides a more complete definition of an attribute in the data dictioonary.**
    role: **Concrete**
    attribute: **version_id** value: **value**
    attribute: **name** value: **value**
    attribute: **class_name** value: **value**
    attribute: **registration_authority_id** value: **0001_NASA_PDS_1**
    attribute: **local_identifier** value: **value**
    attribute: **steward_id** value: **atm, geo, img, naif, ops, pds, ppi, 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: **ADDRESS, ANGLE, ATTRIBUTE, BIT, CHECKSUM, COLLECTION, CONSTANT, COSINE, COUNT, DELIMITER, DESCRIPTION, DEVIATION, DIRECTION, DISTANCE, DOI, DURATION, FACTOR, FLAG, FORMAT, GROUP, HOME, ID, LATITUDE, LENGTH, LIST, LOCATION, LOGICAL, LONGITUDE, MASK,**

MAXIMUM, MEAN, MEDIAN, MINIMUM, NAME, NOTE, NUMBER, OFFSET, ORDER, PARALLEL, PASSWORD, PATH, PATTERN, PIXEL, QUATERNION, RADIUS, RATIO, REFERENCE, RESOLUTION, ROLE, ROTATION, SCALE, SEQUENCE, SET, SIZE, STATUS, SUMMARY, SYNTAX, TEMPERATURE, TEXT, TITLE, TYPE, UNIT, VALUE, VECTOR

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

- **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_**

    - **External_Reference_Extended - Occurs 0 to * Times**

      description: **The External_Reference_Extended class is used to reference a source outside the PDS registry system. This extension is used in the local data dictionary.**
      role: **Concrete**
      attribute: **name** value: **_value_** Optional
      attribute: **url** value: **_value_** Optional
      attribute: **reference_text** value: **_value_**
      attribute: **description** value: **_value_** Optional
    - **End** External_Reference_Extended
- **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_** Optional
  attribute: **value_data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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_** Optional
  attribute: **minimum_characters** value: **_value_** Optional
  attribute: **maximum_characters** value: **_value_** Optional
  attribute: **minimum_value** value: **_value_** Optional
  attribute: **maximum_value** value: **_value_** Optional
  attribute: **pattern** value: **_value_** Optional
  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** Optional
  attribute: **conceptual_domain** value: **BOOLEAN, INTEGER, NAME, NUMERIC, REAL, SHORT_STRING, TEXT, TIME, 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_** Optional
      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
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

    - **Internal_Reference - Occurs 0 to * Times**

      description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**

- role: **Concrete**

  attribute: **lid_reference** value: ***value*** Optional

  attribute: **lidvid_reference** value: ***value*** Optional

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

  attribute: **comment** value: ***value*** Optional
- **End** Internal_Reference

- **External_Reference - Occurs 0 to * Times**

  description: **The External_Reference class is used to reference a source outside the PDS registry system.**
  role: **Concrete**
  attribute: **reference_text** value: ***value***

  attribute: **description** value: ***value*** Optional
- **End** External_Reference
- **End** Reference_List
- **End** Product_Attribute_Definition

- **Product_Browse**

  description: **The Product Browse class defines a product consisting of one encoded byte stream digital object.**
  role: **Concrete**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: ***value*** Optional

        attribute: **alternate_title** value: ***value*** Optional

        attribute: **comment** value: ***value*** Optional
      - **End** Alias
    - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: ***value*** Optional
      attribute: **editor_list** value: ***value*** Optional
      attribute: **publication_year** value: ***value***
      attribute: **keywords** value: ***value*** Optional
      attribute: **description** value: ***value***
    - **End** Citation_Information

    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**
        attribute: **modification_date** value: ***value***
        attribute: **version_id** value: ***value***
        attribute: **description** value: ***value***
      - **End** Modification_Detail
    - **End** Modification_History
      attribute: **logical_identifier** value: ***value***
      attribute: **version_id** value: ***value***
      attribute: **title** value: ***value***
      attribute: **information_model_version** value: **0.5.1.2.B**
      attribute: **product_class** value: ***value***
  - **End** Identification_Area

- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

    - **Internal_Reference - Occurs 0 to * Times**

      description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
      role: **Concrete**
      attribute: **lid_reference** value: ***value*** Optional
      attribute: **lidvid_reference** value: ***value*** Optional
      attribute: **reference_type** value: ***value***
      attribute: **comment** value: ***value*** Optional
    - **End** Internal_Reference
    - **External_Reference - Occurs 0 to * Times**

      description: **The External_Reference class is used to reference a source outside the PDS registry system.**
      role: **Concrete**
      attribute: **reference_text** value: ***value***
      attribute: **description** value: ***value*** Optional
    - **End** External_Reference
- **End** Reference_List
- **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**

    - **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: **offset** value: ***value***
      attribute: **axes** value: **2**
      attribute: **axis_index_order** value: **FIRST_INDEX_FASTEST**
      attribute: **axis_storage_order** value: **LINE_SAMPLE, SAMPLE_LINE**
      attribute: **encoding_type** value: **BINARY**
      attribute: **description** value: ***value*** Optional

        - **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: **unit** value: ***value*** Optional
          attribute: **scaling_factor** value: ***value*** Optional
          attribute: **value_offset** value: ***value*** Optional
        - **End** Array_Element
        - **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: **sequence_number** value: ***value***
          attribute: **elements** value: ***value***
          attribute: **unit** value: ***value*** Optional

            - **Axis_Display - Occurs 0 to 1 Times**

              description: **The Axis_Display class provides attributes to enable the display of an array axis.**
              role: **Concrete**
              attribute: **display_direction** value: **BACK, DOWN, FORWARD, LEFT, RIGHT, SEQUENTIAL, UP**
              attribute: **default_red** value: ***value*** Optional
              attribute: **default_green** value: ***value*** Optional
              attribute: **default_blue** value: ***value*** Optional

attribute: **frame_rate** value: ***value*** ^{Optional}

attribute: **continuous_loop_flag** value: ***value*** ^{Optional}

- **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

- **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

- **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: **maximum** value: ***value*** ^{Optional}

  attribute: **minimum** value: ***value*** ^{Optional}

  attribute: **mean** value: ***value*** ^{Optional}

  attribute: **standard_deviation** value: ***value*** ^{Optional}

  attribute: **median** value: ***value*** ^{Optional}

  attribute: **md5_checksum** value: ***value*** ^{Optional}

  attribute: **sample_bit_mask** value: ***value*** ^{Optional}

  attribute: **description** value: ***value*** ^{Optional}

- **End** Object_Statistics

- **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: **offset** value: ***value***
  attribute: **axes** value: **2**
  attribute: **axis_index_order** value: **FIRST_INDEX_FASTEST**
  attribute: **axis_storage_order** value: **LINE_SAMPLE, SAMPLE_LINE**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** ^{Optional}

  - **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: **unit** value: ***value*** ^{Optional}

    attribute: **scaling_factor** value: ***value*** ^{Optional}

    attribute: **value_offset** value: ***value*** ^{Optional}

  - **End** Array_Element

  - **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: **sequence_number** value: ***value***
    attribute: **elements** value: ***value***
    attribute: **unit** value: ***value*** ^{Optional}

- **Axis_Display - Occurs 0 to 1 Times**

  description: **The Axis_Display class provides attributes to enable the display of an array axis.**
  role: **Concrete**
  attribute: **display_direction** value: **BACK, DOWN, FORWARD, LEFT, RIGHT, SEQUENTIAL, UP**
  attribute: **default_red** value: ***value*** Optional
  attribute: **default_green** value: ***value*** Optional
  attribute: **default_blue** value: ***value*** Optional
  attribute: **frame_rate** value: ***value*** Optional
  attribute: **continuous_loop_flag** value: ***value*** Optional
  - **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
- **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
- **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: **maximum** value: ***value*** Optional
  attribute: **minimum** value: ***value*** Optional
  attribute: **mean** value: ***value*** Optional
  attribute: **standard_deviation** value: ***value*** Optional
  attribute: **median** value: ***value*** Optional
  attribute: **md5_checksum** value: ***value*** Optional
  attribute: **sample_bit_mask** value: ***value*** Optional
  attribute: **description** value: ***value*** Optional
  - **End** Object_Statistics
- **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: **offset** value: ***value***
  attribute: **axes** value: **2**
  attribute: **axis_index_order** value: **FIRST_INDEX_FASTEST**
  attribute: **axis_storage_order** value: **LINE_SAMPLE, SAMPLE_LINE**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** Optional
  - **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: **unit** value: ***value*** Optional

attribute: **scaling_factor** value: ***value*** Optional

attribute: **value_offset** value: ***value*** Optional

- **End** Array_Element

- **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: **sequence_number** value: ***value***
  attribute: **elements** value: ***value***
  attribute: **unit** value: ***value*** Optional

    - **Axis_Display - Occurs 0 to 1 Times**

      description: **The Axis_Display class provides attributes to enable the display of an array axis.**
      role: **Concrete**
      attribute: **display_direction** value: **BACK, DOWN, FORWARD, LEFT, RIGHT, SEQUENTIAL, UP**
      attribute: **default_red** value: ***value*** Optional
      attribute: **default_green** value: ***value*** Optional
      attribute: **default_blue** value: ***value*** Optional
      attribute: **frame_rate** value: ***value*** Optional
      attribute: **continuous_loop_flag** value: ***value*** Optional
      - **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

- **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

- **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: **maximum** value: ***value*** Optional
  attribute: **minimum** value: ***value*** Optional
  attribute: **mean** value: ***value*** Optional
  attribute: **standard_deviation** value: ***value*** Optional
  attribute: **median** value: ***value*** Optional
  attribute: **md5_checksum** value: ***value*** Optional
  attribute: **sample_bit_mask** value: ***value*** Optional
  attribute: **description** value: ***value*** Optional
  - **End** Object_Statistics
- **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: **offset** value: ***value***
  attribute: **axes** value: **3**
  attribute: **axis_index_order** value: **FIRST_INDEX_FASTEST**
  attribute: **axis_storage_order** value: **LINE_SAMPLE, SAMPLE_LINE**

attribute: **encoding_type** value: **BINARY**

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

- **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: **unit** value: ***value*** Optional

  attribute: **scaling_factor** value: ***value*** Optional

  attribute: **value_offset** value: ***value*** Optional

- **End** Array_Element

- **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: **sequence_number** value: ***value***

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

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

  - **Axis_Display - Occurs 0 to 1 Times**

    description: **The Axis_Display class provides attributes to enable the display of an array axis.**

    role: **Concrete**

    atttribute: **display_direction** value: **BACK, DOWN, FORWARD, LEFT, RIGHT, SEQUENTIAL, UP**

    attribute: **default_red** value: ***value*** Optional

    attribute: **default_green** value: ***value*** Optional

    attribute: **default_blue** value: ***value*** Optional

    attribute: **frame_rate** value: ***value*** Optional

    attribute: **continuous_loop_flag** value: ***value*** Optional

  - **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

- **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

- **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: **maximum** value: ***value*** Optional

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

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

  attribute: **standard_deviation** value: ***value*** Optional

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

  attribute: **md5_checksum** value: ***value*** Optional

  attribute: **sample_bit_mask** value: ***value*** Optional

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

- **End** Object_Statistics
- **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: **offset** value: ***value***
  attribute: **axes** value: **3**
  attribute: **axis_index_order** value: **FIRST_INDEX_FASTEST**
  attribute: **axis_storage_order** value: **LINE_SAMPLE, SAMPLE_LINE**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** Optional

  - **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: **unit** value: ***value*** Optional
    attribute: **scaling_factor** value: ***value*** Optional
    attribute: **value_offset** value: ***value*** Optional
  - **End** Array_Element
  - **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: **sequence_number** value: ***value***
    attribute: **elements** value: ***value***
    attribute: **unit** value: ***value*** Optional

    - **Axis_Display - Occurs 0 to 1 Times**

      description: **The Axis_Display class provides attributes to enable the display of an array axis.**
      role: **Concrete**
      attribute: **display_direction** value: **BACK, DOWN, FORWARD, LEFT, RIGHT, SEQUENTIAL, UP**
      attribute: **default_red** value: ***value*** Optional
      attribute: **default_green** value: ***value*** Optional
      attribute: **default_blue** value: ***value*** Optional
      attribute: **frame_rate** value: ***value*** Optional
      attribute: **continuous_loop_flag** value: ***value*** Optional
    - **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
  - **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
  - **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: **maximum** value: ***value*** ^{Optional}
attribute: **minimum** value: ***value*** ^{Optional}
attribute: **mean** value: ***value*** ^{Optional}
attribute: **standard_deviation** value: ***value*** ^{Optional}
attribute: **median** value: ***value*** ^{Optional}
attribute: **md5_checksum** value: ***value*** ^{Optional}
attribute: **sample_bit_mask** value: ***value*** ^{Optional}
attribute: **description** value: ***value*** ^{Optional}
- **End** Object_Statistics

- **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: **offset** value: ***value***
  attribute: **axes** value: **3**
  attribute: **axis_index_order** value: **FIRST_INDEX_FASTEST**
  attribute: **axis_storage_order** value: **LINE_SAMPLE, SAMPLE_LINE**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** ^{Optional}

  - **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: **unit** value: ***value*** ^{Optional}
    attribute: **scaling_factor** value: ***value*** ^{Optional}
    attribute: **value_offset** value: ***value*** ^{Optional}
  - **End** Array_Element

  - **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: **sequence_number** value: ***value***
    attribute: **elements** value: ***value***
    attribute: **unit** value: ***value*** ^{Optional}

    - **Axis_Display - Occurs 0 to 1 Times**

      description: **The Axis_Display class provides attributes to enable the display of an array axis.**
      role: **Concrete**
      attribute: **display_direction** value: **BACK, DOWN, FORWARD, LEFT, RIGHT, SEQUENTIAL, UP**
      attribute: **default_red** value: ***value*** ^{Optional}
      attribute: **default_green** value: ***value*** ^{Optional}
      attribute: **default_blue** value: ***value*** ^{Optional}
      attribute: **frame_rate** value: ***value*** ^{Optional}
      attribute: **continuous_loop_flag** value: ***value*** ^{Optional}
    - **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

  - **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

- **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: **maximum** value: ***value*** Optional
  attribute: **minimum** value: ***value*** Optional
  attribute: **mean** value: ***value*** Optional
  attribute: **standard_deviation** value: ***value*** Optional
  attribute: **median** value: ***value*** Optional
  attribute: **md5_checksum** value: ***value*** Optional
  attribute: **sample_bit_mask** value: ***value*** Optional
  attribute: **description** value: ***value*** Optional

- **End** Object_Statistics

- **End** Array_3D_Spectrum

- **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: **offset** value: ***value***
  attribute: **external_standard_id** value: **GIF, JPEG, PDF, PNG, TIFF**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** Optional

- **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: **offset** value: ***value***
  attribute: **external_standard_id** value: **PDF**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** Optional

- **End** File_PDF

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

  description: **The Header class describes a data object header.**
  role: **Concrete**
  attribute: **name** value: ***value*** Optional
  attribute: **local_identifier** value: ***value***
  attribute: **bytes** value: ***value***
  attribute: **offset** value: ***value***
  attribute: **external_standard_id** value: **FITS, FREE_TEXT, ISIS2, ISIS3, ISIS_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR**
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **description** value: ***value*** Optional

- **End** Header

- **Header_Binary - Occurs 0 to * Times**

  description: **The Header Binary class describes a data object header.**
  role: **Concrete**
  attribute: **name** value: ***value*** Optional
  attribute: **local_identifier** value: ***value***
  attribute: **bytes** value: ***value***
  attribute: **offset** value: ***value***
  attribute: **external_standard_id** value: **FITS, ISIS2, ISIS3, ISIS_HISTORY, TIFF, VICAR**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** Optional

- **End** Header_Binary

- **Stream_Text - Occurs 0 to * Times**

description: **The Stream text class defines a text file.**
role: **Concrete**
attribute: **name** value: ***value*** Optional
attribute: **local_identifier** value: ***value***
attribute: **offset** value: ***value***
attribute: **external_standard_id** value: ***value***
attribute: **encoding_type** value: **CHARACTER**
attribute: **description** value: ***value*** Optional
- **End** Stream_Text

- **Table_Binary - Occurs 0 to * Times**

  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: **offset** value: ***value***
  attribute: **records** value: ***value***
  attribute: **record_length** value: ***value***
  attribute: **fields** value: ***value***
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** Optional

  - **Record_Binary Occurs 1 Times**

    description: **The Record_Binary class is a component of the table class and defines a record of the table.**
    role: **Concrete**

    - **Field_Binary - Occurs 1 to * Times**

      description: **The Field_Binary class defines a field of the record.**
      role: **Concrete**
      attribute: **name** value: ***value***
      attribute: **field_number** value: ***value*** Optional
      attribute: **field_location** value: ***value***
      attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
      attribute: **field_length** value: ***value***
      attribute: **field_format** value: ***value*** Optional
      attribute: **unit** value: ***value*** Optional
      attribute: **maximum_scaled_value** value: ***value*** Optional
      attribute: **minimum_scaled_value** value: ***value*** Optional
      attribute: **scaling_factor** value: ***value*** Optional
      attribute: **value_offset** value: ***value*** Optional
      attribute: **description** 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: **maximum** value: ***value*** Optional
        attribute: **minimum** value: ***value*** Optional
        attribute: **mean** value: ***value*** Optional
        attribute: **standard_deviation** value: ***value*** Optional
        attribute: **median** value: ***value*** Optional
        attribute: **description** 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** Field_Binary

- **Field_Bit - Occurs 1 to * Times**

  description: **The Field_Bit class defines a bit field.**
  role: **Concrete**
  attribute: **name** value: ***value***

  attribute: **field_number** value: ***value*** ^{Optional}
  attribute: **field_location** value: ***value***
  attribute: **data_type** value: **Bit**
  attribute: **field_length** value: ***value***
  attribute: **bit_mask** value: ***value*** ^{Optional}

  attribute: **field_format** value: ***value*** ^{Optional}
  attribute: **bits** value: ***value***
  attribute: **start_bit** value: ***value***
  attribute: **unit** value: ***value*** ^{Optional}

  attribute: **maximum_scaled_value** value: ***value*** ^{Optional}

  attribute: **minimum_scaled_value** value: ***value*** ^{Optional}

  attribute: **scaling_factor** value: ***value*** ^{Optional}

  attribute: **value_offset** value: ***value*** ^{Optional}

  attribute: **description** value: ***value*** ^{Optional}

- **End** Field_Bit

- **Group_Field_Binary - Occurs 1 to * Times**

  description: **The Group_Field_Binary class allows a group of table fields.**
  role: **Concrete**
  attribute: **repetitions** value: ***value***

  - **Field_Binary Occurs 1 Times**

    description: **The Field_Binary class defines a field of the record.**
    role: **Concrete**
    attribute: **name** value: ***value***

    attribute: **field_number** value: ***value*** ^{Optional}
    attribute: **field_location** value: ***value***
    attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
    attribute: **field_length** value: ***value***

    attribute: **field_format** value: ***value*** ^{Optional}

    attribute: **unit** value: ***value*** ^{Optional}

    attribute: **maximum_scaled_value** value: ***value*** ^{Optional}

    attribute: **minimum_scaled_value** value: ***value*** ^{Optional}

    attribute: **scaling_factor** value: ***value*** ^{Optional}

    attribute: **value_offset** value: ***value*** ^{Optional}

    attribute: **description** 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: **maximum** value: ***value*** ^{Optional}

      attribute: **minimum** value: ***value*** ^{Optional}

      attribute: **mean** value: ***value*** ^{Optional}

      attribute: **standard_deviation** value: ***value*** ^{Optional}

attribute: **median** value: *value* ^{Optional}

attribute: **description** 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** Field_Binary

- **Field_Bit Occurs 1 Times**

  description: **The Field_Bit class defines a bit field.**
  role: **Concrete**
  attribute: **name** value: *value*

  attribute: **field_number** value: *value* ^{Optional}

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

  attribute: **data_type** value: **Bit**

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

  attribute: **bit_mask** value: *value* ^{Optional}

  attribute: **field_format** value: *value* ^{Optional}

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

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

  attribute: **unit** value: *value* ^{Optional}

  attribute: **maximum_scaled_value** value: *value* ^{Optional}

  attribute: **minimum_scaled_value** value: *value* ^{Optional}

  attribute: **scaling_factor** value: *value* ^{Optional}

  attribute: **value_offset** value: *value* ^{Optional}

  attribute: **description** value: *value* ^{Optional}

  - **End** Field_Bit

- **End** Group_Field_Binary

- **End** Record_Binary

- **Uniformly_Sampled - Occurs 0 to 1 Times**

  description: **The Uniformly_Sampled class provdes 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_Character - Occurs 0 to * Times**

  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: **offset** value: *value*
  attribute: **records** value: *value*
  attribute: **record_length** value: *value*
  attribute: **fields** value: *value*
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **description** value: *value* ^{Optional}

  - **Record_Character Occurs 1 Times**

    description: **The Record_Character class is a component of the table class and defines a record of the table.**
    role: **Concrete**

    - **Field_Character - Occurs 1 to * Times**

      description: **The Field_Character class defines a field of the record.**
      role: **Concrete**
      attribute: **name** value: *value*

attribute: **field_number** value: **_value_** ^{Optional}
attribute: **field_location** value: **_value_**
attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: **_value_** ^{Optional}
attribute: **maximum_scaled_value** value: **_value_** ^{Optional}
attribute: **minimum_scaled_value** value: **_value_** ^{Optional}
attribute: **scaling_factor** value: **_value_** ^{Optional}
attribute: **value_offset** value: **_value_** ^{Optional}
attribute: **description** 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: **maximum** value: **_value_** ^{Optional}
  attribute: **minimum** value: **_value_** ^{Optional}
  attribute: **mean** value: **_value_** ^{Optional}
  attribute: **standard_deviation** value: **_value_** ^{Optional}
  attribute: **median** value: **_value_** ^{Optional}
  attribute: **description** 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** Field_Character
- **Group_Field_Character - Occurs 1 to * Times**

  description: **The Group_Field_Character class allows a group of table fields.**
  role: **Concrete**
  attribute: **repetitions** value: **_value_**

  - **Field_Character Occurs 1 Times**

    description: **The Field_Character class defines a field of the record.**
    role: **Concrete**
    attribute: **name** value: **_value_**
    attribute: **field_number** value: **_value_** ^{Optional}
    attribute: **field_location** value: **_value_**
    attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: **_value_** ^{Optional}
    attribute: **maximum_scaled_value** value: **_value_** ^{Optional}
    attribute: **minimum_scaled_value** value: **_value_** ^{Optional}

attribute: **scaling_factor** value: ***value*** ^{Optional}

attribute: **value_offset** value: ***value*** ^{Optional}

attribute: **description** 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: **maximum** value: ***value*** ^{Optional}

  attribute: **minimum** value: ***value*** ^{Optional}

  attribute: **mean** value: ***value*** ^{Optional}

  attribute: **standard_deviation** value: ***value*** ^{Optional}

  attribute: **median** value: ***value*** ^{Optional}

  attribute: **description** 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** Field_Character

- **End** Group_Field_Character

- **End** Record_Character

- **Uniformly_Sampled - Occurs 0 to 1 Times**

  description: **The Uniformly_Sampled class provdes 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_Delimited - Occurs 0 to * Times**

  description: **The Table_Delimited class defines a simple table (spreadsheet) with delimited fields and records.**
  role: **Concrete**
  attribute: **name** value: ***value*** ^{Optional}
  attribute: **local_identifier** value: ***value***
  attribute: **field_delimiter** value: **0x2C, 0x3B, 0x7C**
  attribute: **maximum_record_length** value: ***value***
  attribute: **record_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**
  attribute: **offset** value: ***value***
  attribute: **records** value: ***value***
  attribute: **fields** value: ***value***
  attribute: **external_standard_id** value: **CSV, OTHER**
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **description** value: ***value*** ^{Optional}

  - **Record_Delimited Occurs 1 Times**

    description: **The Record_Delimited class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.**
    role: **Concrete**

    - **Field_Delimited - Occurs 1 to * Times**

      description: **The Field_Delimited class defines a field of the record.**
      role: **Concrete**
      attribute: **name** value: ***value***
      attribute: **field_number** value: ***value*** ^{Optional}

      attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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*** Optional

attribute: **field_format** value: ***value*** Optional

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

attribute: **maximum_scaled_value** value: ***value*** Optional

attribute: **minimum_scaled_value** value: ***value*** Optional

attribute: **scaling_factor** value: ***value*** Optional

attribute: **value_offset** value: ***value*** Optional

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

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

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

  attribute: **standard_deviation** value: ***value*** Optional

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

  attribute: **description** 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** Field_Delimited
- **Group_Field_Delimited - Occurs 1 to * Times**

  description: **The FIeld_Group_Delimited class allows a group of delimited fields.**
  role: **Concrete**
  attribute: **repetitions** value: ***value***

  - **Field_Delimited Occurs 1 Times**

    description: **The Field_Delimited class defines a field of the record.**
    role: **Concrete**
    attribute: **name** value: ***value***

    attribute: **field_number** value: ***value*** Optional

    attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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*** Optional

    attribute: **field_format** value: ***value*** Optional

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

    attribute: **maximum_scaled_value** value: ***value*** Optional

    attribute: **minimum_scaled_value** value: ***value*** Optional

    attribute: **scaling_factor** value: ***value*** Optional

    attribute: **value_offset** value: ***value*** Optional

    attribute: **description** 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: **maximum** value: *value* Optional
attribute: **minimum** value: *value* Optional
attribute: **mean** value: *value* Optional
attribute: **standard_deviation** value: *value* Optional
attribute: **median** value: *value* Optional
attribute: **description** 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** Field_Delimited
  - **End** Group_Field_Delimited
  - **End** Record_Delimited
- **End** Table_Delimited

- **File Occurs 1 Times**

  description: **The File class consists of attributes that describe a file in a data store.**
  role: **Concrete**
  attribute: **file_name** value: *value*
  attribute: **local_identifier** value: *value* Optional
  attribute: **creation_date_time** value: *value* Optional
  attribute: **file_size** value: *value* Optional
  attribute: **records** value: *value* Optional
  attribute: **maximum_record_bytes** value: *value* Optional
  attribute: **md5_checksum** value: *value* Optional
  attribute: **comment** value: *value* Optional
  - **End** File
- **End** File_Area
- **End** Product_Browse

- **Product_Bundle**

description: **A Product_Bundle is an aggregate product and has a table of references to one or more collections.**
role: **Concrete**

- **Identification_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**
role: **Concrete**

- **Alias_List - Occurs 0 to 1 Times**

description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
role: **Concrete**

- **Alias - Occurs 1 to * Times**

description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
role: **Concrete**
attribute: **alternate_id** value: *value* Optional
attribute: **alternate_title** value: *value* Optional
attribute: **comment** value: *value* Optional
- **End** Alias
- **End** Alias_List

- **Citation_Information - Occurs 0 to 1 Times**

description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
role: **Concrete**

attribute: **author_list** value: ***value*** ^{Optional}

attribute: **editor_list** value: ***value*** ^{Optional}

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

attribute: **keywords** value: ***value*** ^{Optional}

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

- **End** Citation_Information

- **Modification_History - Occurs 0 to 1 Times**

  description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
  role: **Concrete**

  - **Modification_Detail Occurs 1 Times**

    description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
    role: **Concrete**
    attribute: **modification_date** value: ***value***
    attribute: **version_id** value: ***value***
    attribute: **description** value: ***value***
  - **End** Modification_Detail
- **End** Modification_History
  attribute: **logical_identifier** value: ***value***
  attribute: **version_id** value: ***value***
  attribute: **title** value: ***value***
  attribute: **information_model_version** value: **0.5.1.2.B**
  attribute: **product_class** value: ***value***
- **End** Identification_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**

  - **Time_Coordinates Occurs 1 Times**

    description: **The Time_Coordinates class provides a list of time coordinates.**
    role: **Concrete**
    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: **solar_longitude** value: ***value*** ^{Optional}
  - **End** Time_Coordinates

  - **Primary_Result_Description - Occurs 0 to 1 Times**

    description: **The Primary_Result_Description class provides a high-level description of the types of products included in the collection or bundle**
    role: **Concrete**
    attribute: **type** value: **Astrometry, B-Field_Vectors, Column_Density, Comet_Nuclear_Properties, Count, Count_Rate, Data_Number, Digital_Elevation_Model, E-Field_Vectors, Environment, Environment:Hardware_Temperature, Filter_Curve, Flux, Flux:Electron, Flux:Ion, Flux:Photometric, Gravity_Model, Gravity_Model:Spherical_Harmonics, Image, Image:Anaglyph, Image:Color, Image:Filtered, Impact_Characteristics, Instrument, Instrument:Geometry, Instrument:Parameters, Lightcurve, Magnetometry, Magnitude, Map, Map:Radiance, Map:Thermal, Morphology, Null_Result, Photometry, Photometry:Aperture, Photometry:High-Speed, Photometry:Magnitude, Point_Spread_Function, Polarimetry, Pressure, Production_Rate, Pulse_Heights, Radiometry, Shape_Model, Shape_Model:Spherical_Harmonics, Shape_Model:Triangular_Plate, Spectrometry, Spectrophotometry, Spectroscopy, Spectrum, Spectrum:Frequency, Spectrum:Grism, Spectrum:Image, Spectrum:Lines, Spectrum:Mass, Spectrum:Time-Of-Flight, Spin_State** ^{Optional}
    attribute: **purpose** value: **Calibration, Checkout, Engineering, Navigation, Science**
    attribute: **data_regime** value: **Dust:Dust_Particle_Counts, Dust:Impacts, Dust:Mass_Spectra, Electric_Field, Electrons, Far_Infrared, Gamma_Ray, Infrared, Ions, Magnetic_Field, Microwave, Millimeter, Near_Infrared, Optical, Particles, Radio, Sub-Millimeter, Ultraviolet, Visible, X-Ray**
    attribute: **reduction_level** value: **Analytic, Calibrated, Derived, Raw**
    attribute: **description** value: ***value*** ^{Optional}
  - **End** Primary_Result_Description

  - **Investigation_Area - Occurs 1 to * Times**

    description: **The Investigation_Area class provides iformation about an investigation (mission, observing campaign or other coordinated, large-scale data collection effort).**
    role: **Concrete**
    attribute: **name** value: ***value***
    attribute: **type** value: ***value***

- **Internal_Reference Occurs 1 Times**

  description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** ^{Optional}
  attribute: **lidvid_reference** value: ***value*** ^{Optional}
  attribute: **reference_type** value: ***value***
  attribute: **comment** value: ***value*** ^{Optional}
  - **End** Internal_Reference
- **End** Investigation_Area
- **Observing_System - Occurs 0 to * Times**

  description: **The Observing System class describes the entire suite used to collect the data.**
  role: **Concrete**
  - **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: **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**
    attribute: **description** value: ***value*** ^{Optional}
    - **Internal_Reference - Occurs 0 to 1 Times**

      description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
      role: **Concrete**
      attribute: **lid_reference** value: ***value*** ^{Optional}
      attribute: **lidvid_reference** value: ***value*** ^{Optional}
      attribute: **reference_type** value: ***value***
      attribute: **comment** value: ***value*** ^{Optional}
      - **End** Internal_Reference
    - **External_Reference - Occurs 0 to * Times**

      description: **The External_Reference class is used to reference a source outside the PDS registry system.**
      role: **Concrete**
      attribute: **reference_text** value: ***value***
      attribute: **description** value: ***value*** ^{Optional}
      - **End** External_Reference
  - **End** Observing_System_Component
    attribute: **name** value: ***value*** ^{Optional}
    attribute: **description** value: ***value*** ^{Optional}
- **End** Observing_System
- **Target_Identification - Occurs 1 to * Times**

  description: **The Target_Identification class provides detailed target identification information.**
  role: **Concrete**
  attribute: **name** value: ***value***
  attribute: **alternate_designation** value: ***value*** ^{Optional}
  attribute: **type** value: ***value***
  attribute: **description** value: ***value*** ^{Optional}
  - **Internal_Reference - Occurs 0 to 1 Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** ^{Optional}
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **reference_type** value: ***value***
    attribute: **comment** value: ***value*** ^{Optional}
    - **End** Internal_Reference
- **End** Target_Identification
- **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: **name** value: *value*
  attribute: **local_identifier** value: *value*
  attribute: **type** value: **POSITION, VELOCITY**
  attribute: **vector_components** value: *value*
  attribute: **description** 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: **sequence_number** value: *value*
    attribute: **unit** value: *value* Optional
    attribute: **value** value: *value*
    attribute: **description** value: *value* Optional
  - **End** Vector_Component
- **End** Vector
- **End** Geometry
- **Cartography - Occurs 0 to 1 Times**

  description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**
  role: **Concrete**
- **End** Cartography
- **Mission_Area - Occurs 0 to * Times**

  description: **The mission area allows the insertion of mission specific metadata.**
  role: **Concrete**
- **End** Mission_Area
  attribute: **comment** value: *value* Optional
- **Node_Area - Occurs 0 to * Times**

  description: **The node area allows the insertion of node specific metadata.**
  role: **Concrete**
- **End** Node_Area
- **End** Observation_Area

- **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_type** value: **has_browse_collection, has_calibration_collection, has_context_collection, has_data_collection, has_document_collection, has_geometry_collection, has_member_collection, has_spice_kernels_collection, has_xml_schema_collection**
- **End** Bundle_Member_Entry
- **Reference_List - Occurs 0 to 1 Times**

description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
role: **Concrete**

- **Internal_Reference - Occurs 0 to * Times**

  description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
  role: **Concrete**
  attribute: **lid_reference** value: *value* Optional
  attribute: **lidvid_reference** value: *value* Optional
  attribute: **reference_type** value: *value*
  attribute: **comment** value: *value* Optional
- **End** Internal_Reference
- **External_Reference - Occurs 0 to * Times**

  description: **The External_Reference class is used to reference a source outside the PDS registry system.**
  role: **Concrete**
  attribute: **reference_text** value: *value*
  attribute: **description** value: *value* Optional

- **End** External_Reference
- **End** Reference_List
- **File_Area_Text - Occurs 0 to 1 Times**

  description: **The File Area Text class describes a file that contains a text stream object.**
  role: **Concrete**
  - **Stream_Text Occurs 1 Times**

    description: **The Stream text class defines a text file.**
    role: **Concrete**
    attribute: **name** value: ***value*** ^{Optional}
    attribute: **local_identifier** value: ***value***
    attribute: **offset** value: ***value***
    attribute: **external_standard_id** value: ***value***
    attribute: **encoding_type** value: **CHARACTER**
    attribute: **description** value: ***value*** ^{Optional}
  - **End** Stream_Text
  - **File Occurs 1 Times**

    description: **The File class consists of attributes that describe a file in a data store.**
    role: **Concrete**
    attribute: **file_name** value: ***value***
    attribute: **local_identifier** value: ***value*** ^{Optional}
    attribute: **creation_date_time** value: ***value*** ^{Optional}
    attribute: **file_size** value: ***value*** ^{Optional}
    attribute: **records** value: ***value*** ^{Optional}
    attribute: **maximum_record_bytes** value: ***value*** ^{Optional}
    attribute: **md5_checksum** value: ***value*** ^{Optional}
    attribute: **comment** value: ***value*** ^{Optional}
  - **End** File
- **End** File_Area_Text
- **End** Product_Bundle

- **Product_Collection**

  description: **A Product_Collection has a table of references to one or more basic products. The references are stored in a Table_Character called the Inventory.**
  role: **Abstract**
  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**
    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**
      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: ***value*** ^{Optional}
        attribute: **alternate_title** value: ***value*** ^{Optional}
        attribute: **comment** value: ***value*** ^{Optional}
      - **End** Alias
    - **End** Alias_List
    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: ***value*** ^{Optional}
      attribute: **editor_list** value: ***value*** ^{Optional}
      attribute: **publication_year** value: ***value***
      attribute: **keywords** value: ***value*** ^{Optional}
      attribute: **description** value: ***value***
    - **End** Citation_Information
    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**

role: **Concrete**

- **Modification_Detail Occurs 1 Times**

  description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
  role: **Concrete**
  attribute: **modification_date** value: **value**
  attribute: **version_id** value: **value**
  attribute: **description** value: **value**
  - **End** Modification_Detail
- **End** Modification_History
  attribute: **logical_identifier** value: **value**
  attribute: **version_id** value: **value**
  attribute: **title** value: **value**
  attribute: **information_model_version** value: **0.5.1.2.B**
  attribute: **product_class** value: **value**
- **End** Identification_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**
  - **Time_Coordinates Occurs 1 Times**

    description: **The Time_Coordinates class provides a list of time coordinates.**
    role: **Concrete**
    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: **solar_longitude** value: **value** Optional
    - **End** Time_Coordinates

  - **Primary_Result_Description - Occurs 0 to 1 Times**

    description: **The Primary_Result_Description class provides a high-level description of the types of products included in the collection or bundle**
    role: **Concrete**
    attribute: **type** value: **Astrometry, B-Field_Vectors, Column_Density, Comet_Nuclear_Properties, Count, Count_Rate, Data_Number, Digital_Elevation_Model, E-Field_Vectors, Environment, Environment:Hardware_Temperature, Filter_Curve, Flux, Flux:Electron, Flux:Ion, Flux:Photometric, Gravity_Model, Gravity_Model:Spherical_Harmonics, Image, Image:Anaglyph, Image:Color, Image:Filtered, Impact_Characteristics, Instrument, Instrument:Geometry, Instrument:Parameters, Lightcurve, Magnetometry, Magnitude, Map, Map:Radiance, Map:Thermal, Morphology, Null_Result, Photometry, Photometry:Aperture, Photometry:High-Speed, Photometry:Magnitude, Point_Spread_Function, Polarimetry, Pressure, Production_Rate, Pulse_Heights, Radiometry, Shape_Model, Shape_Model:Spherical_Harmonics, Shape_Model:Triangular_Plate, Spectrometry, Spectrophotometry, Spectroscopy, Spectrum, Spectrum:Frequency, Spectrum:Grism, Spectrum:Image, Spectrum:Lines, Spectrum:Mass, Spectrum:Time-Of-Flight, Spin_State** Optional
    attribute: **purpose** value: **Calibration, Checkout, Engineering, Navigation, Science**
    attribute: **data_regime** value: **Dust:Dust_Particle_Counts, Dust:Impacts, Dust:Mass_Spectra, Electric_Field, Electrons, Far_Infrared, Gamma_Ray, Infrared, Ions, Magnetic_Field, Microwave, Millimeter, Near_Infrared, Optical, Particles, Radio, Sub-Millimeter, Ultraviolet, Visible, X-Ray**
    attribute: **reduction_level** value: **Analytic, Calibrated, Derived, Raw**
    attribute: **description** value: **value** Optional
    - **End** Primary_Result_Description

  - **Investigation_Area - Occurs 1 to * Times**

    description: **The Investigation_Area class provides iformation about an investigation (mission, observing campaign or other coordinated, large-scale data collection effort).**
    role: **Concrete**
    attribute: **name** value: **value**
    attribute: **type** value: **value**
    - **Internal_Reference Occurs 1 Times**

      description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
      role: **Concrete**
      attribute: **lid_reference** value: **value** Optional
      attribute: **lidvid_reference** value: **value** Optional
      attribute: **reference_type** value: **value**
      attribute: **comment** value: **value** Optional
      - **End** Internal_Reference

- **End** Investigation_Area
- **Observing_System - Occurs 0 to * Times**

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

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

        - **Internal_Reference - Occurs 0 to 1 Times**

            description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
            role: **Concrete**
            attribute: **lid_reference** value: ***value*** Optional
            attribute: **lidvid_reference** value: ***value*** Optional
            attribute: **reference_type** value: ***value***
            attribute: **comment** value: ***value*** Optional
        - **End** Internal_Reference
        - **External_Reference - Occurs 0 to * Times**

            description: **The External_Reference class is used to reference a source outside the PDS registry system.**
            role: **Concrete**
            attribute: **reference_text** value: ***value***
            attribute: **description** value: ***value*** Optional
        - **End** External_Reference
    - **End** Observing_System_Component
        attribute: **name** value: ***value*** Optional
        attribute: **description** value: ***value*** Optional
- **End** Observing_System
- **Target_Identification - Occurs 1 to * Times**

    description: **The Target_Identification class provides detailed target identification information.**
    role: **Concrete**
    attribute: **name** value: ***value***
    attribute: **alternate_designation** value: ***value*** Optional
    attribute: **type** value: ***value***
    attribute: **description** value: ***value*** Optional

    - **Internal_Reference - Occurs 0 to 1 Times**

        description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
        role: **Concrete**
        attribute: **lid_reference** value: ***value*** Optional
        attribute: **lidvid_reference** value: ***value*** Optional
        attribute: **reference_type** value: ***value***
        attribute: **comment** value: ***value*** Optional
    - **End** Internal_Reference
- **End** Target_Identification
- **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: **name** value: ***value***
        attribute: **local_identifier** value: ***value***
        attribute: **type** value: **POSITION, VELOCITY**
        attribute: **vector_components** value: ***value***
        attribute: **description** 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: **sequence_number** value: **value**
  attribute: **unit** value: **value** Optional
  attribute: **value** value: **value**
  attribute: **description** value: **value** Optional
  - **End** Vector_Component
- **End** Vector
- **End** Geometry
- **Cartography - Occurs 0 to 1 Times**

  description: **The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.**
  role: **Concrete**
- **End** Cartography
- **Mission_Area - Occurs 0 to * Times**

  description: **The mission area allows the insertion of mission specific metadata.**
  role: **Concrete**
- **End** Mission_Area
  attribute: **comment** value: **value** Optional
- **Node_Area - Occurs 0 to * Times**

  description: **The node area allows the insertion of node specific metadata.**
  role: **Concrete**
- **End** Node_Area
- **End** Observation_Area
  attribute: **reduction_level** value: **Analytic, Calibrated, Derived, Raw**
- **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**
- **Inventory_LIDVID_Primary Occurs 1 Times**

  description: **The Inventory LIDVID Primary class defines the inventory for primary members of a collection.**
  role: **Concrete**
  attribute: **local_identifier** value: **value**
  attribute: **reference_type** value: **has_member_LIDVID_Primary**
  attribute: **offset** value: **value**
  attribute: **records** value: **value**
  attribute: **record_length** value: **value**
  attribute: **fields** value: **2**
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **description** value: **value** Optional
  - **Record_Character Occurs 1 Times**

    description: **The Record_Character class is a component of the table class and defines a record of the table.**
    role: **Concrete**
    - **Field_Character - Occurs 1 to * Times**

      description: **The Field_Character class defines a field of the record.**
      role: **Concrete**
      attribute: **name** value: **value**
      attribute: **field_number** value: **value** Optional
      attribute: **field_location** value: **value**
      attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: **value** Optional
      attribute: **maximum_scaled_value** value: **value** Optional
      attribute: **minimum_scaled_value** value: **value** Optional
      attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: *value* ^{Optional}

attribute: **description** 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: **maximum** value: *value* ^{Optional}

  attribute: **minimum** value: *value* ^{Optional}

  attribute: **mean** value: *value* ^{Optional}

  attribute: **standard_deviation** value: *value* ^{Optional}

  attribute: **median** value: *value* ^{Optional}

  attribute: **description** 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** Field_Character

- **Group_Field_Character - Occurs 1 to * Times**

  description: **The Group_Field_Character class allows a group of table fields.**
  role: **Concrete**
  attribute: **repetitions** value: *value*

  - **Field_Character Occurs 1 Times**

    description: **The Field_Character class defines a field of the record.**
    role: **Concrete**
    attribute: **name** value: *value*

    attribute: **field_number** value: *value* ^{Optional}

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

    attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: *value* ^{Optional}

    attribute: **maximum_scaled_value** value: *value* ^{Optional}

    attribute: **minimum_scaled_value** value: *value* ^{Optional}

    attribute: **scaling_factor** value: *value* ^{Optional}

    attribute: **value_offset** value: *value* ^{Optional}

    attribute: **description** 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: **maximum** value: *value* ^{Optional}

      attribute: **minimum** value: *value* ^{Optional}

      attribute: **mean** value: *value* ^{Optional}

      attribute: **standard_deviation** value: *value* ^{Optional}

      attribute: **median** value: *value* ^{Optional}

      attribute: **description** 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** Field_Character

- **End** Group_Field_Character

- **End** Record_Character

- **End** Inventory_LIDVID_Primary

- **File Occurs 1 Times**

  description: **The File class consists of attributes that describe a file in a data store.**
  role: **Concrete**
  attribute: **file_name** value: ***value***
  attribute: **local_identifier** value: ***value*** ^{Optional}
  attribute: **creation_date_time** value: ***value*** ^{Optional}
  attribute: **file_size** value: ***value*** ^{Optional}
  attribute: **records** value: ***value*** ^{Optional}
  attribute: **maximum_record_bytes** value: ***value*** ^{Optional}
  attribute: **md5_checksum** value: ***value*** ^{Optional}
  attribute: **comment** value: ***value*** ^{Optional}

  - **End** File

- **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**

  - **Inventory_LIDVID_Secondary Occurs 1 Times**

    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: **reference_type** value: **has_member_LIDVID_Secondary**
    attribute: **offset** value: ***value***
    attribute: **records** value: ***value***
    attribute: **record_length** value: ***value***
    attribute: **fields** value: **1**
    attribute: **encoding_type** value: **CHARACTER**
    attribute: **description** value: ***value*** ^{Optional}

    - **Record_Character Occurs 1 Times**

      description: **The Record_Character class is a component of the table class and defines a record of the table.**
      role: **Concrete**

      - **Field_Character - Occurs 1 to * Times**

        description: **The Field_Character class defines a field of the record.**
        role: **Concrete**
        attribute: **name** value: ***value***
        attribute: **field_number** value: ***value*** ^{Optional}
        attribute: **field_location** value: ***value***
        attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: ***value*** ^{Optional}
        attribute: **maximum_scaled_value** value: ***value*** ^{Optional}
        attribute: **minimum_scaled_value** value: ***value*** ^{Optional}

attribute: **scaling_factor** value: ***value*** ^{Optional}

attribute: **value_offset** value: ***value*** ^{Optional}

attribute: **description** 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: **maximum** value: ***value*** ^{Optional}

  attribute: **minimum** value: ***value*** ^{Optional}

  attribute: **mean** value: ***value*** ^{Optional}

  attribute: **standard_deviation** value: ***value*** ^{Optional}

  attribute: **median** value: ***value*** ^{Optional}

  attribute: **description** 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** Field_Character

- **Group_Field_Character - Occurs 1 to * Times**

  description: **The Group_Field_Character class allows a group of table fields.**
  role: **Concrete**
  attribute: **repetitions** value: ***value***

  - **Field_Character Occurs 1 Times**

    description: **The Field_Character class defines a field of the record.**
    role: **Concrete**
    attribute: **name** value: ***value***

    attribute: **field_number** value: ***value*** ^{Optional}

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

    attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: ***value*** ^{Optional}

    attribute: **maximum_scaled_value** value: ***value*** ^{Optional}

    attribute: **minimum_scaled_value** value: ***value*** ^{Optional}

    attribute: **scaling_factor** value: ***value*** ^{Optional}

    attribute: **value_offset** value: ***value*** ^{Optional}

    attribute: **description** 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: **maximum** value: ***value*** ^{Optional}

      attribute: **minimum** value: ***value*** ^{Optional}

      attribute: **mean** value: ***value*** ^{Optional}

      attribute: **standard_deviation** value: ***value*** ^{Optional}

      attribute: **median** value: ***value*** ^{Optional}

      attribute: **description** 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** Field_Character
  - **End** Group_Field_Character
  - **End** Record_Character
- **End** Inventory_LIDVID_Secondary
- **File Occurs 1 Times**

  description: **The File class consists of attributes that describe a file in a data store.**
  role: **Concrete**
  attribute: **file_name** value: ***value***
  attribute: **local_identifier** value: ***value*** Optional
  attribute: **creation_date_time** value: ***value*** Optional
  attribute: **file_size** value: ***value*** Optional
  attribute: **records** value: ***value*** Optional
  attribute: **maximum_record_bytes** value: ***value*** Optional
  attribute: **md5_checksum** value: ***value*** Optional
  attribute: **comment** value: ***value*** Optional
  - **End** File
- **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**
  - **Inventory_LID_Secondary Occurs 1 Times**

    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: **reference_type** value: **has_member_LID_Secondary**
    attribute: **offset** value: ***value***
    attribute: **records** value: ***value***
    attribute: **record_length** value: ***value***
    attribute: **fields** value: **1**
    attribute: **encoding_type** value: **CHARACTER**
    attribute: **description** value: ***value*** Optional
    - **Record_Character Occurs 1 Times**

      description: **The Record_Character class is a component of the table class and defines a record of the table.**
      role: **Concrete**
      - **Field_Character - Occurs 1 to * Times**

        description: **The Field_Character class defines a field of the record.**
        role: **Concrete**
        attribute: **name** value: ***value***
        attribute: **field_number** value: ***value*** Optional
        attribute: **field_location** value: ***value***
        attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: ***value*** Optional
        attribute: **maximum_scaled_value** value: ***value*** Optional

attribute: **minimum_scaled_value** value: ***value*** Optional
attribute: **scaling_factor** value: ***value*** Optional
attribute: **value_offset** value: ***value*** Optional
attribute: **description** 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: **maximum** value: ***value*** Optional
  attribute: **minimum** value: ***value*** Optional
  attribute: **mean** value: ***value*** Optional
  attribute: **standard_deviation** value: ***value*** Optional
  attribute: **median** value: ***value*** Optional
  attribute: **description** 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** Field_Character
- **Group_Field_Character - Occurs 1 to * Times**

  description: **The Group_Field_Character class allows a group of table fields.**
  role: **Concrete**
  attribute: **repetitions** value: ***value***

  - **Field_Character Occurs 1 Times**

    description: **The Field_Character class defines a field of the record.**
    role: **Concrete**
    attribute: **name** value: ***value***
    attribute: **field_number** value: ***value*** Optional
    attribute: **field_location** value: ***value***
    attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: ***value*** Optional
    attribute: **maximum_scaled_value** value: ***value*** Optional
    attribute: **minimum_scaled_value** value: ***value*** Optional
    attribute: **scaling_factor** value: ***value*** Optional
    attribute: **value_offset** value: ***value*** Optional
    attribute: **description** 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: **maximum** value: ***value*** Optional
      attribute: **minimum** value: ***value*** Optional
      attribute: **mean** value: ***value*** Optional
      attribute: **standard_deviation** value: ***value*** Optional
      attribute: **median** value: ***value*** Optional
      attribute: **description** 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** Field_Character
  - **End** Group_Field_Character
  - **End** Record_Character
- **End** Inventory_LID_Secondary
- **File Occurs 1 Times**

  description: **The File class consists of attributes that describe a file in a data store.**
  role: **Concrete**
  attribute: **file_name** value: *value*
  attribute: **local_identifier** value: *value* Optional
  attribute: **creation_date_time** value: *value* Optional
  attribute: **file_size** value: *value* Optional
  attribute: **records** value: *value* Optional
  attribute: **maximum_record_bytes** value: *value* Optional
  attribute: **md5_checksum** value: *value* Optional
  attribute: **comment** value: *value* Optional
  - **End** File
- **End** File_Area_Inventory_LID_Secondary
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**
  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: *value* Optional
    attribute: **lidvid_reference** value: *value* Optional
    attribute: **reference_type** value: *value*
    attribute: **comment** value: *value* Optional
    - **End** Internal_Reference
  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: *value*
    attribute: **description** value: *value* Optional
    - **End** External_Reference
  - **End** Reference_List
- **End** Product_Collection

- **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**
  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**
    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**
      - **Alias - Occurs 1 to * Times**

description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
role: **Concrete**

attribute: **alternate_id** value: ***value*** Optional

attribute: **alternate_title** value: ***value*** Optional

attribute: **comment** value: ***value*** Optional
- **End** Alias
- **End** Alias_List
- **Citation_Information - Occurs 0 to 1 Times**

  description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
  role: **Concrete**

  attribute: **author_list** value: ***value*** Optional

  attribute: **editor_list** value: ***value*** Optional

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

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

  attribute: **description** value: ***value***
- **End** Citation_Information
- **Modification_History - Occurs 0 to 1 Times**

  description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
  role: **Concrete**

  - **Modification_Detail Occurs 1 Times**

    description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
    role: **Concrete**
    attribute: **modification_date** value: ***value***
    attribute: **version_id** value: ***value***
    attribute: **description** value: ***value***
  - **End** Modification_Detail
- **End** Modification_History
  attribute: **logical_identifier** value: ***value***
  attribute: **version_id** value: ***value***
  attribute: **title** value: ***value***
  attribute: **information_model_version** value: **0.5.1.2.B**
  attribute: **product_class** value: ***value***
- **End** Identification_Area
- **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
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**

role: **Concrete**

- **Internal_Reference - Occurs 0 to * Times**

  description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
  role: **Concrete**

  attribute: **lid_reference** value: *value* Optional

  attribute: **lidvid_reference** value: *value* Optional

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

  attribute: **comment** value: *value* Optional
- **End** Internal_Reference

- **External_Reference - Occurs 0 to * Times**

  description: **The External_Reference class is used to reference a source outside the PDS registry system.**
  role: **Concrete**

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

  attribute: **description** value: *value* Optional
- **End** External_Reference
- **End** Reference_List
- **End** Product_Data_Set_PDS3

- **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**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**

        attribute: **alternate_id** value: *value* Optional

        attribute: **alternate_title** value: *value* Optional

        attribute: **comment** value: *value* Optional
      - **End** Alias
    - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**

      attribute: **author_list** value: *value* Optional

      attribute: **editor_list** value: *value* Optional

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

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

      attribute: **description** value: *value*
    - **End** Citation_Information

    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**

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

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

        attribute: **description** value: *value*
      - **End** Modification_Detail
    - **End** Modification_History

attribute: **logical_identifier** value: *value*
attribute: **version_id** value: *value*
attribute: **title** value: *value*
attribute: **information_model_version** value: **0.5.1.2.B**
attribute: **product_class** value: *value*

- **End** Identification_Area

- **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**

  - **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: **reference_type** value: **has_member**
    attribute: **offset** value: *value*
    attribute: **records** value: *value*
    attribute: **record_length** value: *value*
    attribute: **fields** value: **2**
    attribute: **encoding_type** value: **CHARACTER**
    attribute: **description** value: *value* Optional

    - **Record_Character Occurs 1 Times**

      description: **The Record_Character class is a component of the table class and defines a record of the table.**
      role: **Concrete**

      - **Field_Character - Occurs 1 to * Times**

        description: **The Field_Character class defines a field of the record.**
        role: **Concrete**
        attribute: **name** value: *value*
        attribute: **field_number** value: *value* Optional
        attribute: **field_location** value: *value*
        attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: *value* Optional
        attribute: **maximum_scaled_value** value: *value* Optional
        attribute: **minimum_scaled_value** value: *value* Optional
        attribute: **scaling_factor** value: *value* Optional
        attribute: **value_offset** value: *value* Optional
        attribute: **description** 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: **maximum** value: *value* Optional
          attribute: **minimum** value: *value* Optional
          attribute: **mean** value: *value* Optional
          attribute: **standard_deviation** value: *value* Optional
          attribute: **median** value: *value* Optional
          attribute: **description** 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** Field_Character

- **Group_Field_Character - Occurs 1 to * Times**

  description: **The Group_Field_Character class allows a group of table fields.**
  role: **Concrete**
  attribute: **repetitions** value: ***value***

  - **Field_Character Occurs 1 Times**

    description: **The Field_Character class defines a field of the record.**
    role: **Concrete**
    attribute: **name** value: ***value***

    attribute: **field_number** value: ***value*** Optional

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

    attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: ***value*** Optional

    attribute: **maximum_scaled_value** value: ***value*** Optional

    attribute: **minimum_scaled_value** value: ***value*** Optional

    attribute: **scaling_factor** value: ***value*** Optional

    attribute: **value_offset** value: ***value*** Optional

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

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

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

      attribute: **standard_deviation** value: ***value*** Optional

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

      attribute: **description** 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** Field_Character

- **End** Group_Field_Character

- **End** Record_Character

- **End** Delivery_Manifest

- **File Occurs 1 Times**

  description: **The File class consists of attributes that describe a file in a data store.**
  role: **Concrete**
  attribute: **file_name** value: ***value***

  attribute: **local_identifier** value: ***value*** Optional

  attribute: **creation_date_time** value: ***value*** Optional

- attribute: **file_size** value: *value* ^{Optional}
- attribute: **records** value: *value* ^{Optional}
- attribute: **maximum_record_bytes** value: *value* ^{Optional}
- attribute: **md5_checksum** value: *value* ^{Optional}
- attribute: **comment** value: *value* ^{Optional}
  - **End** File
- **End** File_Area_Delivery_Manifest
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**
  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: *value* ^{Optional}
    attribute: **lidvid_reference** value: *value* ^{Optional}
    attribute: **reference_type** value: *value*
    attribute: **comment** value: *value* ^{Optional}
    - **End** Internal_Reference
  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: *value*
    attribute: **description** value: *value* ^{Optional}
    - **End** External_Reference
  - **End** Reference_List
- **End** Product_Delivery_Manifest

- **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**
  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**
    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**
      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: *value* ^{Optional}
        attribute: **alternate_title** value: *value* ^{Optional}
        attribute: **comment** value: *value* ^{Optional}
        - **End** Alias
      - **End** Alias_List
    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: *value* ^{Optional}
      attribute: **editor_list** value: *value* ^{Optional}
      attribute: **publication_year** value: *value*
      attribute: **keywords** value: *value* ^{Optional}
      attribute: **description** value: *value*
      - **End** Citation_Information
    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**

role: **Concrete**

- **Modification_Detail Occurs 1 Times**

  description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
  role: **Concrete**
  attribute: **modification_date** value: *value*
  attribute: **version_id** value: *value*
  attribute: **description** value: *value*
  - **End** Modification_Detail
- **End** Modification_History
  attribute: **logical_identifier** value: *value*
  attribute: **version_id** value: *value*
  attribute: **title** value: *value*
  attribute: **information_model_version** value: **0.5.1.2.B**
  attribute: **product_class** value: *value*
- **End** Identification_Area
- **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: **file_name** value: *value*
    attribute: **directory_path_name** value: *value* Optional
    attribute: **local_identifier** value: *value* Optional
    attribute: **creation_date_time** value: *value* Optional
    attribute: **file_size** value: *value* Optional
    attribute: **records** value: *value* Optional
    attribute: **maximum_record_bytes** value: *value* Optional
    attribute: **md5_checksum** value: *value* Optional
    attribute: **external_standard_id** value: **ENCAPSULATED_POSTSCRIPT, GIF, HTML, JPG, LaTEX, MICROSOFT_WORD, PDF, PDF-A, PNG, POSTSCRIPT, RICH_TEXT, TEXT, TIFF**
    attribute: **encoding_type** value: **BINARY, CHARACTER**
    attribute: **comment** 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: **starting_point_identifier** value: *value* Optional
    attribute: **format_type** value: **HTML, PDF, PDF-A, TEXT**
    attribute: **description** 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: **revision_id** value: *value* Optional
  attribute: **document_name** value: *value* Optional
  attribute: **doi** value: *value* Optional
  attribute: **author_list** value: *value* Optional
  attribute: **editor_list** value: *value* Optional
  attribute: **publication_date** value: *value*
  attribute: **acknowledgement_text** value: *value* Optional
  attribute: **copyright** value: *value* Optional
  attribute: **description** value: *value* Optional
- **End** Document_Desc
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**
  - **Internal_Reference - Occurs 0 to * Times**

description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
role: **Concrete**

attribute: **lid_reference** value: ***value*** ^{Optional}

attribute: **lidvid_reference** value: ***value*** ^{Optional}

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

attribute: **comment** value: ***value*** ^{Optional}

- **End** Internal_Reference

- **External_Reference - Occurs 0 to * Times**

  description: **The External_Reference class is used to reference a source outside the PDS registry system.**
  role: **Concrete**
  attribute: **reference_text** value: ***value***

  attribute: **description** value: ***value*** ^{Optional}

  - **End** External_Reference
- **End** Reference_List
- **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**

- **Identification_Area Occurs 1 Times**

  description: **The identification area consists of attributes that identify and name an object.**
  role: **Concrete**

  - **Alias_List - Occurs 0 to 1 Times**

    description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
    role: **Concrete**

    - **Alias - Occurs 1 to * Times**

      description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
      role: **Concrete**
      attribute: **alternate_id** value: ***value*** ^{Optional}

      attribute: **alternate_title** value: ***value*** ^{Optional}

      attribute: **comment** value: ***value*** ^{Optional}

      - **End** Alias
    - **End** Alias_List

  - **Citation_Information - Occurs 0 to 1 Times**

    description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
    role: **Concrete**
    attribute: **author_list** value: ***value*** ^{Optional}

    attribute: **editor_list** value: ***value*** ^{Optional}

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

    attribute: **keywords** value: ***value*** ^{Optional}

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

    - **End** Citation_Information

  - **Modification_History - Occurs 0 to 1 Times**

    description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
    role: **Concrete**

    - **Modification_Detail Occurs 1 Times**

      description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
      role: **Concrete**
      attribute: **modification_date** value: ***value***

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

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

      - **End** Modification_Detail
    - **End** Modification_History
    attribute: **logical_identifier** value: ***value***
    attribute: **version_id** value: ***value***
    attribute: **title** value: ***value***

attribute: **information_model_version** value: **0.5.1.2.B**
attribute: **product_class** value: ***value***
- **End** Identification_Area
- **File_Area_Binary Occurs 1 Times**

  description: **The File Area Binary class describes a file that contains an encoded byte stream.**
  role: **Concrete**
  - **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: **offset** value: ***value***
    attribute: **external_standard_id** value: **System**
    attribute: **encoding_type** value: **BINARY**
    attribute: **description** value: ***value*** Optional
    - **End** Encoded_Binary
  - **File Occurs 1 Times**

    description: **The File class consists of attributes that describe a file in a data store.**
    role: **Concrete**
    attribute: **file_name** value: ***value***
    attribute: **local_identifier** value: ***value*** Optional
    attribute: **creation_date_time** value: ***value*** Optional
    attribute: **file_size** value: ***value*** Optional
    attribute: **records** value: ***value*** Optional
    attribute: **maximum_record_bytes** value: ***value*** Optional
    attribute: **md5_checksum** value: ***value*** Optional
    attribute: **comment** value: ***value*** Optional
    - **End** File
- **End** File_Area_Binary
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**
  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** Optional
    attribute: **lidvid_reference** value: ***value*** Optional
    attribute: **reference_type** value: ***value***
    attribute: **comment** value: ***value*** Optional
    - **End** Internal_Reference
  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: ***value***
    attribute: **description** value: ***value*** Optional
    - **End** External_Reference
- **End** Reference_List
- **End** Product_File_Repository

- **Product_File_Text**

  description: **The Product File Text consists of a single text file with ASCII character encoding.**
  role: **Concrete**
  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**
    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**
      - **Alias - Occurs 1 to * Times**

description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
role: **Concrete**

attribute: **alternate_id** value: ***value*** ^{Optional}

attribute: **alternate_title** value: ***value*** ^{Optional}

attribute: **comment** value: ***value*** ^{Optional}

- **End** Alias
- **End** Alias_List

- **Citation_Information - Occurs 0 to 1 Times**

description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
role: **Concrete**

attribute: **author_list** value: ***value*** ^{Optional}

attribute: **editor_list** value: ***value*** ^{Optional}

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

attribute: **keywords** value: ***value*** ^{Optional}

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

- **End** Citation_Information

- **Modification_History - Occurs 0 to 1 Times**

description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
role: **Concrete**

- **Modification_Detail Occurs 1 Times**

description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
role: **Concrete**

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

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

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

- **End** Modification_Detail

- **End** Modification_History

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

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

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

attribute: **information_model_version** value: **0.5.1.2.B**

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

- **End** Identification_Area

- **Reference_List - Occurs 0 to 1 Times**

description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
role: **Concrete**

- **Internal_Reference - Occurs 0 to * Times**

description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
role: **Concrete**

attribute: **lid_reference** value: ***value*** ^{Optional}

attribute: **lidvid_reference** value: ***value*** ^{Optional}

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

attribute: **comment** value: ***value*** ^{Optional}

- **End** Internal_Reference

- **External_Reference - Occurs 0 to * Times**

description: **The External_Reference class is used to reference a source outside the PDS registry system.**
role: **Concrete**

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

attribute: **description** value: ***value*** ^{Optional}

- **End** External_Reference

- **End** Reference_List

- **File_Area_Text Occurs 1 Times**

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

- **Stream_Text Occurs 1 Times**

description: **The Stream text class defines a text file.**
role: **Concrete**

attribute: **name** value: ***value*** ^{Optional}

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

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

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

attribute: **encoding_type** value: **CHARACTER**

attribute: **description** value: ***value*** ^{Optional}

- **End** Stream_Text

- **File Occurs 1 Times**

  description: **The File class consists of attributes that describe a file in a data store.**
  role: **Concrete**
  attribute: **file_name** value: ***value***

  attribute: **local_identifier** value: ***value*** ^{Optional}

  attribute: **creation_date_time** value: ***value*** ^{Optional}

  attribute: **file_size** value: ***value*** ^{Optional}

  attribute: **records** value: ***value*** ^{Optional}

  attribute: **maximum_record_bytes** value: ***value*** ^{Optional}

  attribute: **md5_checksum** value: ***value*** ^{Optional}

  attribute: **comment** value: ***value*** ^{Optional}

  - **End** File
- **End** File_Area_Text
- **End** Product_File_Text

- ## Product_Instrument

  description: **An Instrument product describes an instrument.**
  role: **Concrete**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**

        attribute: **alternate_id** value: ***value*** ^{Optional}

        attribute: **alternate_title** value: ***value*** ^{Optional}

        attribute: **comment** value: ***value*** ^{Optional}

      - **End** Alias
    - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**

      attribute: **author_list** value: ***value*** ^{Optional}

      attribute: **editor_list** value: ***value*** ^{Optional}

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

      attribute: **keywords** value: ***value*** ^{Optional}

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

    - **End** Citation_Information

    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**
        attribute: **modification_date** value: ***value***

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

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

      - **End** Modification_Detail

- **End** Modification_History
  attribute: **logical_identifier** value: *value*
  attribute: **version_id** value: *value*
  attribute: **title** value: *value*
  attribute: **information_model_version** value: **0.5.1.2.B**
  attribute: **product_class** value: *value*
- **End** Identification_Area
- **Instrument Occurs 1 Times**

  description: **The Instrument class provides a description of a phyiscal object that collects data.**
  role: **Concrete**

  attribute: **version_id** value: *value* ^{Optional}

  attribute: **name** value: *value* ^{Optional}

  attribute: **type** value: **Accelerometer, Altimeter, Camera, Cosmic_Ray_Detector, Detector_Array, Dust_Analyzer, Imaging_Spectrometer, Magnetometer, Meteorology, Naked_Eye, Other, Particle_Detector, Photometer, Plasma_Analyzer, Radio_Science, Radio_Spectrometer, Radio_Telescope, Radiometer, Reflectometer, Spectrometer**

  attribute: **naif_instrument_id** value: *value* ^{Optional}

  attribute: **serial_number** value: *value* ^{Optional}

  attribute: **description** value: *value*
- **End** Instrument
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**
  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**

    attribute: **lid_reference** value: *value* ^{Optional}

    attribute: **lidvid_reference** value: *value* ^{Optional}

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

    attribute: **comment** value: *value* ^{Optional}
    - **End** Internal_Reference
  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: *value*

    attribute: **description** value: *value* ^{Optional}
    - **End** External_Reference
- **End** Reference_List
- **End** Product_Instrument

- **Product_Instrument_Host**

  description: **An Instrument Host product describes an instrument host.**
  role: **Concrete**
  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**
    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**
      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: *value* ^{Optional}

        attribute: **alternate_title** value: *value* ^{Optional}

        attribute: **comment** value: *value* ^{Optional}
        - **End** Alias
      - **End** Alias_List
    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in**

journal articles, abstract services, and other reference contexts.
role: **Concrete**
attribute: **author_list** value: **value** Optional
attribute: **editor_list** value: **value** Optional
attribute: **publication_year** value: **value**
attribute: **keywords** value: **value** Optional
attribute: **description** value: **value**

- **End** Citation_Information
- **Modification_History - Occurs 0 to 1 Times**

  description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
  role: **Concrete**
    - **Modification_Detail Occurs 1 Times**

      description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
      role: **Concrete**
      attribute: **modification_date** value: **value**
      attribute: **version_id** value: **value**
      attribute: **description** value: **value**
    - **End** Modification_Detail
- **End** Modification_History
  attribute: **logical_identifier** value: **value**
  attribute: **version_id** value: **value**
  attribute: **title** value: **value**
  attribute: **information_model_version** value: **0.5.1.2.B**
  attribute: **product_class** value: **value**
- **End** Identification_Area
- **Instrument_Host Occurs 1 Times**

  description: **The Instrument Host class provides a description of the phyiscal object upon which an instrument is mounted.**
  role: **Concrete**

  attribute: **version_id** value: **value** Optional
  attribute: **name** value: **value** Optional
  attribute: **type** value: **Earth_Based, Rover, Spacecraft**
  attribute: **naif_host_id** value: **value** Optional
  attribute: **serial_number** value: **value** Optional
  attribute: **description** value: **value**
- **End** Instrument_Host
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**
    - **Internal_Reference - Occurs 0 to * Times**

      description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
      role: **Concrete**

      attribute: **lid_reference** value: **value** Optional
      attribute: **lidvid_reference** value: **value** Optional
      attribute: **reference_type** value: **value**
      attribute: **comment** value: **value** Optional
    - **End** Internal_Reference
    - **External_Reference - Occurs 0 to * Times**

      description: **The External_Reference class is used to reference a source outside the PDS registry system.**
      role: **Concrete**
      attribute: **reference_text** value: **value**
      attribute: **description** value: **value** Optional
    - **End** External_Reference
  - **End** Reference_List
- **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**

- **Identification_Area Occurs 1 Times**

  description: **The identification area consists of attributes that identify and name an object.**
  role: **Concrete**

  - **Alias_List - Occurs 0 to 1 Times**

    description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
    role: **Concrete**

    - **Alias - Occurs 1 to * Times**

      description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
      role: **Concrete**
      attribute: **alternate_id** value: **value** Optional
      attribute: **alternate_title** value: **value** Optional
      attribute: **comment** value: **value** Optional
    - **End** Alias
  - **End** Alias_List
  - **Citation_Information - Occurs 0 to 1 Times**

    description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
    role: **Concrete**
    attribute: **author_list** value: **value** Optional
    attribute: **editor_list** value: **value** Optional
    attribute: **publication_year** value: **value**
    attribute: **keywords** value: **value** Optional
    attribute: **description** value: **value**
  - **End** Citation_Information
  - **Modification_History - Occurs 0 to 1 Times**

    description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
    role: **Concrete**

    - **Modification_Detail Occurs 1 Times**

      description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
      role: **Concrete**
      attribute: **modification_date** value: **value**
      attribute: **version_id** value: **value**
      attribute: **description** value: **value**
    - **End** Modification_Detail
  - **End** Modification_History
    attribute: **logical_identifier** value: **value**
    attribute: **version_id** value: **value**
    attribute: **title** value: **value**
    attribute: **information_model_version** value: **0.5.1.2.B**
    attribute: **product_class** value: **value**
- **End** Identification_Area
- **Instrument_Host_PDS3 Occurs 1 Times**

  description: **The Instrument Host class provides a description of the phyiscal 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
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: **value** Optional

- attribute: **lidvid_reference** value: ***value*** ^{Optional}
- attribute: **reference_type** value: ***value***
- attribute: **comment** value: ***value*** ^{Optional}
- **End** Internal_Reference

- **External_Reference - Occurs 0 to * Times**

  description: **The External_Reference class is used to reference a source outside the PDS registry system.**
  role: **Concrete**
  attribute: **reference_text** value: ***value***
  attribute: **description** value: ***value*** ^{Optional}
  - **End** External_Reference
- **End** Reference_List
- **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**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: ***value*** ^{Optional}
        attribute: **alternate_title** value: ***value*** ^{Optional}
        attribute: **comment** value: ***value*** ^{Optional}
        - **End** Alias
      - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: ***value*** ^{Optional}
      attribute: **editor_list** value: ***value*** ^{Optional}
      attribute: **publication_year** value: ***value***
      attribute: **keywords** value: ***value*** ^{Optional}
      attribute: **description** value: ***value***
      - **End** Citation_Information

    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**
        attribute: **modification_date** value: ***value***
        attribute: **version_id** value: ***value***
        attribute: **description** value: ***value***
        - **End** Modification_Detail
      - **End** Modification_History
      attribute: **logical_identifier** value: ***value***
      attribute: **version_id** value: ***value***
      attribute: **title** value: ***value***
      attribute: **information_model_version** value: **0.5.1.2.B**
      attribute: **product_class** value: ***value***
    - **End** Identification_Area

- **Instrument_PDS3 Occurs 1 Times**

  description: **The Instrument class provides a description of a phyiscal 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
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**
    - **Internal_Reference - Occurs 0 to * Times**

      description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
      role: **Concrete**
      attribute: **lid_reference** value: *value* Optional
      attribute: **lidvid_reference** value: *value* Optional
      attribute: **reference_type** value: *value*
      attribute: **comment** value: *value* Optional
    - **End** Internal_Reference
    - **External_Reference - Occurs 0 to * Times**

      description: **The External_Reference class is used to reference a source outside the PDS registry system.**
      role: **Concrete**
      attribute: **reference_text** value: *value*
      attribute: **description** value: *value* Optional
    - **End** External_Reference
  - **End** Reference_List
- **End** Product_Instrument_PDS3

- **Product_Investigation**

  description: **The Investigation product describes an investigation.**
  role: **Concrete**
    - **Identification_Area Occurs 1 Times**

      description: **The identification area consists of attributes that identify and name an object.**
      role: **Concrete**
        - **Alias_List - Occurs 0 to 1 Times**

          description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
          role: **Concrete**
            - **Alias - Occurs 1 to * Times**

              description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
              role: **Concrete**
              attribute: **alternate_id** value: *value* Optional
              attribute: **alternate_title** value: *value* Optional
              attribute: **comment** value: *value* Optional
            - **End** Alias
          - **End** Alias_List
        - **Citation_Information - Occurs 0 to 1 Times**

          description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
          role: **Concrete**
          attribute: **author_list** value: *value* Optional
          attribute: **editor_list** value: *value* Optional
          attribute: **publication_year** value: *value*
          attribute: **keywords** value: *value* Optional
          attribute: **description** value: *value*
        - **End** Citation_Information
        - **Modification_History - Occurs 0 to 1 Times**

description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
role: **Concrete**

- **Modification_Detail Occurs 1 Times**

  description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
  role: **Concrete**
  attribute: **modification_date** value: *value*
  attribute: **version_id** value: *value*
  attribute: **description** value: *value*
- **End** Modification_Detail
- **End** Modification_History
  attribute: **logical_identifier** value: *value*
  attribute: **version_id** value: *value*
  attribute: **title** value: *value*
  attribute: **information_model_version** value: **0.5.1.2.B**
  attribute: **product_class** value: *value*
- **End** Identification_Area

- **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: **type** value: **Individual_Investigation, Mission, Observing_Campaign, Other_Investigation**
  attribute: **start_date** value: *value*
  attribute: **stop_date** value: *value*
  attribute: **description** value: *value*
- **End** Investigation

- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: *value* ^{Optional}
    attribute: **lidvid_reference** value: *value* ^{Optional}
    attribute: **reference_type** value: *value*
    attribute: **comment** value: *value* ^{Optional}
  - **End** Internal_Reference

  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: *value*
    attribute: **description** value: *value* ^{Optional}
  - **End** External_Reference
- **End** Reference_List
- **End** Product_Investigation

- **Product_Mission_PDS3**

description: **An Mission product describes a mission. This product captures the PDS3 catalog mission information.**
role: **Concrete**

- **Identification_Area Occurs 1 Times**

  description: **The identification area consists of attributes that identify and name an object.**
  role: **Concrete**

  - **Alias_List - Occurs 0 to 1 Times**

    description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
    role: **Concrete**

    - **Alias - Occurs 1 to * Times**

      description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**

- role: **Concrete**
  - attribute: **alternate_id** value: *value* Optional
  - attribute: **alternate_title** value: *value* Optional
  - attribute: **comment** value: *value* Optional
  - • **End** Alias
- • **End** Alias_List

- • **Citation_Information - Occurs 0 to 1 Times**

  description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
  role: **Concrete**
  - attribute: **author_list** value: *value* Optional
  - attribute: **editor_list** value: *value* Optional
  - attribute: **publication_year** value: *value*
  - attribute: **keywords** value: *value* Optional
  - attribute: **description** value: *value*
- • **End** Citation_Information

- • **Modification_History - Occurs 0 to 1 Times**

  description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
  role: **Concrete**
    - • **Modification_Detail Occurs 1 Times**

      description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
      role: **Concrete**
      - attribute: **modification_date** value: *value*
      - attribute: **version_id** value: *value*
      - attribute: **description** value: *value*
    - • **End** Modification_Detail
- • **End** Modification_History
  - attribute: **logical_identifier** value: *value*
  - attribute: **version_id** value: *value*
  - attribute: **title** value: *value*
  - attribute: **information_model_version** value: **0.5.1.2.B**
  - attribute: **product_class** value: *value*
- • **End** Identification_Area

- • **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

- • **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**
    - • **Internal_Reference - Occurs 0 to * Times**

      description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
      role: **Concrete**
      - attribute: **lid_reference** value: *value* Optional
      - attribute: **lidvid_reference** value: *value* Optional
      - attribute: **reference_type** value: *value*
      - attribute: **comment** value: *value* Optional
    - • **End** Internal_Reference

    - • **External_Reference - Occurs 0 to * Times**

      description: **The External_Reference class is used to reference a source outside the PDS registry system.**
      role: **Concrete**
      - attribute: **reference_text** value: *value*
      - attribute: **description** value: *value* Optional
    - • **End** External_Reference

- **End** Reference_List
- **End** Product_Mission_PDS3

- **Product_Node**

  description: **A node product describes a node.**
  role: **Concrete**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: **value** Optional
        attribute: **alternate_title** value: **value** Optional
        attribute: **comment** value: **value** Optional
      - **End** Alias
    - **End** Alias_List
    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: **value** Optional
      attribute: **editor_list** value: **value** Optional
      attribute: **publication_year** value: **value**
      attribute: **keywords** value: **value** Optional
      attribute: **description** value: **value**
    - **End** Citation_Information
    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**
        attribute: **modification_date** value: **value**
        attribute: **version_id** value: **value**
        attribute: **description** value: **value**
      - **End** Modification_Detail
    - **End** Modification_History
      attribute: **logical_identifier** value: **value**
      attribute: **version_id** value: **value**
      attribute: **title** value: **value**
      attribute: **information_model_version** value: **0.5.1.2.B**
      attribute: **product_class** value: **value**
  - **End** Identification_Area
  - **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: **institution_name** value: **value**
    attribute: **description** value: **value**
  - **End** Node
  - **Reference_List - Occurs 0 to 1 Times**

    description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
    role: **Concrete**

- **Internal_Reference - Occurs 0 to * Times**

  description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **reference_type** value: ***value***
  attribute: **comment** value: ***value*** Optional
- **End** Internal_Reference
- **External_Reference - Occurs 0 to * Times**

  description: **The External_Reference class is used to reference a source outside the PDS registry system.**
  role: **Concrete**
  attribute: **reference_text** value: ***value***
  attribute: **description** value: ***value*** Optional
- **End** External_Reference
- **End** Reference_List
- **End** Product_Node

- **Product_PDS_Affiliate**

  description: **A PDS Affiliate product describes a person in the role of an affiliate of the PDS.**
  role: **Concrete**
  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**
    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**
      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: ***value*** Optional
        attribute: **alternate_title** value: ***value*** Optional
        attribute: **comment** value: ***value*** Optional
      - **End** Alias
    - **End** Alias_List
    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: ***value*** Optional
      attribute: **editor_list** value: ***value*** Optional
      attribute: **publication_year** value: ***value***
      attribute: **keywords** value: ***value*** Optional
      attribute: **description** value: ***value***
    - **End** Citation_Information
    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**
      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**
        attribute: **modification_date** value: ***value***
        attribute: **version_id** value: ***value***
        attribute: **description** value: ***value***
      - **End** Modification_Detail
    - **End** Modification_History
    attribute: **logical_identifier** value: ***value***
    attribute: **version_id** value: ***value***

attribute: **title** value: ***value***
attribute: **information_model_version** value: **0.5.1.2.B**
attribute: **product_class** value: ***value***

- **End** Identification_Area

- **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** Optional
  attribute: **name** value: ***value*** Optional
  attribute: **registration_date** value: ***value***
  attribute: **electronic_mail_address** value: ***value*** Optional
  attribute: **sort_name** value: ***value***
  attribute: **affiliation_type** value: **Affiliate, Data_Provider, Manager, Technical_Staff**
  attribute: **alternate_telephone_number** value: ***value*** Optional
  attribute: **institution_name** value: ***value***
  attribute: **phone_book_flag** value: ***value***
  attribute: **postal_address_text** value: ***value***
  attribute: **telephone_number** value: ***value*** Optional
  attribute: **description** value: ***value***

- **End** PDS_Affiliate

- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** Optional
    attribute: **lidvid_reference** value: ***value*** Optional
    attribute: **reference_type** value: ***value***
    attribute: **comment** value: ***value*** Optional

  - **End** Internal_Reference

  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: ***value***
    attribute: **description** value: ***value*** Optional

  - **End** External_Reference

- **End** Reference_List

- **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**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: ***value*** Optional
        attribute: **alternate_title** value: ***value*** Optional
        attribute: **comment** value: ***value*** Optional

      - **End** Alias

- **End** Alias_List
- **Citation_Information - Occurs 0 to 1 Times**

  description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
  role: **Concrete**

  attribute: **author_list** value: **value** Optional

  attribute: **editor_list** value: **value** Optional
  attribute: **publication_year** value: **value**
  attribute: **keywords** value: **value** Optional
  attribute: **description** value: **value**
- **End** Citation_Information
- **Modification_History - Occurs 0 to 1 Times**

  description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
  role: **Concrete**

  - **Modification_Detail Occurs 1 Times**

    description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
    role: **Concrete**
    attribute: **modification_date** value: **value**
    attribute: **version_id** value: **value**
    attribute: **description** value: **value**
  - **End** Modification_Detail
- **End** Modification_History
  attribute: **logical_identifier** value: **value**
  attribute: **version_id** value: **value**
  attribute: **title** value: **value**
  attribute: **information_model_version** value: **0.5.1.2.B**
  attribute: **product_class** value: **value**
- **End** Identification_Area
- **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: **name** value: **value** Optional

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

  attribute: **electronic_mail_address** value: **value** Optional

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

  attribute: **description** value: **value**
- **End** PDS_Guest
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**

    attribute: **lid_reference** value: **value** Optional

    attribute: **lidvid_reference** value: **value** Optional
    attribute: **reference_type** value: **value**
    attribute: **comment** value: **value** Optional
  - **End** Internal_Reference
  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: **value**
    attribute: **description** value: **value** Optional
  - **End** External_Reference
- **End** Reference_List
- **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**

- **Identification_Area Occurs 1 Times**

  description: **The identification area consists of attributes that identify and name an object.**
  role: **Concrete**

  - **Alias_List - Occurs 0 to 1 Times**

    description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
    role: **Concrete**

    - **Alias - Occurs 1 to * Times**

      description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
      role: **Concrete**

      attribute: **alternate_id** value: **value** Optional

      attribute: **alternate_title** value: **value** Optional

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

    - **End** Alias

  - **End** Alias_List

  - **Citation_Information - Occurs 0 to 1 Times**

    description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
    role: **Concrete**

    attribute: **author_list** value: **value** Optional

    attribute: **editor_list** value: **value** Optional

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

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

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

  - **End** Citation_Information

  - **Modification_History - Occurs 0 to 1 Times**

    description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
    role: **Concrete**

    - **Modification_Detail Occurs 1 Times**

      description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
      role: **Concrete**

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

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

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

    - **End** Modification_Detail

  - **End** Modification_History

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

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

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

  attribute: **information_model_version** value: **0.5.1.2.B**

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

- **End** Identification_Area

- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**

    attribute: **lid_reference** value: **value** Optional

    attribute: **lidvid_reference** value: **value** Optional

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

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

  - **End** Internal_Reference

  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**

role: **Concrete**
attribute: **reference_text** value: **_value_**
attribute: **description** value: **_value_** ^{Optional}
- **End** External_Reference
- **End** Reference_List
- **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**

- **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: **offset** value: **_value_**
attribute: **axes** value: **2**
attribute: **axis_index_order** value: **FIRST_INDEX_FASTEST**
attribute: **axis_storage_order** value: **LINE_SAMPLE, SAMPLE_LINE**
attribute: **encoding_type** value: **BINARY**
attribute: **description** value: **_value_** ^{Optional}

- **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: **unit** value: **_value_** ^{Optional}
attribute: **scaling_factor** value: **_value_** ^{Optional}
attribute: **value_offset** value: **_value_** ^{Optional}
- **End** Array_Element
- **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: **sequence_number** value: **_value_**
attribute: **elements** value: **_value_**
attribute: **unit** value: **_value_** ^{Optional}

- **Axis_Display - Occurs 0 to 1 Times**

description: **The Axis_Display class provides attributes to enable the display of an array axis.**
role: **Concrete**
attribute: **display_direction** value: **BACK, DOWN, FORWARD, LEFT, RIGHT, SEQUENTIAL, UP**
attribute: **default_red** value: **_value_** ^{Optional}
attribute: **default_green** value: **_value_** ^{Optional}
attribute: **default_blue** value: **_value_** ^{Optional}
attribute: **frame_rate** value: **_value_** ^{Optional}
attribute: **continuous_loop_flag** value: **_value_** ^{Optional}
- **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
- **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

- **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: **maximum** value: ***value*** ^{Optional}
  attribute: **minimum** value: ***value*** ^{Optional}
  attribute: **mean** value: ***value*** ^{Optional}
  attribute: **standard_deviation** value: ***value*** ^{Optional}
  attribute: **median** value: ***value*** ^{Optional}
  attribute: **md5_checksum** value: ***value*** ^{Optional}
  attribute: **sample_bit_mask** value: ***value*** ^{Optional}
  attribute: **description** value: ***value*** ^{Optional}

  - **End** Object_Statistics

- **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: **offset** value: ***value***
  attribute: **axes** value: **2**
  attribute: **axis_index_order** value: **FIRST_INDEX_FASTEST**
  attribute: **axis_storage_order** value: **LINE_SAMPLE, SAMPLE_LINE**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** ^{Optional}

  - **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: **unit** value: ***value*** ^{Optional}
    attribute: **scaling_factor** value: ***value*** ^{Optional}
    attribute: **value_offset** value: ***value*** ^{Optional}

  - **End** Array_Element

  - **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: **sequence_number** value: ***value***
    attribute: **elements** value: ***value***
    attribute: **unit** value: ***value*** ^{Optional}

    - **Axis_Display - Occurs 0 to 1 Times**

      description: **The Axis_Display class provides attributes to enable the display of an array axis.**
      role: **Concrete**
      attribute: **display_direction** value: **BACK, DOWN, FORWARD, LEFT, RIGHT, SEQUENTIAL, UP**
      attribute: **default_red** value: ***value*** ^{Optional}
      attribute: **default_green** value: ***value*** ^{Optional}
      attribute: **default_blue** value: ***value*** ^{Optional}
      attribute: **frame_rate** value: ***value*** ^{Optional}
      attribute: **continuous_loop_flag** value: ***value*** ^{Optional}

    - **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
- **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
- **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: **maximum** value: **_value_** ^{Optional}
  attribute: **minimum** value: **_value_** ^{Optional}
  attribute: **mean** value: **_value_** ^{Optional}
  attribute: **standard_deviation** value: **_value_** ^{Optional}
  attribute: **median** value: **_value_** ^{Optional}
  attribute: **md5_checksum** value: **_value_** ^{Optional}
  attribute: **sample_bit_mask** value: **_value_** ^{Optional}
  attribute: **description** value: **_value_** ^{Optional}
- **End** Object_Statistics
- **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: **offset** value: **_value_**
  attribute: **axes** value: **2**
  attribute: **axis_index_order** value: **FIRST_INDEX_FASTEST**
  attribute: **axis_storage_order** value: **LINE_SAMPLE, SAMPLE_LINE**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: **_value_** ^{Optional}

  - **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: **unit** value: **_value_** ^{Optional}
    attribute: **scaling_factor** value: **_value_** ^{Optional}
    attribute: **value_offset** value: **_value_** ^{Optional}
  - **End** Array_Element
  - **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: **sequence_number** value: **_value_**
    attribute: **elements** value: **_value_**
    attribute: **unit** value: **_value_** ^{Optional}

    - **Axis_Display - Occurs 0 to 1 Times**

      description: **The Axis_Display class provides attributes to enable the display of an array axis.**
      role: **Concrete**
      attribute: **display_direction** value: **BACK, DOWN, FORWARD, LEFT, RIGHT, SEQUENTIAL, UP**

      attribute: **default_red** value: **_value_** ^{Optional}

attribute: **default_green** value: ***value*** ^{Optional}

attribute: **default_blue** value: ***value*** ^{Optional}

attribute: **frame_rate** value: ***value*** ^{Optional}

attribute: **continuous_loop_flag** value: ***value*** ^{Optional}

- **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

- **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

- **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: **maximum** value: ***value*** ^{Optional}

  attribute: **minimum** value: ***value*** ^{Optional}

  attribute: **mean** value: ***value*** ^{Optional}

  attribute: **standard_deviation** value: ***value*** ^{Optional}

  attribute: **median** value: ***value*** ^{Optional}

  attribute: **md5_checksum** value: ***value*** ^{Optional}

  attribute: **sample_bit_mask** value: ***value*** ^{Optional}

  attribute: **description** value: ***value*** ^{Optional}
- **End** Object_Statistics

- **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: **offset** value: ***value***
  attribute: **axes** value: **3**
  attribute: **axis_index_order** value: **FIRST_INDEX_FASTEST**
  attribute: **axis_storage_order** value: **LINE_SAMPLE, SAMPLE_LINE**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** ^{Optional}

  - **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: **unit** value: ***value*** ^{Optional}

    attribute: **scaling_factor** value: ***value*** ^{Optional}

    attribute: **value_offset** value: ***value*** ^{Optional}
  - **End** Array_Element

  - **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: **sequence_number** value: ***value***
attribute: **elements** value: ***value***
attribute: **unit** value: ***value*** ^{Optional}

- **Axis_Display - Occurs 0 to 1 Times**

  description: **The Axis_Display class provides attributes to enable the display of an array axis.**
  role: **Concrete**
  attribute: **display_direction** value: **BACK, DOWN, FORWARD, LEFT, RIGHT, SEQUENTIAL, UP**
  attribute: **default_red** value: ***value*** ^{Optional}
  attribute: **default_green** value: ***value*** ^{Optional}
  attribute: **default_blue** value: ***value*** ^{Optional}
  attribute: **frame_rate** value: ***value*** ^{Optional}
  attribute: **continuous_loop_flag** value: ***value*** ^{Optional}
- **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

- **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

- **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: **maximum** value: ***value*** ^{Optional}
  attribute: **minimum** value: ***value*** ^{Optional}
  attribute: **mean** value: ***value*** ^{Optional}
  attribute: **standard_deviation** value: ***value*** ^{Optional}
  attribute: **median** value: ***value*** ^{Optional}
  attribute: **md5_checksum** value: ***value*** ^{Optional}
  attribute: **sample_bit_mask** value: ***value*** ^{Optional}
  attribute: **description** value: ***value*** ^{Optional}
- **End** Object_Statistics

- **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: **offset** value: ***value***
  attribute: **axes** value: **3**
  attribute: **axis_index_order** value: **FIRST_INDEX_FASTEST**
  attribute: **axis_storage_order** value: **LINE_SAMPLE, SAMPLE_LINE**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** ^{Optional}

  - **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: **unit** value: *value* ^{Optional}

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** value: *value* ^{Optional}

- **End** Array_Element

- **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: **sequence_number** value: *value*
  attribute: **elements** value: *value*
  attribute: **unit** value: *value* ^{Optional}

  - **Axis_Display - Occurs 0 to 1 Times**

    description: **The Axis_Display class provides attributes to enable the display of an array axis.**
    role: **Concrete**
    attribute: **display_direction** value: **BACK, DOWN, FORWARD, LEFT, RIGHT, SEQUENTIAL, UP**

    attribute: **default_red** value: *value* ^{Optional}

    attribute: **default_green** value: *value* ^{Optional}

    attribute: **default_blue** value: *value* ^{Optional}

    attribute: **frame_rate** value: *value* ^{Optional}

    attribute: **continuous_loop_flag** value: *value* ^{Optional}

    - **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

- **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

- **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: **maximum** value: *value* ^{Optional}

  attribute: **minimum** value: *value* ^{Optional}

  attribute: **mean** value: *value* ^{Optional}

  attribute: **standard_deviation** value: *value* ^{Optional}

  attribute: **median** value: *value* ^{Optional}

  attribute: **md5_checksum** value: *value* ^{Optional}

  attribute: **sample_bit_mask** value: *value* ^{Optional}

  attribute: **description** value: *value* ^{Optional}

  - **End** Object_Statistics

- **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: **offset** value: *value*

attribute: **axes** value: **3**
attribute: **axis_index_order** value: **FIRST_INDEX_FASTEST**
attribute: **axis_storage_order** value: **LINE_SAMPLE, SAMPLE_LINE**
attribute: **encoding_type** value: **BINARY**
attribute: **description** value: ***value*** ^{Optional}

- **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: **unit** value: ***value*** ^{Optional}

  attribute: **scaling_factor** value: ***value*** ^{Optional}

  attribute: **value_offset** value: ***value*** ^{Optional}

- **End** Array_Element
- **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: **sequence_number** value: ***value***
  attribute: **elements** value: ***value***
  attribute: **unit** value: ***value*** ^{Optional}

  - **Axis_Display - Occurs 0 to 1 Times**

    description: **The Axis_Display class provides attributes to enable the display of an array axis.**
    role: **Concrete**
    attribute: **display_direction** value: **BACK, DOWN, FORWARD, LEFT, RIGHT, SEQUENTIAL, UP**
    attribute: **default_red** value: ***value*** ^{Optional}

    attribute: **default_green** value: ***value*** ^{Optional}

    attribute: **default_blue** value: ***value*** ^{Optional}

    attribute: **frame_rate** value: ***value*** ^{Optional}

    attribute: **continuous_loop_flag** value: ***value*** ^{Optional}

  - **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
- **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
- **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: **maximum** value: ***value*** ^{Optional}

  attribute: **minimum** value: ***value*** ^{Optional}

  attribute: **mean** value: ***value*** ^{Optional}

  attribute: **standard_deviation** value: ***value*** ^{Optional}

  attribute: **median** value: ***value*** ^{Optional}

           attribute: **md5_checksum** value: ***value*** ^{Optional}

           attribute: **sample_bit_mask** value: ***value*** ^{Optional}

           attribute: **description** value: ***value*** ^{Optional}

- **End** Object_Statistics

- **End** Array_3D_Spectrum

- **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: **offset** value: ***value***
  attribute: **external_standard_id** value: **GIF, JPEG, PDF, PNG, TIFF**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** ^{Optional}

- **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: **offset** value: ***value***
  attribute: **external_standard_id** value: **PDF**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** ^{Optional}

- **End** File_PDF

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

  description: **The Header class describes a data object header.**
  role: **Concrete**
  attribute: **name** value: ***value*** ^{Optional}
  attribute: **local_identifier** value: ***value***
  attribute: **bytes** value: ***value***
  attribute: **offset** value: ***value***
  attribute: **external_standard_id** value: **FITS, FREE_TEXT, ISIS2, ISIS3, ISIS_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR**
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **description** value: ***value*** ^{Optional}

- **End** Header

- **Header_Binary - Occurs 0 to * Times**

  description: **The Header Binary class describes a data object header.**
  role: **Concrete**
  attribute: **name** value: ***value*** ^{Optional}
  attribute: **local_identifier** value: ***value***
  attribute: **bytes** value: ***value***
  attribute: **offset** value: ***value***
  attribute: **external_standard_id** value: **FITS, ISIS2, ISIS3, ISIS_HISTORY, TIFF, VICAR**
  attribute: **encoding_type** value: **BINARY**
  attribute: **description** value: ***value*** ^{Optional}

- **End** Header_Binary

- **Stream_Text - Occurs 0 to * Times**

  description: **The Stream text class defines a text file.**
  role: **Concrete**
  attribute: **name** value: ***value*** ^{Optional}
  attribute: **local_identifier** value: ***value***
  attribute: **offset** value: ***value***
  attribute: **external_standard_id** value: ***value***
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **description** value: ***value*** ^{Optional}

- **End** Stream_Text

- **Table_Binary - Occurs 0 to * Times**

  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: **offset** value: ***value***
  attribute: **records** value: ***value***
  attribute: **record_length** value: ***value***

attribute: **fields** value: ***value***
attribute: **encoding_type** value: **BINARY**
attribute: **description** value: ***value*** ^{Optional}

- **Record_Binary Occurs 1 Times**

  description: **The Record_Binary class is a component of the table class and defines a record of the table.**
  role: **Concrete**

  - **Field_Binary - Occurs 1 to * Times**

    description: **The Field_Binary class defines a field of the record.**
    role: **Concrete**
    attribute: **name** value: ***value***
    attribute: **field_number** value: ***value*** ^{Optional}
    attribute: **field_location** value: ***value***
    attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
    attribute: **field_length** value: ***value***
    attribute: **field_format** value: ***value*** ^{Optional}
    attribute: **unit** value: ***value*** ^{Optional}
    attribute: **maximum_scaled_value** value: ***value*** ^{Optional}
    attribute: **minimum_scaled_value** value: ***value*** ^{Optional}
    attribute: **scaling_factor** value: ***value*** ^{Optional}
    attribute: **value_offset** value: ***value*** ^{Optional}
    attribute: **description** 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: **maximum** value: ***value*** ^{Optional}
      attribute: **minimum** value: ***value*** ^{Optional}
      attribute: **mean** value: ***value*** ^{Optional}
      attribute: **standard_deviation** value: ***value*** ^{Optional}
      attribute: **median** value: ***value*** ^{Optional}
      attribute: **description** 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** Field_Binary
  - **Field_Bit - Occurs 1 to * Times**

    description: **The Field_Bit class defines a bit field.**
    role: **Concrete**
    attribute: **name** value: ***value***
    attribute: **field_number** value: ***value*** ^{Optional}
    attribute: **field_location** value: ***value***
    attribute: **data_type** value: **Bit**
    attribute: **field_length** value: ***value***
    attribute: **bit_mask** value: ***value*** ^{Optional}

attribute: **field_format** value: ***value*** ^{Optional}
attribute: **bits** value: ***value***
attribute: **start_bit** value: ***value***
attribute: **unit** value: ***value*** ^{Optional}
attribute: **maximum_scaled_value** value: ***value*** ^{Optional}
attribute: **minimum_scaled_value** value: ***value*** ^{Optional}
attribute: **scaling_factor** value: ***value*** ^{Optional}
attribute: **value_offset** value: ***value*** ^{Optional}
attribute: **description** value: ***value*** ^{Optional}

- **End** Field_Bit

- **Group_Field_Binary - Occurs 1 to * Times**

  description: **The Group_Field_Binary class allows a group of table fields.**
  role: **Concrete**
  attribute: **repetitions** value: ***value***

  - **Field_Binary Occurs 1 Times**

    description: **The Field_Binary class defines a field of the record.**
    role: **Concrete**
    attribute: **name** value: ***value***
    attribute: **field_number** value: ***value*** ^{Optional}
    attribute: **field_location** value: ***value***
    attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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, ComplexLSB16, ComplexLSB8, ComplexMSB16, ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
    attribute: **field_length** value: ***value***
    attribute: **field_format** value: ***value*** ^{Optional}
    attribute: **unit** value: ***value*** ^{Optional}
    attribute: **maximum_scaled_value** value: ***value*** ^{Optional}
    attribute: **minimum_scaled_value** value: ***value*** ^{Optional}
    attribute: **scaling_factor** value: ***value*** ^{Optional}
    attribute: **value_offset** value: ***value*** ^{Optional}
    attribute: **description** 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: **maximum** value: ***value*** ^{Optional}
      attribute: **minimum** value: ***value*** ^{Optional}
      attribute: **mean** value: ***value*** ^{Optional}
      attribute: **standard_deviation** value: ***value*** ^{Optional}
      attribute: **median** value: ***value*** ^{Optional}
      attribute: **description** 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** Field_Binary

- **Field_Bit Occurs 1 Times**

  description: **The Field_Bit class defines a bit field.**
  role: **Concrete**
  attribute: **name** value: *value*
  attribute: **field_number** value: *value* ^{Optional}
  attribute: **field_location** value: *value*
  attribute: **data_type** value: **Bit**
  attribute: **field_length** value: *value*
  attribute: **bit_mask** value: *value* ^{Optional}
  attribute: **field_format** value: *value* ^{Optional}
  attribute: **bits** value: *value*
  attribute: **start_bit** value: *value*
  attribute: **unit** value: *value* ^{Optional}
  attribute: **maximum_scaled_value** value: *value* ^{Optional}
  attribute: **minimum_scaled_value** value: *value* ^{Optional}
  attribute: **scaling_factor** value: *value* ^{Optional}
  attribute: **value_offset** value: *value* ^{Optional}
  attribute: **description** value: *value* ^{Optional}
  - **End** Field_Bit
- **End** Group_Field_Binary
- **End** Record_Binary

- **Uniformly_Sampled - Occurs 0 to 1 Times**

  description: **The Uniformly_Sampled class provdes 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_Character - Occurs 0 to * Times**

  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: **offset** value: *value*
  attribute: **records** value: *value*
  attribute: **record_length** value: *value*
  attribute: **fields** value: *value*
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **description** value: *value* ^{Optional}

  - **Record_Character Occurs 1 Times**

    description: **The Record_Character class is a component of the table class and defines a record of the table.**
    role: **Concrete**

    - **Field_Character - Occurs 1 to * Times**

      description: **The Field_Character class defines a field of the record.**
      role: **Concrete**
      attribute: **name** value: *value*
      attribute: **field_number** value: *value* ^{Optional}
      attribute: **field_location** value: *value*
      attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: *value* ^{Optional}
      attribute: **maximum_scaled_value** value: *value* ^{Optional}
      attribute: **minimum_scaled_value** value: *value* ^{Optional}

attribute: **scaling_factor** value: ***value*** ^{Optional}
attribute: **value_offset** value: ***value*** ^{Optional}
attribute: **description** 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: **maximum** value: ***value*** ^{Optional}
  attribute: **minimum** value: ***value*** ^{Optional}
  attribute: **mean** value: ***value*** ^{Optional}
  attribute: **standard_deviation** value: ***value*** ^{Optional}
  attribute: **median** value: ***value*** ^{Optional}
  attribute: **description** 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** Field_Character
- **Group_Field_Character - Occurs 1 to * Times**

  description: **The Group_Field_Character class allows a group of table fields.**
  role: **Concrete**
  attribute: **repetitions** value: ***value***
  - **Field_Character Occurs 1 Times**

    description: **The Field_Character class defines a field of the record.**
    role: **Concrete**
    attribute: **name** value: ***value***
    attribute: **field_number** value: ***value*** ^{Optional}
    attribute: **field_location** value: ***value***
    attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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: **unit** value: ***value*** ^{Optional}
    attribute: **maximum_scaled_value** value: ***value*** ^{Optional}
    attribute: **minimum_scaled_value** value: ***value*** ^{Optional}
    attribute: **scaling_factor** value: ***value*** ^{Optional}
    attribute: **value_offset** value: ***value*** ^{Optional}
    attribute: **description** 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: **maximum** value: ***value*** ^{Optional}
      attribute: **minimum** value: ***value*** ^{Optional}
      attribute: **mean** value: ***value*** ^{Optional}
      attribute: **standard_deviation** value: ***value*** ^{Optional}
      attribute: **median** value: ***value*** ^{Optional}
      attribute: **description** 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** Field_Character
- **End** Group_Field_Character
- **End** Record_Character

- **Uniformly_Sampled - Occurs 0 to 1 Times**

  description: **The Uniformly_Sampled class provdes 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_Delimited - Occurs 0 to * Times**

  description: **The Table_Delimited class defines a simple table (spreadsheet) with delimited fields and records.**
  role: **Concrete**
  attribute: **name** value: ***value*** Optional
  attribute: **local_identifier** value: ***value***
  attribute: **field_delimiter** value: **0x2C, 0x3B, 0x7C**
  attribute: **maximum_record_length** value: ***value***
  attribute: **record_delimiter** value: **0x0A, 0x0D, 0x0D0x0A**
  attribute: **offset** value: ***value***
  attribute: **records** value: ***value***
  attribute: **fields** value: ***value***
  attribute: **external_standard_id** value: **CSV, OTHER**
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **description** value: ***value*** Optional

  - **Record_Delimited Occurs 1 Times**

    description: **The Record_Delimited class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.**
    role: **Concrete**

    - **Field_Delimited - Occurs 1 to * Times**

      description: **The Field_Delimited class defines a field of the record.**
      role: **Concrete**
      attribute: **name** value: ***value***
      attribute: **field_number** value: ***value*** Optional
      attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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*** Optional
      attribute: **field_format** value: ***value*** Optional
      attribute: **unit** value: ***value*** Optional
      attribute: **maximum_scaled_value** value: ***value*** Optional
      attribute: **minimum_scaled_value** value: ***value*** Optional
      attribute: **scaling_factor** value: ***value*** Optional
      attribute: **value_offset** value: ***value*** Optional
      attribute: **description** 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: **maximum** value: ***value*** ^{Optional}
attribute: **minimum** value: ***value*** ^{Optional}
attribute: **mean** value: ***value*** ^{Optional}
attribute: **standard_deviation** value: ***value*** ^{Optional}
attribute: **median** value: ***value*** ^{Optional}
attribute: **description** 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** Field_Delimited

- **Group_Field_Delimited - Occurs 1 to * Times**

  description: **The Field_Group_Delimited class allows a group of delimited fields.**
  role: **Concrete**
  attribute: **repetitions** value: ***value***

  - **Field_Delimited Occurs 1 Times**

    description: **The Field_Delimited class defines a field of the record.**
    role: **Concrete**
    attribute: **name** value: ***value***
    attribute: **field_number** value: ***value*** ^{Optional}
    attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean, 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*** ^{Optional}
    attribute: **field_format** value: ***value*** ^{Optional}
    attribute: **unit** value: ***value*** ^{Optional}
    attribute: **maximum_scaled_value** value: ***value*** ^{Optional}
    attribute: **minimum_scaled_value** value: ***value*** ^{Optional}
    attribute: **scaling_factor** value: ***value*** ^{Optional}
    attribute: **value_offset** value: ***value*** ^{Optional}
    attribute: **description** 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: **maximum** value: ***value*** ^{Optional}
      attribute: **minimum** value: ***value*** ^{Optional}
      attribute: **mean** value: ***value*** ^{Optional}
      attribute: **standard_deviation** value: ***value*** ^{Optional}
      attribute: **median** value: ***value*** ^{Optional}
      attribute: **description** 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** Field_Delimited
- **End** Group_Field_Delimited
- **End** Record_Delimited
- **End** Table_Delimited
- **File Occurs 1 Times**

  description: **The File class consists of attributes that describe a file in a data store.**
  role: **Concrete**
  attribute: **file_name** value: ***value***
  attribute: **local_identifier** value: ***value*** ^{Optional}
  attribute: **creation_date_time** value: ***value*** ^{Optional}
  attribute: **file_size** value: ***value*** ^{Optional}
  attribute: **records** value: ***value*** ^{Optional}
  attribute: **maximum_record_bytes** value: ***value*** ^{Optional}
  attribute: **md5_checksum** value: ***value*** ^{Optional}
  attribute: **comment** value: ***value*** ^{Optional}
  - **End** File
- **End** File_Area
- **End** Product_Proxy_PDS3

- **Product_Resource**

  description: **A resource product describes a web resource.**
  role: **Concrete**
  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**
    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**
      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: ***value*** ^{Optional}
        attribute: **alternate_title** value: ***value*** ^{Optional}
        attribute: **comment** value: ***value*** ^{Optional}
      - **End** Alias
    - **End** Alias_List
    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: ***value*** ^{Optional}
      attribute: **editor_list** value: ***value*** ^{Optional}
      attribute: **publication_year** value: ***value***
      attribute: **keywords** value: ***value*** ^{Optional}
      attribute: **description** value: ***value***
    - **End** Citation_Information
    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**
      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**

- attribute: **modification_date** value: *value*
- attribute: **version_id** value: *value*
- attribute: **description** value: *value*
  - **End** Modification_Detail
- **End** Modification_History
  - attribute: **logical_identifier** value: *value*
  - attribute: **version_id** value: *value*
  - attribute: **title** value: *value*
  - attribute: **information_model_version** value: **0.5.1.2.B**
  - attribute: **product_class** value: *value*
- **End** Identification_Area

- **Resource Occurs 1 Times**

  description: **The Resouce 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: **type** value: *value*
  attribute: **url** value: *value*
  attribute: **description** value: *value*
- **End** Resource

- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**

    attribute: **lid_reference** value: *value* Optional
    attribute: **lidvid_reference** value: *value* Optional
    attribute: **reference_type** value: *value*
    attribute: **comment** value: *value* Optional
  - **End** Internal_Reference

  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: *value*
    attribute: **description** value: *value* Optional
  - **End** External_Reference
- **End** Reference_List
- **End** Reference_List
- **End** Product_Resource

- **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**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: *value* Optional
        attribute: **alternate_title** value: *value* Optional
        attribute: **comment** value: *value* Optional
      - **End** Alias
    - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
role: **Concrete**

attribute: **author_list** value: **_value_** ^{Optional}

attribute: **editor_list** value: **_value_** ^{Optional}

attribute: **publication_year** value: **_value_**

attribute: **keywords** value: **_value_** ^{Optional}

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

- **End** Citation_Information

- **Modification_History - Occurs 0 to 1 Times**

  description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
  role: **Concrete**

    - **Modification_Detail Occurs 1 Times**

      description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
      role: **Concrete**
      attribute: **modification_date** value: **_value_**
      attribute: **version_id** value: **_value_**
      attribute: **description** value: **_value_**
    - **End** Modification_Detail
- **End** Modification_History
  attribute: **logical_identifier** value: **_value_**
  attribute: **version_id** value: **_value_**
  attribute: **title** value: **_value_**
  attribute: **information_model_version** value: **0.5.1.2.B**
  attribute: **product_class** value: **_value_**

- **End** Identification_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**

    - **Service_Description - Occurs 0 to * Times**

      description: **The Service Description class defines a file that contains a standardized service specification.**
      role: **Concrete**

      attribute: **name** value: **_value_** ^{Optional}
      attribute: **local_identifier** value: **_value_**
      attribute: **offset** value: **_value_**
      attribute: **external_standard_id** value: **WADL, WSDL**
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **description** value: **_value_** ^{Optional}
    - **End** Service_Description

    - **File Occurs 1 Times**

      description: **The File class consists of attributes that describe a file in a data store.**
      role: **Concrete**
      attribute: **file_name** value: **_value_**
      attribute: **local_identifier** value: **_value_** ^{Optional}
      attribute: **creation_date_time** value: **_value_** ^{Optional}
      attribute: **file_size** value: **_value_** ^{Optional}
      attribute: **records** value: **_value_** ^{Optional}
      attribute: **maximum_record_bytes** value: **_value_** ^{Optional}
      attribute: **md5_checksum** value: **_value_** ^{Optional}
      attribute: **comment** value: **_value_** ^{Optional}
    - **End** File
- **End** File_Area_Service_Description

- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

    - **Internal_Reference - Occurs 0 to * Times**

      description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
      role: **Concrete**

      attribute: **lid_reference** value: **_value_** ^{Optional}

- attribute: **lidvid_reference** value: **value** Optional
- attribute: **reference_type** value: **value**
- attribute: **comment** value: **value** Optional
  - **End** Internal_Reference

  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: **value**
    attribute: **description** value: **value** Optional
    - **End** External_Reference
  - **End** Reference_List
- **End** Product_Service

- **Product_Software**

  description: **Product Software is a product consisting of a set of one or more software formats.**
  role: **Concrete**
  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**
    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**
      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: **value** Optional
        attribute: **alternate_title** value: **value** Optional
        attribute: **comment** value: **value** Optional
        - **End** Alias
      - **End** Alias_List
    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: **value** Optional
      attribute: **editor_list** value: **value** Optional
      attribute: **publication_year** value: **value**
      attribute: **keywords** value: **value** Optional
      attribute: **description** value: **value**
      - **End** Citation_Information
    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**
      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**
        attribute: **modification_date** value: **value**
        attribute: **version_id** value: **value**
        attribute: **description** value: **value**
        - **End** Modification_Detail
      - **End** Modification_History
      attribute: **logical_identifier** value: **value**
      attribute: **version_id** value: **value**
      attribute: **title** value: **value**
      attribute: **information_model_version** value: **0.5.1.2.B**
      attribute: **product_class** value: **value**
    - **End** Identification_Area
  - **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: **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*
attribute: **description** 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

- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

    - **Internal_Reference - Occurs 0 to * Times**

      description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
      role: **Concrete**
      attribute: **lid_reference** value: *value* ^{Optional}
      attribute: **lidvid_reference** value: *value* ^{Optional}
      attribute: **reference_type** value: *value*
      attribute: **comment** value: *value* ^{Optional}
    - **End** Internal_Reference

    - **External_Reference - Occurs 0 to * Times**

      description: **The External_Reference class is used to reference a source outside the PDS registry system.**
      role: **Concrete**
      attribute: **reference_text** value: *value*
      attribute: **description** value: *value* ^{Optional}
    - **End** External_Reference
- **End** Reference_List
- **End** Product_Software

- **Product_SPICE_Kernel_Binary**

  description: **The Product SPICE Kernel Text class defines a binary SPICE product.**
  role: **Concrete**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: **value** ^{Optional}
        attribute: **alternate_title** value: **value** ^{Optional}
        attribute: **comment** value: **value** ^{Optional}
      - **End** Alias
    - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: **value** ^{Optional}
      attribute: **editor_list** value: **value** ^{Optional}
      attribute: **publication_year** value: **value**
      attribute: **keywords** value: **value** ^{Optional}
      attribute: **description** value: **value**
    - **End** Citation_Information

    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**
        attribute: **modification_date** value: **value**
        attribute: **version_id** value: **value**
        attribute: **description** value: **value**
      - **End** Modification_Detail
    - **End** Modification_History
      attribute: **logical_identifier** value: **value**
      attribute: **version_id** value: **value**
      attribute: **title** value: **value**
      attribute: **information_model_version** value: **0.5.1.2.B**
      attribute: **product_class** value: **value**
  - **End** Identification_Area

  - **Reference_List - Occurs 0 to 1 Times**

    description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
    role: **Concrete**

    - **Internal_Reference - Occurs 0 to * Times**

      description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
      role: **Concrete**
      attribute: **lid_reference** value: **value** ^{Optional}
      attribute: **lidvid_reference** value: **value** ^{Optional}
      attribute: **reference_type** value: **value**
      attribute: **comment** value: **value** ^{Optional}
    - **End** Internal_Reference

    - **External_Reference - Occurs 0 to * Times**

description: **The External_Reference class is used to reference a source outside the PDS registry system.**
role: **Concrete**
attribute: **reference_text** value: ***value***
attribute: **description** value: ***value*** ^{Optional}
- **End** External_Reference
- **End** Reference_List

- **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**

  - **SPICE_Kernel_Binary Occurs 1 Times**

    description: **The SPICE Kernel class describes a SPICE file.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **offset** value: ***value***
    attribute: **external_standard_id** value: **SPICE**
    attribute: **kernel_type** value: **CK, DBK, DSK, EK, PCK, SPK**
    attribute: **encoding_type** value: **BINARY**
    attribute: **description** value: ***value*** ^{Optional}
    - **End** SPICE_Kernel_Binary

  - **File Occurs 1 Times**

    description: **The File class consists of attributes that describe a file in a data store.**
    role: **Concrete**
    attribute: **file_name** value: ***value***
    attribute: **local_identifier** value: ***value*** ^{Optional}
    attribute: **creation_date_time** value: ***value*** ^{Optional}
    attribute: **file_size** value: ***value*** ^{Optional}
    attribute: **records** value: ***value*** ^{Optional}
    attribute: **maximum_record_bytes** value: ***value*** ^{Optional}
    attribute: **md5_checksum** value: ***value*** ^{Optional}
    attribute: **comment** value: ***value*** ^{Optional}
    - **End** File
- **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**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: ***value*** ^{Optional}
        attribute: **alternate_title** value: ***value*** ^{Optional}
        attribute: **comment** value: ***value*** ^{Optional}
        - **End** Alias
      - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: ***value*** ^{Optional}
      attribute: **editor_list** value: ***value*** ^{Optional}
      attribute: **publication_year** value: ***value***
      attribute: **keywords** value: ***value*** ^{Optional}
      attribute: **description** value: ***value***
      - **End** Citation_Information

- **Modification_History - Occurs 0 to 1 Times**

  description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
  role: **Concrete**

  - **Modification_Detail Occurs 1 Times**

    description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
    role: **Concrete**
    attribute: **modification_date** value: **value**
    attribute: **version_id** value: **value**
    attribute: **description** value: **value**
  - **End** Modification_Detail
- **End** Modification_History
  attribute: **logical_identifier** value: **value**
  attribute: **version_id** value: **value**
  attribute: **title** value: **value**
  attribute: **information_model_version** value: **0.5.1.2.B**
  attribute: **product_class** value: **value**
- **End** Identification_Area
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: **value** Optional
    attribute: **lidvid_reference** value: **value** Optional
    attribute: **reference_type** value: **value**
    attribute: **comment** value: **value** Optional
  - **End** Internal_Reference

  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: **value**
    attribute: **description** value: **value** Optional
  - **End** External_Reference
- **End** Reference_List

- **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**

  - **SPICE_Kernel_Text Occurs 1 Times**

    description: **The SPICE Kernel class describes a SPICE file.**
    role: **Concrete**
    attribute: **name** value: **value** Optional
    attribute: **local_identifier** value: **value**
    attribute: **offset** value: **value**
    attribute: **external_standard_id** value: **SPICE**
    attribute: **kernel_type** value: **EK, FK, IK, LSK, MK, PCK, SCLK**
    attribute: **encoding_type** value: **CHARACTER**
    attribute: **description** value: **value** Optional
  - **End** SPICE_Kernel_Text

  - **File Occurs 1 Times**

    description: **The File class consists of attributes that describe a file in a data store.**
    role: **Concrete**
    attribute: **file_name** value: **value**
    attribute: **local_identifier** value: **value** Optional
    attribute: **creation_date_time** value: **value** Optional
    attribute: **file_size** value: **value** Optional
    attribute: **records** value: **value** Optional

- attribute: **maximum_record_bytes** value: *value* ^{Optional}
- attribute: **md5_checksum** value: *value* ^{Optional}
- attribute: **comment** value: *value* ^{Optional}
  - **End** File
- **End** File_Area_SPICE_Kernel_Text
- **End** Product_SPICE_Kernel_Text

- **Product_Target**

  description: **A target product describes a target.**
  role: **Concrete**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: *value* ^{Optional}
        attribute: **alternate_title** value: *value* ^{Optional}
        attribute: **comment** value: *value* ^{Optional}
      - **End** Alias
    - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: *value* ^{Optional}
      attribute: **editor_list** value: *value* ^{Optional}
      attribute: **publication_year** value: *value*
      attribute: **keywords** value: *value* ^{Optional}
      attribute: **description** value: *value*
    - **End** Citation_Information

    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**
        attribute: **modification_date** value: *value*
        attribute: **version_id** value: *value*
        attribute: **description** value: *value*
      - **End** Modification_Detail
    - **End** Modification_History
      attribute: **logical_identifier** value: *value*
      attribute: **version_id** value: *value*
      attribute: **title** value: *value*
      attribute: **information_model_version** value: **0.5.1.2.B**
      attribute: **product_class** value: *value*
  - **End** Identification_Area

  - **Target Occurs 1 Times**

    description: **The Target class provides a description of a phyiscal object that is the object of data collection.**
    role: **Concrete**
    attribute: **name** value: *value* ^{Optional}
    attribute: **type** value: **Asteroid, Comet, Dust, Dwarf_Planet, Galaxy, Globular_Cluster, Meteorite, Meteoroid, Meteoroid_Stream, Nebula, Open_Cluster, Planet, Planetary_Nebula, Planetary_System, Plasma_Cloud, Ring, Satellite, Star, Star_Cluster, Sun, Terrestrial_Sample, Trans-Neptunian_Object** ^{Optional}
    attribute: **description** value: *value*

- **End** Target
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**
    - **Internal_Reference - Occurs 0 to * Times**

      description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
      role: **Concrete**
      attribute: **lid_reference** value: ***value*** Optional
      attribute: **lidvid_reference** value: ***value*** Optional
      attribute: **reference_type** value: ***value***
      attribute: **comment** value: ***value*** Optional
    - **End** Internal_Reference
    - **External_Reference - Occurs 0 to * Times**

      description: **The External_Reference class is used to reference a source outside the PDS registry system.**
      role: **Concrete**
      attribute: **reference_text** value: ***value***
      attribute: **description** value: ***value*** Optional
    - **End** External_Reference
  - **End** Reference_List
- **End** Product_Target

- **Product_Target_PDS3**

  description: **A target product describes a target. This product captures a reduced set of the PDS3 catalog target information.**
  role: **Concrete**
    - **Identification_Area Occurs 1 Times**

      description: **The identification area consists of attributes that identify and name an object.**
      role: **Concrete**
        - **Alias_List - Occurs 0 to 1 Times**

          description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
          role: **Concrete**
            - **Alias - Occurs 1 to * Times**

              description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
              role: **Concrete**
              attribute: **alternate_id** value: ***value*** Optional
              attribute: **alternate_title** value: ***value*** Optional
              attribute: **comment** value: ***value*** Optional
            - **End** Alias
        - **End** Alias_List
        - **Citation_Information - Occurs 0 to 1 Times**

          description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
          role: **Concrete**
          attribute: **author_list** value: ***value*** Optional
          attribute: **editor_list** value: ***value*** Optional
          attribute: **publication_year** value: ***value***
          attribute: **keywords** value: ***value*** Optional
          attribute: **description** value: ***value***
        - **End** Citation_Information
        - **Modification_History - Occurs 0 to 1 Times**

          description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
          role: **Concrete**
            - **Modification_Detail Occurs 1 Times**

              description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
              role: **Concrete**

attribute: **modification_date** value: ***value***
attribute: **version_id** value: ***value***
attribute: **description** value: ***value***
- **End** Modification_Detail
- **End** Modification_History
attribute: **logical_identifier** value: ***value***
attribute: **version_id** value: ***value***
attribute: **title** value: ***value***
attribute: **information_model_version** value: **0.5.1.2.B**
attribute: **product_class** value: ***value***
- **End** Identification_Area

- **Target_PDS3 Occurs 1 Times**

  description: **The Target class provides a description of a phyiscal 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

- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** Optional
    attribute: **lidvid_reference** value: ***value*** Optional
    attribute: **reference_type** value: ***value***
    attribute: **comment** value: ***value*** Optional
  - **End** Internal_Reference

  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: ***value***
    attribute: **description** value: ***value*** Optional
  - **End** External_Reference
- **End** Reference_List
- **End** Product_Target_PDS3

- **Product_Thumbnail**

  description: **The Product Thumbnail class defines a product consisting of one encoded byte stream digital object.**
  role: **Concrete**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: ***value*** Optional
        attribute: **alternate_title** value: ***value*** Optional
        attribute: **comment** value: ***value*** Optional
      - **End** Alias
    - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in**

journal articles, abstract services, and other reference contexts.
role: **Concrete**

attribute: **author_list** value: ***value*** ^{Optional}

attribute: **editor_list** value: ***value*** ^{Optional}

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

attribute: **keywords** value: ***value*** ^{Optional}

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

- **End** Citation_Information

- **Modification_History - Occurs 0 to 1 Times**

  description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
  role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**
        attribute: **modification_date** value: ***value***
        attribute: **version_id** value: ***value***
        attribute: **description** value: ***value***
      - **End** Modification_Detail

- **End** Modification_History
  attribute: **logical_identifier** value: ***value***
  attribute: **version_id** value: ***value***
  attribute: **title** value: ***value***
  attribute: **information_model_version** value: **0.5.1.2.B**
  attribute: **product_class** value: ***value***

- **End** Identification_Area

- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

      - **Internal_Reference - Occurs 0 to * Times**

        description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
        role: **Concrete**

        attribute: **lid_reference** value: ***value*** ^{Optional}

        attribute: **lidvid_reference** value: ***value*** ^{Optional}

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

        attribute: **comment** value: ***value*** ^{Optional}

      - **End** Internal_Reference

      - **External_Reference - Occurs 0 to * Times**

        description: **The External_Reference class is used to reference a source outside the PDS registry system.**
        role: **Concrete**
        attribute: **reference_text** value: ***value***

        attribute: **description** value: ***value*** ^{Optional}

      - **End** External_Reference

- **End** Reference_List

- **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**

      - **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: **offset** value: ***value***
        attribute: **external_standard_id** value: **GIF, JPEG, PDF, PNG, TIFF**
        attribute: **encoding_type** value: **BINARY**
        attribute: **description** value: ***value*** ^{Optional}

      - **End** Encoded_Image

      - **File Occurs 1 Times**

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

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

attribute: **local_identifier** value: ***value*** Optional

attribute: **creation_date_time** value: ***value*** Optional

attribute: **file_size** value: ***value*** Optional

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

attribute: **maximum_record_bytes** value: ***value*** Optional

attribute: **md5_checksum** value: ***value*** Optional

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

- **End** File
- **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**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**

        attribute: **alternate_id** value: ***value*** Optional

        attribute: **alternate_title** value: ***value*** Optional

        attribute: **comment** value: ***value*** Optional
      - **End** Alias
    - **End** Alias_List
    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**

      attribute: **author_list** value: ***value*** Optional

      attribute: **editor_list** value: ***value*** Optional

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

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

      attribute: **description** value: ***value***
    - **End** Citation_Information
    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**

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

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

        attribute: **description** value: ***value***
      - **End** Modification_Detail
    - **End** Modification_History

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

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

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

      attribute: **information_model_version** value: **0.5.1.2.B**

      attribute: **product_class** value: ***value***
  - **End** Identification_Area
  - **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 1 to * Times**

  description: **The Update Entry class provides the date and description of an update.**
  role: **Concrete**
  attribute: **date_time** value: ***value***
  attribute: **full_name** value: ***value***
  attribute: **description** value: ***value***

  - **Internal_Reference - Occurs 0 to 1 Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** Optional
    attribute: **lidvid_reference** value: ***value*** Optional
    attribute: **reference_type** value: ***value***
    attribute: **comment** value: ***value*** Optional
  - **End** Internal_Reference
- **End** Update_Entry
- **End** Update
- **Reference_List - Occurs 0 to 1 Times**

  description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
  role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

    description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** Optional
    attribute: **lidvid_reference** value: ***value*** Optional
    attribute: **reference_type** value: ***value***
    attribute: **comment** value: ***value*** Optional
  - **End** Internal_Reference
  - **External_Reference - Occurs 0 to * Times**

    description: **The External_Reference class is used to reference a source outside the PDS registry system.**
    role: **Concrete**
    attribute: **reference_text** value: ***value***
    attribute: **description** value: ***value*** Optional
  - **End** External_Reference
- **End** Reference_List
- **End** Product_Update

- **Product_XML_Schema**

description: **The Product XML Schema consists of a single text file in XML Schema encoding.**
role: **Concrete**

- **Identification_Area Occurs 1 Times**

  description: **The identification area consists of attributes that identify and name an object.**
  role: **Concrete**

  - **Alias_List - Occurs 0 to 1 Times**

    description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
    role: **Concrete**

    - **Alias - Occurs 1 to * Times**

      description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
      role: **Concrete**
      attribute: **alternate_id** value: ***value*** Optional
      attribute: **alternate_title** value: ***value*** Optional
      attribute: **comment** value: ***value*** Optional
    - **End** Alias
  - **End** Alias_List
  - **Citation_Information - Occurs 0 to 1 Times**

description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
role: **Concrete**

attribute: **author_list** value: **value** Optional

attribute: **editor_list** value: **value** Optional

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

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

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

- **End** Citation_Information

- **Modification_History - Occurs 0 to 1 Times**

description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
role: **Concrete**

  - **Modification_Detail Occurs 1 Times**

description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
role: **Concrete**

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

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

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

  - **End** Modification_Detail
- **End** Modification_History

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

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

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

attribute: **information_model_version** value: **0.5.1.2.B**

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

- **End** Identification_Area

- **Reference_List - Occurs 0 to 1 Times**

description: **The Reference_List class provides lists general references and cross-references for the product. References cited elsewhere in the label need not be repeated here.**
role: **Concrete**

  - **Internal_Reference - Occurs 0 to * Times**

description: **The Internal_Reference class is used to cross-reference other products in the PDS registry system.**
role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

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

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

  - **End** Internal_Reference

  - **External_Reference - Occurs 0 to * Times**

description: **The External_Reference class is used to reference a source outside the PDS registry system.**
role: **Concrete**

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

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

  - **End** External_Reference

- **End** Reference_List

- **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**

  - **XML_Schema Occurs 1 Times**

description: **The XML Schema class defines a text stream file containing XML Schema.**
role: **Concrete**

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

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

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

attribute: **external_standard_id** value: **XML_Schema**

attribute: **encoding_type** value: **CHARACTER**

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

  - **End** XML_Schema

  - **File Occurs 1 Times**

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

- role: **Concrete**
    attribute: **file_name** value: *value*
    attribute: **local_identifier** value: *value* ^{Optional}
    attribute: **creation_date_time** value: *value* ^{Optional}
    attribute: **file_size** value: *value* ^{Optional}
    attribute: **records** value: *value* ^{Optional}
    attribute: **maximum_record_bytes** value: *value* ^{Optional}
    attribute: **md5_checksum** value: *value* ^{Optional}
    attribute: **comment** value: *value* ^{Optional}
      - **End** File
  - **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**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes that identify and name an object.**
    role: **Concrete**

    - **Alias_List - Occurs 0 to 1 Times**

      description: **The Alias_List class provides a list of paired alternate names and identifications for this product in this or some other archive or data system.**
      role: **Concrete**

      - **Alias - Occurs 1 to * Times**

        description: **The Alias class provides a single alternate name and identification for this product in this or some other archive or data system.**
        role: **Concrete**
        attribute: **alternate_id** value: *value* ^{Optional}
        attribute: **alternate_title** value: *value* ^{Optional}
        attribute: **comment** value: *value* ^{Optional}
      - **End** Alias
    - **End** Alias_List

    - **Citation_Information - Occurs 0 to 1 Times**

      description: **The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.**
      role: **Concrete**
      attribute: **author_list** value: *value* ^{Optional}
      attribute: **editor_list** value: *value* ^{Optional}
      attribute: **publication_year** value: *value*
      attribute: **keywords** value: *value* ^{Optional}
      attribute: **description** value: *value*
    - **End** Citation_Information

    - **Modification_History - Occurs 0 to 1 Times**

      description: **The Modification_History class tracks the history of changes made to the product once it enters the registry system.**
      role: **Concrete**

      - **Modification_Detail Occurs 1 Times**

        description: **The Modification_Detail class provides the details of one round of modification for the product. The first, required, instance of this class documents the date the product was first registered.**
        role: **Concrete**
        attribute: **modification_date** value: *value*
        attribute: **version_id** value: *value*
        attribute: **description** value: *value*
      - **End** Modification_Detail
    - **End** Modification_History
      attribute: **logical_identifier** value: *value*
      attribute: **version_id** value: *value*
      attribute: **title** value: *value*
      attribute: **information_model_version** value: **0.5.1.2.B**
      attribute: **product_class** value: *value*
  - **End** Identification_Area
    attribute: **container_type** value: **GZIP, LZIP, TAR, ZIP**

  - **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: **reference_type** value: **contained_product, manifest_product**
attribute: **md5_checksum** value: ***value***
- **End** Zipped_Member_Entry

- **File Occurs 1 Times**

  description: **The File class consists of attributes that describe a file in a data store.**
  role: **Concrete**
  attribute: **file_name** value: ***value***
  attribute: **local_identifier** value: ***value*** Optional
  attribute: **creation_date_time** value: ***value*** Optional
  attribute: **file_size** value: ***value*** Optional
  attribute: **records** value: ***value*** Optional
  attribute: **maximum_record_bytes** value: ***value*** Optional
  attribute: **md5_checksum** value: ***value*** Optional
  attribute: **comment** value: ***value*** Optional
  - **End** File

- **End** Product_Zipped

- ## Telemetry_Parameters

  description: **The Telemetry_Parameters class contains downlink-related attributes used primarily during mission operations.**
  role: **Concrete**
  attribute: **application_process_id** value: ***value*** Optional
  attribute: **application_process_name** value: ***value*** Optional
  attribute: **earth_received_start_date_time** value: ***value*** Optional
  attribute: **earth_received_stop_date_time** value: ***value*** Optional
  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 - Thu Jan 12 17:04:08 PST 2012

Generated from the PDS4 Information Model Version 0.5.1.3.Beta

- **abstract_desc**

  steward: **ops**
  name space id: **pds:**
  class: **Data_Set_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **PDS_Affiliate**

version: **0.5.1.3.Beta**
- 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: **Target_Identification**
  version: **0.5.1.3.Beta**
  - 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: **Alias**
  version: **0.5.1.3.Beta**
  - description: **The alternate_id attribute provides an additional identifier supplied by the data provider.**
  - value_data_type: **ASCII_Short_String_Collapsed**

- **alternate_telephone_number**

  steward: **ops**
  name space id: **pds:**
  class: **PDS_Affiliate**
  version: **0.5.1.3.Beta**
  - 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: **Alias**
  version: **0.5.1.3.Beta**
  - description: **The alternate _title attribute provides an alternate title for the product.**
  - value_data_type: **ASCII_Short_String_Collapsed**

- **application_process_id**

  steward: **img**
  name space id: **img:**
  class: **Telemetry_Parameters**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Data_Set_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Volume_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Volume_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **DD_Attribute_Full**
  version: **0.5.1.3.Beta**
    - 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

- **ADDRESS**
- **ANGLE**
- **ATTRIBUTE**
- **BIT**
- **CHECKSUM**
- **COLLECTION**
- **CONSTANT**
- **COSINE**
- **COUNT**
- **DELIMITER**
- **DESCRIPTION**
- **DEVIATION**
- **DIRECTION**
- **DISTANCE**
- **DOI**
- **DURATION**
- **FACTOR**
- **FLAG**
- **FORMAT**
- **GROUP**
- **HOME**
- **LATITUDE**
- **LENGTH**
- **LIST**
- **LOCATION**
- **LOGICAL**
- **LONGITUDE**
- **MASK**
- **MAXIMUM**
- **MEAN**
- **MEDIAN**
- **MINIMUM**
- **NAME**
- **NOTE**
- **NUMBER**
- **OFFSET**
- **ORDER**
- **PARALLEL**
- **PASSWORD**
- **PATH**
- **PATTERN**
- **PIXEL**
- **QUATERNION**
- **RADIUS**
- **RATIO**
- **REFERENCE**
- **RESOLUTION**
- **ROLE**
- **ROTATION**
- **SCALE**
- **SEQUENCE**
- **SET**
- **SIZE**
- **STATUS**
- **SUMMARY**
- **SYNTAX**
- **TEMPERATURE**
- **TEXT**
- **TITLE**
- **TYPE**
- **UNIT**
- **VALUE**
- **VECTOR**
- **ID**

- **author_list**

  steward: **ops**
  name space id: **pds:**
  class: **Software_Desc**
  version: **0.5.1.3.Beta**
  - 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: **Citation_Information**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**

- 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: **0.5.1.3.Beta**
    - description: **The axis_storage_order attribute associates a name with each of the axis.**
    - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - permissible values
      SAMPLE_LINE
      LINE_SAMPLE

- **bits**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Bit**
  version: **0.5.1.3.Beta**
    - 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: **Field_Bit**
  version: **0.5.1.3.Beta**
    - description: **The bit_mask element is a series of binary digits identifying the active bits in a value.**
    - value_data_type: **ASCII_Numeric_Base2**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **bytes**

  steward: **pds**
  name space id: **pds:**
  class: **Header**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Data_Set_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **DD_Attribute_Full**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **DD_Attribute**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Local_DD**
  version: **0.5.1.3.Beta**
  - 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: **Alias**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Internal_Reference**
  version: **0.5.1.3.Beta**
  - description: **The comment attribute provides 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: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Software_Source**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Value_Domain_Full**
  version: **0.5.1.3.Beta**
  - 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
  SHORT_STRING
  INTEGER
  TEXT
  TIME
  REAL
  BOOLEAN
  TYPE
  NAME
  NUMERIC

- **confidence_level_note**

  steward: **ops**
  name space id: **pds:**
  class: **Data_Set_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Association**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Product_Zipped**
  version: **0.5.1.3.Beta**
  - 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

- **continuous_loop_flag**

  steward: **pds**
  name space id: **pds:**
  class: **Axis_Display**
  version: **0.5.1.3.Beta**
  - description: **The continuous_loop_flag attribute indicates whether or not to keep replaying a movie.**
  - value_data_type: **ASCII_Boolean**

- **copyright**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
- 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: **pds:**
  class: **Volume_PDS3**
  version: **0.5.1.3.Beta**
    - 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_regime**

  steward: **pds**
  name space id: **pds:**
  class: **Primary_Result_Description**
  version: **0.5.1.3.Beta**
    - description: **The data_regime attribute provides the wavelength (or an analogous concept for things like particle detectors) of the observations, stated as a category.**
    - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - permissible values
      Gamma_Ray
      X-Ray
      Ultraviolet
      Optical
      Visible
      Infrared
      Near_Infrared
      Far_Infrared
      Microwave
      Sub-Millimeter
      Millimeter
      Radio
      Magnetic_Field
      Electric_Field
      Ions
      Electrons
      Particles
      Dust:Dust_Particle_Counts
      Dust:Impacts
      Dust:Mass_Spectra

- **data_set_desc**

  steward: **ops**
  name space id: **pds:**
  class: **Data_Set_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Data_Set_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Data_Set_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Data_Set_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Data_Set_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Array_Element**
  version: **0.5.1.3.Beta**
  - 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
    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: **pds:**
  class: **Field_Binary**
  version: **0.5.1.3.Beta**
  - description: **The data_type attribute provides the hardware representation used to store a value.**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible values
    ComplexMSB8
    ComplexMSB16
    SignedLSB2
    SignedLSB4
    SignedLSB8
    SignedMSB2
    SignedMSB4
    SignedMSB8
    UnsignedByte

UnsignedLSB2
UnsignedLSB4
UnsignedMSB2
UnsignedMSB4
IEEE754MSBDouble
IEEE754MSBSingle
ASCII_File_Name
ASCII_Boolean
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: **pds:**
  class: **Field_Bit**
  version: **0.5.1.3.Beta**
    - description: **The data_type attribute provides the hardware representation used to store a value.**
    - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - permissible value
      Bit

- **data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Character**
  version: **0.5.1.3.Beta**
    - 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
      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: **pds:**
  class: **Field_Delimited**
  version: **0.5.1.3.Beta**
    - 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
    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

- **date_time**

  steward: **pds**
  name space id: **pds:**
  class: **Update_Entry**
  version: **0.5.1.3.Beta**
    - description: **The date_time attribute provides the date and time of an event.**
    - value_data_type: **ASCII_Date_Time**

- **default_blue**

  steward: **pds**
  name space id: **pds:**
  class: **Axis_Display**
  version: **0.5.1.3.Beta**
    - description: **The default_blue attribute provides the number of the plane along the axis that is to be loaded, by default, into the blue plane of a display device.**
    - value_data_type: **ASCII_Integer**

- **default_green**

  steward: **pds**
  name space id: **pds:**
  class: **Axis_Display**
  version: **0.5.1.3.Beta**
    - description: **The default_green attribute provides the number of the plane along the axis that is to be loaded, by default, into the green plane of a display device.**
    - value_data_type: **ASCII_Integer**

- **default_red**

  steward: **pds**
  name space id: **pds:**
  class: **Axis_Display**
  version: **0.5.1.3.Beta**
    - description: **The default_red attribute provides the number of the plane along the axis that is to be loaded, by default, into the red plane of a display device.**
    - value_data_type: **ASCII_Integer**

- **definition**

steward: **ops**
name space id: **pds:**
class: **DD_Attribute**
version: **0.5.1.3.Beta**
- 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: **pds:**
  class: **DD_Class**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Terminological_Entry**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Node**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **PDS_Affiliate**
  version: **0.5.1.3.Beta**
  - 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: **ops**
  name space id: **pds:**
  class: **PDS_Guest**
  version: **0.5.1.3.Beta**
  - 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: **ops**
  name space id: **pds:**
  class: **Software_Desc**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Volume_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Volume_Set_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Array_Base**
  version: **0.5.1.3.Beta**
  - 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: **Citation_Information**
  version: **0.5.1.3.Beta**
  - 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: **5000**
- **description**

  steward: **pds**
  name space id: **pds:**
  class: **Detector**
  version: **0.5.1.3.Beta**
  - 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: **Document_Desc**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Encoded_Byte_Stream**
  version: **0.5.1.3.Beta**
  - 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: **External_Reference**
  version: **0.5.1.3.Beta**
  - 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: **Field_Binary**
  version: **0.5.1.3.Beta**
  - 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: **Field_Bit**
  version: **0.5.1.3.Beta**
  - 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: **Field_Character**
  version: **0.5.1.3.Beta**
  - 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: **Field_Delimited**
  version: **0.5.1.3.Beta**
  - 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: **Field_Statistics**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Instrument_Host**
  version: **0.5.1.3.Beta**
    - 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: **Investigation**
  version: **0.5.1.3.Beta**
    - 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: **Modification_Detail**
  version: **0.5.1.3.Beta**
    - 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: **Object_Statistics**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **Observing_System_Component**
  version: **0.5.1.3.Beta**
    - 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: **Parsable_Byte_Stream**
  version: **0.5.1.3.Beta**
    - 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: **Primary_Result_Description**
  version: **0.5.1.3.Beta**
    - 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: **Quaternion**
  version: **0.5.1.3.Beta**
    - 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: **Quaternion_Component**
  version: **0.5.1.3.Beta**
    - 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: **Resource**
  version: **0.5.1.3.Beta**
    - 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: **Table_Base**
  version: **0.5.1.3.Beta**
    - 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: **Target**
  version: **0.5.1.3.Beta**
    - 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: **Target_Identification**
  version: **0.5.1.3.Beta**
    - 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: **Update**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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**

- **display_direction**

  steward: **pds**
  name space id: **pds:**
  class: **Axis_Display**
  version: **0.5.1.3.Beta**
    - description: **The display_direction attribute provides the preferred direction for displaying on a display device.**
    - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - permissible values
      DOWN
      LEFT
      RIGHT
      UP
      FORWARD
      BACK
      SEQUENTIAL

- **document_name**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**
  version: **0.5.1.3.Beta**
    - 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: **Document_Desc**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
- 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: **0.5.1.3.Beta**
  - 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: **Citation_Information**
  version: **0.5.1.3.Beta**
  - description: **The editor_list attribute lists the editors of a work.**
  - value_data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **510**

- **editor_list**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **PDS_Affiliate**
  version: **0.5.1.3.Beta**
  - description: **The eletronic mail address attribute provides a mulri-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: **pds:**
  class: **PDS_Guest**
  version: **0.5.1.3.Beta**
  - description: **The eletronic mail address attribute provides a mulri-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: **0.5.1.3.Beta**
  - 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: **ops**
  name space id: **pds:**
  class: **Delivery_Manifest**
  version: **0.5.1.3.Beta**

- description: **The encoding_type attribute provides the storage format (binary or character).**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- permissible value
CHARACTER

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Base**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Inventory_LIDVID_Primary**
  version: **0.5.1.3.Beta**
  - description: **The encoding_type attribute provides the storage format (binary or character).**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible value
  CHARACTER

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **Inventory_LIDVID_Secondary**
  version: **0.5.1.3.Beta**
  - description: **The encoding_type attribute provides the storage format (binary or character).**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible value
  CHARACTER

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **Inventory_LID_Secondary**
  version: **0.5.1.3.Beta**
  - description: **The encoding_type attribute provides the storage format (binary or character).**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible value
  CHARACTER

- **encoding_type**

  steward: **pds**

name space id: **pds:**
class: **Parsable_Byte_Stream**
version: **0.5.1.3.Beta**
- 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: **0.5.1.3.Beta**
  - 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_Binary**
  version: **0.5.1.3.Beta**
  - description: **The encoding_type attribute provides the storage format (binary or character).**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible value
    BINARY

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Character**
  version: **0.5.1.3.Beta**
  - description: **The encoding_type attribute provides the storage format (binary or character).**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible value
    CHARACTER

- **enumeration_flag**

  steward: **ops**
  name space id: **pds:**
  class: **DD_Value_Domain**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Document_File**
version: **0.5.1.3.Beta**
- 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
- 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: **0.5.1.3.Beta**
  - 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: **Table_Delimited**
  version: **0.5.1.3.Beta**
  - 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: **XML_Schema**
  version: **0.5.1.3.Beta**
  - 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: **ops**
  name space id: **pds:**
  class: **Delivery_Manifest**
  version: **0.5.1.3.Beta**
  - description: **The fields attribute provides a count of the fields**
  - value_data_type: **ASCII_Integer** - Enumerated
  - minimum_value: **1**
  - permissible value
    2

- **fields**

  steward: **pds**
  name space id: **pds:**
  class: **Inventory_LIDVID_Primary**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Table_Base**
  version: **0.5.1.3.Beta**
  - 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: **Table_Delimited**
  version: **0.5.1.3.Beta**
  - description: **The fields attribute provides a count of the fields**
  - value_data_type: **ASCII_Integer**
  - minimum_value: **1**

- **field_delimiter**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Delimited**
  version: **0.5.1.3.Beta**
  - 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_format**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Binary**
  version: **0.5.1.3.Beta**
  - 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**

- **field_format**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Bit**
  version: **0.5.1.3.Beta**
  - 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**

- **field_format**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Character**

version: **0.5.1.3.Beta**
- 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**

- **field_format**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Delimited**
  version: **0.5.1.3.Beta**
  - 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**

- **field_length**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Binary**
  version: **0.5.1.3.Beta**
  - 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**

- **field_length**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Bit**
  version: **0.5.1.3.Beta**
  - 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**

- **field_length**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Character**
  version: **0.5.1.3.Beta**
  - 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**

- **field_length**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Delimited**
  version: **0.5.1.3.Beta**
  - 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**

- **field_location**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Binary**
  version: **0.5.1.3.Beta**
  - description: **The field_location attribute provides the starting byte for a field within a record, counting from 1.**
  - value_data_type: **ASCII_Integer**
  - minimum_value: **1**

- **field_location**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Bit**
  version: **0.5.1.3.Beta**
  - description: **The field_location attribute provides the starting byte for a field within a record, counting from 1.**
  - value_data_type: **ASCII_Integer**
  - minimum_value: **1**

- **field_location**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Character**
  version: **0.5.1.3.Beta**
  - description: **The field_location attribute provides the starting byte for a field within a record, counting from 1.**
  - value_data_type: **ASCII_Integer**

- minimum_value: **1**

- **field_number**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Binary**
  version: **0.5.1.3.Beta**
    - 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**

- **field_number**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Bit**
  version: **0.5.1.3.Beta**
    - 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**

- **field_number**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Character**
  version: **0.5.1.3.Beta**
    - 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**

- **field_number**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Delimited**
  version: **0.5.1.3.Beta**
    - 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**

- **files**

  steward: **ops**
  name space id: **pds:**
  class: **Software_Binary**
  version: **0.5.1.3.Beta**
    - description: **The files attribute provides the number of files.**
    - value_data_type: **ASCII_Integer**
    - minimum_value: **1**

- **files**

  steward: **ops**
  name space id: **pds:**
  class: **Software_Script**
  version: **0.5.1.3.Beta**
    - description: **The files attribute provides the number of files.**
    - value_data_type: **ASCII_Integer**
    - minimum_value: **1**

- **files**

  steward: **ops**
  name space id: **pds:**
  class: **Software_Source**
  version: **0.5.1.3.Beta**
    - description: **The files attribute provides the number of files.**
    - value_data_type: **ASCII_Integer**
    - minimum_value: **1**

- **file_name**

  steward: **pds**
  name space id: **pds:**
  class: **File**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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_sampling_parameter_value**

  steward: **pds**
  name space id: **pds:**
  class: **Uniformly_Sampled**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **DD_Value_Domain**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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

- **frame_rate**

  steward: **pds**
  name space id: **pds:**
  class: **Axis_Display**
  version: **0.5.1.3.Beta**

- description: **The frame_rate attribute provides the time, in specified units, between frames for display of a movie.**
- value_data_type: **ASCII_Integer**
- minimum_value: **0**
- unit_of_measure_type: **UnitOfMeasure_Rates**

- **full_name**

  steward: **ops**
  name space id: **pds:**
  class: **Local_DD**
  version: **0.5.1.3.Beta**
    - 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: **Update_Entry**
  version: **0.5.1.3.Beta**
    - 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**

- **information_model_version**

  steward: **pds**
  name space id: **pds:**
  class: **Identification_Area**
  version: **0.5.1.3.Beta**
    - description: **The information_model_version attribute provides the version identification of the PDS Information Model on which the label and schema are based.**
    - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - permissible value
      0.5.1.2.B

- **install_notes**

  steward: **ops**
  name space id: **pds:**
  class: **Software_Script**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Node**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **PDS_Affiliate**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Instrument_PDS3**

version: **0.5.1.3.Beta**
- 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: **pds:**
  class: **Instrument_Host_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Instrument_Host_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Instrument_Host_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Instrument_Host_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Instrument_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Instrument_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Instrument_PDS3**
  version: **0.5.1.3.Beta**
  - description: **TBD_description**
  - value_data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **instrument_type**

  steward: **ops**
  name space id: **pds:**
  class: **Instrument_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Instrument_PDS3**
  version: **0.5.1.3.Beta**
  - description: **TBD_description**
  - value_data_type: **ASCII_Short_String_Collapsed**

- **invalid_constant**

  steward: **pds**
  name space id: **pds:**
  class: **Special_Constants**
  version: **0.5.1.3.Beta**
  - 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**

- **kernel_type**

  steward: **pds**
  name space id: **pds:**
  class: **SPICE_Kernel_Binary**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Citation_Information**
  version: **0.5.1.3.Beta**
  - description: **The keywords attribute provides one or more words to be used for keyword search.**
  - value_data_type: **ASCII_Text_Collapsed**

- **language**

  steward: **pds**

name space id: **pds:**
class: **Terminological_Entry**
version: **0.5.1.3.Beta**
- 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: **pds:**
  class: **Local_DD**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Bundle_Member_Entry**
  version: **0.5.1.3.Beta**
  - description: **The lidvid_reference attribute provides the logical_identifier plus version_id, which uniquely identifies a product.**
  - value_data_type: **ASCII_Short_String_Collapsed**

- **lidvid_reference**

  steward: **pds**
  name space id: **pds:**
  class: **Internal_Reference**
  version: **0.5.1.3.Beta**
  - description: **The lidvid_reference attribute provides the logical_identifier plus version_id, which uniquely identifies a product.**
  - value_data_type: **ASCII_Short_String_Collapsed**

- **lidvid_reference**

  steward: **pds**
  name space id: **pds:**
  class: **Zipped_Member_Entry**
  version: **0.5.1.3.Beta**
  - 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: **Bundle_Member_Entry**
  version: **0.5.1.3.Beta**
  - 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: **Internal_Reference**
  version: **0.5.1.3.Beta**
  - description: **The lid_reference attribute provides the logical_identifier for a product.**

- value_data_type: **ASCII_Short_String_Collapsed**

- **local_identifier**

  steward: **ops**
  name space id: **pds:**
  class: **DD_Association**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Attribute**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Class**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Local_DD**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **Table_Base**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
  - 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: **Time_Coordinates**
  version: **0.5.1.3.Beta**
  - 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**

- **local_true_solar_time**

  steward: **pds**
  name space id: **pds:**
  class: **Time_Coordinates**
  version: **0.5.1.3.Beta**
  - 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**

- **logical_identifier**

  steward: **pds**
  name space id: **pds:**
  class: **Identification_Area**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Value_Domain**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Association**
  version: **0.5.1.3.Beta**
    - description: **The maximum occurences 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: **0.5.1.3.Beta**
    - description: **The maximum_record_bytes atrribute 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: **Table_Delimited**
  version: **0.5.1.3.Beta**
    - 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_scaled_value**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Binary**
  version: **0.5.1.3.Beta**
    - 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_Real**

- **maximum_scaled_value**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Bit**
  version: **0.5.1.3.Beta**
    - 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_Real**

- **maximum_scaled_value**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Character**
  version: **0.5.1.3.Beta**
    - 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_Real**

- **maximum_scaled_value**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Delimited**
  version: **0.5.1.3.Beta**
    - 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_Real**

- **maximum_value**

  steward: **ops**
  name space id: **pds:**

class: **DD_Value_Domain**
version: **0.5.1.3.Beta**
- 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **NSSDC**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Volume_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Value_Domain**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Association**
  version: **0.5.1.3.Beta**
  - description: **The minimum occurences 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_scaled_value**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Binary**
  version: **0.5.1.3.Beta**
    - 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_Real**

- **minimum_scaled_value**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Bit**
  version: **0.5.1.3.Beta**
    - 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_Real**

- **minimum_scaled_value**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Character**
  version: **0.5.1.3.Beta**
    - 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_Real**

- **minimum_scaled_value**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Delimited**
  version: **0.5.1.3.Beta**
    - 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_Real**

- **minimum_value**

  steward: **ops**
  name space id: **pds:**
  class: **DD_Value_Domain**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Mission_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**

class: **Mission_PDS3**

version: **0.5.1.3.Beta**

- 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: **pds:**
  class: **Mission_PDS3**
  version: **0.5.1.3.Beta**
  - 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_start_date**

  steward: **ops**
  name space id: **pds:**
  class: **Mission_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Mission_PDS3**
  version: **0.5.1.3.Beta**
  - 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**

- **modification_date**

  steward: **pds**
  name space id: **pds:**
  class: **Modification_Detail**
  version: **0.5.1.3.Beta**
  - description: **The modification_date attribute provides date the modifications were completed**
  - value_data_type: **ASCII_Date_YMD**

- **naif_host_id**

  steward: **pds**
  name space id: **pds:**
  class: **Instrument_Host**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Attribute**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Class**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **External_Reference_Extended**
  version: **0.5.1.3.Beta**
  - 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: **ops**
  name space id: **pds:**
  class: **Node**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **PDS_Affiliate**
  version: **0.5.1.3.Beta**
  - 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: **ops**
  name space id: **pds:**
  class: **PDS_Guest**
  version: **0.5.1.3.Beta**
  - 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: **ops**
  name space id: **pds:**
  class: **Software_Desc**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Field_Binary**
  version: **0.5.1.3.Beta**
  - 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: **Field_Bit**
  version: **0.5.1.3.Beta**
  - 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: **Field_Character**
  version: **0.5.1.3.Beta**
  - 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: **Field_Delimited**
  version: **0.5.1.3.Beta**
  - 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: **Header_Binary**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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_Area**
  version: **0.5.1.3.Beta**
  - 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: **Observing_System**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Parsable_Byte_Stream**
  version: **0.5.1.3.Beta**
  - 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**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Target**
  version: **0.5.1.3.Beta**
  - 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: **Target_Identification**
  version: **0.5.1.3.Beta**
    - 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: **Terminological_Entry**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **DD_Attribute**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **DD_Attribute_Full**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **DD_Class**
  version: **0.5.1.3.Beta**
    - 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_name**

  steward: **ops**
  name space id: **pds:**
  class: **PDS_Affiliate**
  version: **0.5.1.3.Beta**

- 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

- **not_applicable_constant**

  steward: **pds**
  name space id: **pds:**
  class: **Special_Constants**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **NSSDC**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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

- **offset**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Base**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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**

- **os_version**

  steward: **ops**
  name space id: **pds:**
  class: **Software_Binary**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Software_Source**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **pds:**
class: **DD_Value_Domain**
version: **0.5.1.3.Beta**
- 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: **pds:**
  class: **Local_DD**
  version: **0.5.1.3.Beta**
  - 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** - Enumerated
  - permissible values
    T
    F

- **phone_book_flag**

  steward: **ops**
  name space id: **pds:**
  class: **PDS_Affiliate**
  version: **0.5.1.3.Beta**
  - description: **The phone_book_flag attribute indicates whether or not this person should be included in the phone book.**
  - value_data_type: **ASCII_Boolean**

- **postal_address_text**

  steward: **ops**
  name space id: **pds:**
  class: **PDS_Affiliate**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Terminological_Entry**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Target_PDS3**
  version: **0.5.1.3.Beta**
  - 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**

- **producer_full_name**

  steward: **ops**
  name space id: **pds:**
  class: **Data_Set_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
- description: **The product_class attribute provides the high-level classification of the product into a category like "observational product" or "document".**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **programmers_manual_identifier**

  steward: **ops**
  name space id: **pds:**
  class: **Software_Desc**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Software_Binary**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Software_Source**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Volume_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - description: **The publication_date attribute provides the date on which an item was published.**
  - value_data_type: **ASCII_Date_YMD**

- **publication_year**

  steward: **pds**
  name space id: **pds:**
  class: **Citation_Information**
  version: **0.5.1.3.Beta**
  - description: **The publication_year attribute provides the year in which the product should be considered as published. Generally, this will be the year the data were declared "Certified" or "Archived".**
  - value_data_type: **ASCII_Date**

- **purpose**

  steward: **pds**
  name space id: **pds:**
  class: **Primary_Result_Description**
  version: **0.5.1.3.Beta**
  - description: **The purpose attribute provides an indication of the primary purpose of the observations included.**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated

- permissible values
  Science
  Navigation
  Calibration
  Checkout
  Engineering
- **quaternion_components**

  steward: **pds**
  name space id: **pds:**
  class: **Quaternion**
  version: **0.5.1.3.Beta**
  - description: **The quaternion_components attribute provides a count of quaternion components.**
  - value_data_type: **ASCII_Integer**
- **received_packets**

  steward: **img**
  name space id: **img:**
  class: **Telemetry_Parameters**
  version: **0.5.1.3.Beta**
  - 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: **File**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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_Delimited**
  version: **0.5.1.3.Beta**
  - description: **The records attribute provides a count of records.**
  - value_data_type: **ASCII_Integer**
  - minimum_value: **1**
- **record_delimiter**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Delimited**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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**

- **reduction_level**

  steward: **pds**
  name space id: **pds:**
  class: **Primary_Result_Description**
  version: **0.5.1.3.Beta**
  - description: **The reduction_level attribute provides a broad indication of data processing level.**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible values
    Raw
    Calibrated
    Derived
    Analytic

- **reduction_level**

  steward: **pds**
  name space id: **pds:**
  class: **Product_Collection**
  version: **0.5.1.3.Beta**
  - description: **The reduction_level attribute provides a broad indication of data processing level.**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible values
    Raw
    Calibrated
    Derived
    Analytic

- **reference_text**

  steward: **pds**
  name space id: **pds:**
  class: **External_Reference**
  version: **0.5.1.3.Beta**
  - description: **The reference_text attribute provides a complete bibliographic citation for a published work.**
  - value_data_type: **ASCII_Text_Preserved**

- **reference_type**

  steward: **ops**
  name space id: **pds:**
  class: **DD_Association**
  version: **0.5.1.3.Beta**
  - description: **The reference_type attribute provides the name of the association.**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible values
    subclass_of
    attribute_of

- **reference_type**

  steward: **ops**
  name space id: **pds:**
  class: **Delivery_Manifest**
  version: **0.5.1.3.Beta**
  - description: **The reference_type attribute provides the name of the association.**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible value
    has_member

- **reference_type**

  steward: **pds**
  name space id: **pds:**
  class: **Bundle_Member_Entry**
  version: **0.5.1.3.Beta**
  - description: **The reference_type attribute provides the name of the association.**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible values
    has_browse_collection
    has_calibration_collection
    has_data_collection
    has_document_collection
    has_geometry_collection
    has_spice_kernels_collection

has_xml_schema_collection
has_member_collection
has_context_collection

- **reference_type**

  steward: **pds**
  name space id: **pds:**
  class: **Internal_Reference**
  version: **0.5.1.3.Beta**
  - description: **The reference_type attribute provides the name of the association.**
  - value_data_type: **ASCII_Short_String_Collapsed**

- **reference_type**

  steward: **pds**
  name space id: **pds:**
  class: **Inventory_LIDVID_Primary**
  version: **0.5.1.3.Beta**
  - description: **The reference_type attribute provides the name of the association.**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible value
    has_member_LIDVID_Primary

- **reference_type**

  steward: **pds**
  name space id: **pds:**
  class: **Inventory_LIDVID_Secondary**
  version: **0.5.1.3.Beta**
  - description: **The reference_type attribute provides the name of the association.**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible value
    has_member_LIDVID_Secondary

- **reference_type**

  steward: **pds**
  name space id: **pds:**
  class: **Inventory_LID_Secondary**
  version: **0.5.1.3.Beta**
  - description: **The reference_type attribute provides the name of the association.**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible value
    has_member_LID_Secondary

- **reference_type**

  steward: **pds**
  name space id: **pds:**
  class: **Zipped_Member_Entry**
  version: **0.5.1.3.Beta**
  - description: **The reference_type attribute provides the name of the association.**
  - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - permissible values
    manifest_product
    contained_product

- **registered_by**

  steward: **ops**
  name space id: **pds:**
  class: **DD_Attribute_Full**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Attribute_Full**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **PDS_Affiliate**
  version: **0.5.1.3.Beta**
  - description: **The registration_date attribute provides the date of registration within the PDS system.**
  - value_data_type: **ASCII_Date_YMD**

- **registration_date**

  steward: **ops**
  name space id: **pds:**
  class: **PDS_Guest**
  version: **0.5.1.3.Beta**
  - 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: **Group_Field_Binary**
  version: **0.5.1.3.Beta**
  - description: **The repetitions attribute provides the number of occurrences.**
  - value_data_type: **ASCII_Integer**
  - minimum_value: **1**

- **repetitions**

  steward: **pds**
  name space id: **pds:**
  class: **Group_Field_Character**
  version: **0.5.1.3.Beta**
  - description: **The repetitions attribute provides the number of occurrences.**
  - value_data_type: **ASCII_Integer**
  - minimum_value: **1**

- **repetitions**

  steward: **pds**
  name space id: **pds:**
  class: **Group_Field_Delimited**
  version: **0.5.1.3.Beta**
  - description: **The repetitions attribute provides the number of occurrences.**
  - value_data_type: **ASCII_Integer**
  - minimum_value: **1**

- **revision_id**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**
  version: **0.5.1.3.Beta**
  - 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**

- **sample_bit_mask**

  steward: **pds**
  name space id: **pds:**
  class: **Object_Statistics**
  version: **0.5.1.3.Beta**
  - 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**

- **sampling_parameter_interval**

  steward: **pds**
  name space id: **pds:**
  class: **Uniformly_Sampled**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Field_Binary**
  version: **0.5.1.3.Beta**
  - 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: **Field_Bit**
version: **0.5.1.3.Beta**
- 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: **Field_Character**
version: **0.5.1.3.Beta**
- 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: **Field_Delimited**
version: **0.5.1.3.Beta**
- 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**

- **sequence_number**

steward: **pds**
name space id: **pds:**
class: **Array_Axis**
version: **0.5.1.3.Beta**
- 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: **0.5.1.3.Beta**
- 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: **0.5.1.3.Beta**
- 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: **0.5.1.3.Beta**
- 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: **0.5.1.3.Beta**

- description: **TBD_description**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **software_dialect**

  steward: **ops**
  name space id: **pds:**
  class: **Software_Source**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Software_Desc**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Software_Source**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Software_Desc**
  version: **0.5.1.3.Beta**
    - 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: **Time_Coordinates**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **PDS_Affiliate**
  version: **0.5.1.3.Beta**
    - 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**

- **sort_name**

  steward: **ops**
  name space id: **pds:**
  class: **PDS_Guest**
  version: **0.5.1.3.Beta**
    - 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**

- **specified_unit_id**

  steward: **ops**
  name space id: **pds:**

class: **DD_Value_Domain**
version: **0.5.1.3.Beta**
- 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Field_Bit**
  version: **0.5.1.3.Beta**
  - 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**

- **start_date**

  steward: **pds**
  name space id: **pds:**
  class: **Investigation**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Data_Set_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
    - 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: **Time_Coordinates**
  version: **0.5.1.3.Beta**
    - 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**

- **steward_id**

  steward: **ops**
  name space id: **pds:**
  class: **DD_Attribute**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **DD_Attribute_Full**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **DD_Class**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Data_Set_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **Time_Coordinates**
  version: **0.5.1.3.Beta**
  - 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**

- **submitter_id**

  steward: **ops**
  name space id: **pds:**
  class: **DD_Attribute**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Attribute_Full**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Class**

version: **0.5.1.3.Beta**
- 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**

- **supported_architecture**

  steward: **ops**
  name space id: **pds:**
  class: **Software_Binary**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Software_Source**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Software_Script**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Software_Binary**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Software_Source**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Software_Binary**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Software_Source**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Software_Binary**
  version: **0.5.1.3.Beta**
    - description: **The system requirements attribute identifies what is necessary to process the software.**
    - value_data_type: **ASCII_Text_Preserved**
- **system_requirements**

  steward: **ops**
  name space id: **pds:**
  class: **Software_Script**
  version: **0.5.1.3.Beta**
    - description: **The system requirements attribute identifies what is necessary to process the software.**
    - value_data_type: **ASCII_Text_Preserved**
- **system_requirements**

  steward: **ops**
  name space id: **pds:**
  class: **Software_Source**
  version: **0.5.1.3.Beta**
    - description: **The system requirements attribute identifies what is necessary to process the software.**
    - value_data_type: **ASCII_Text_Preserved**
- **target_desc**

  steward: **ops**
  name space id: **pds:**
  class: **Target_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Target_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Target_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **PDS_Affiliate**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **Detector**
  version: **0.5.1.3.Beta**
    - 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: **Instrument**
  version: **0.5.1.3.Beta**
    - description: **The type attribute provides a classification for the resource.**
    - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - permissible values
      Accelerometer
      Altimeter
      Camera
      Cosmic_Ray_Detector
      Detector_Array
      Dust_Analyzer
      Imaging_Spectrometer
      Magnetometer
      Meteorology
      Naked_Eye
      Other
      Particle_Detector
      Photometer
      Plasma_Analyzer

Radio_Science
Radio_Spectrometer
Radio_Telescope
Radiometer
Reflectometer
Spectrometer

- **type**

  steward: **pds**
  name space id: **pds:**
  class: **Instrument_Host**
  version: **0.5.1.3.Beta**
    - description: **The type attribute provides a classification for the resource.**
    - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - permissible values
    Earth_Based
    Rover
    Spacecraft

- **type**

  steward: **pds**
  name space id: **pds:**
  class: **Investigation**
  version: **0.5.1.3.Beta**
    - description: **The type attribute provides a classification for the resource.**
    - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - permissible values
    Individual_Investigation
    Mission
    Observing_Campaign
    Other_Investigation

- **type**

  steward: **pds**
  name space id: **pds:**
  class: **Investigation_Area**
  version: **0.5.1.3.Beta**
    - 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: **Primary_Result_Description**
  version: **0.5.1.3.Beta**
    - description: **The type attribute provides a classification for the resource.**
    - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - permissible values
    Astrometry
    B-Field_Vectors
    Column_Density
    Comet_Nuclear_Properties
    Count
    Count_Rate
    Data_Number
    Digital_Elevation_Model
    E-Field_Vectors
    Environment
    Environment:Hardware_Temperature
    Filter_Curve
    Gravity_Model
    Gravity_Model:Spherical_Harmonics
    Image
    Image:Anaglyph
    Image:Color
    Image:Filtered
    Impact_Characteristics
    Instrument
    Instrument:Geometry
    Instrument:Parameters
    Flux
    Flux:Electron
    Flux:Ion
    Flux:Photometric

Lightcurve
Magnetometry
Magnitude
Map
Map:Radiance
Map:Thermal
Morphology
Null_Result
Photometry
Photometry:Aperture
Photometry:High-Speed
Photometry:Magnitude
Point_Spread_Function
Polarimetry
Pressure
Production_Rate
Pulse_Heights
Radiometry
Shape_Model
Shape_Model:Spherical_Harmonics
Shape_Model:Triangular_Plate
Spectrometry
Spectrophotometry
Spectroscopy
Spectrum
Spectrum:Image
Spectrum:Frequency
Spectrum:Grism
Spectrum:Lines
Spectrum:Mass
Spectrum:Time-Of-Flight
Spin_State

- **type**

  steward: **pds**
  name space id: **pds:**
  class: **Quaternion**
  version: **0.5.1.3.Beta**
    - 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: **Resource**
  version: **0.5.1.3.Beta**
    - 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: **Target**
  version: **0.5.1.3.Beta**
    - description: **The type attribute provides a classification for the resource.**
    - value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - permissible values
      Asteroid
      Comet
      Dust
      Galaxy
      Globular_Cluster
      Meteorite
      Meteoroid
      Meteoroid_Stream
      Nebula
      Open_Cluster
      Planet
      Planetary_Nebula
      Planetary_System

Plasma_Cloud
Ring
Satellite
Star
Star_Cluster
Sun
Terrestrial_Sample
Trans-Neptunian_Object
Dwarf_Planet

- **type**

  steward: **pds**
  name space id: **pds:**
  class: **Target_Identification**
  version: **0.5.1.3.Beta**
  - 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: **Vector**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - description: **The unit attribute provides the unit of measurement.**
  - value_data_type: **ASCII_Short_String_Collapsed**

- **unit**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Binary**
  version: **0.5.1.3.Beta**
  - description: **The unit attribute provides the unit of measurement.**
  - value_data_type: **ASCII_Short_String_Collapsed**

- **unit**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Bit**
  version: **0.5.1.3.Beta**
  - description: **The unit attribute provides the unit of measurement.**
  - value_data_type: **ASCII_Short_String_Collapsed**

- **unit**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Character**
  version: **0.5.1.3.Beta**
  - description: **The unit attribute provides the unit of measurement.**
  - value_data_type: **ASCII_Short_String_Collapsed**

- **unit**

  steward: **pds**
  name space id: **pds:**
  class: **Field_Delimited**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
    - 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: **Vector_Component**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **DD_Value_Domain**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **ops**
  name space id: **pds:**
  class: **External_Reference_Extended**
  version: **0.5.1.3.Beta**
    - 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_Short_String_Collapsed**

- **url**

steward: **pds**
name space id: **pds:**
class: **Resource**
version: **0.5.1.3.Beta**

- 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: **pds:**
  class: **Software_Desc**
  version: **0.5.1.3.Beta**

  - 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: **pds:**
  class: **DD_Permissible_Value**
  version: **0.5.1.3.Beta**

  - 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: **pds:**
  class: **Quaternion_Component**
  version: **0.5.1.3.Beta**

  - 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: **pds:**
  class: **Vector_Component**
  version: **0.5.1.3.Beta**

  - 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: **pds:**
  class: **DD_Permissible_Value**
  version: **0.5.1.3.Beta**

  - 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: **pds:**
  class: **DD_Value_Domain**
  version: **0.5.1.3.Beta**

  - 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
    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: **pds:**
  class: **DD_Permissible_Value**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **DD_Permissible_Value**
  version: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **Field_Binary**
  version: **0.5.1.3.Beta**
    - 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: **Field_Bit**
  version: **0.5.1.3.Beta**
    - 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: **Field_Character**
version: **0.5.1.3.Beta**
- 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: **Field_Delimited**
  version: **0.5.1.3.Beta**
  - 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**

- **vector_components**

  steward: **pds**
  name space id: **pds:**
  class: **Vector**
  version: **0.5.1.3.Beta**
  - description: **The vector_components attribute provides a count of vector components.**
  - value_data_type: **ASCII_Integer**

- **version_id**

  steward: **ops**
  name space id: **pds:**
  class: **DD_Attribute**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Attribute_Full**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **DD_Class**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Software_Desc**
  version: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
  - 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: **0.5.1.3.Beta**
    - 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: **0.5.1.3.Beta**
    - 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: **Modification_Detail**
  version: **0.5.1.3.Beta**
    - 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**

- **volumes**

  steward: **ops**
  name space id: **pds:**
  class: **Volume_Set_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Volume_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Volume_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Volume_PDS3**
  version: **0.5.1.3.Beta**
    - 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: **pds:**
  class: **Volume_PDS3**

version: **0.5.1.3.Beta**
- 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: **pds:**
  class: **Volume_Set_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Volume_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Volume_Set_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Volume_Set_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Volume_PDS3**
  version: **0.5.1.3.Beta**
  - 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: **pds:**
  class: **Volume_PDS3**
  version: **0.5.1.3.Beta**
  - description: **The volume_version_id attribute indentifies 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**

- **BOOLEAN**

  version_identifier: **0.5.1.3.Beta**
  definition: **The values true and false, such that true is not equal to false. - ISO/IEC 11404**

- **CHARACTER**

  version_identifier: **0.5.1.3.Beta**
  definition: **The value space of a character datatype comprises exactly the members of the character-sets identified by the repertoire-list. - ISO/IEC 11404**

- **COMPLEX**

  version_identifier: **0.5.1.3.Beta**
  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**

- **ENUMERATED**

  version_identifier: **0.5.1.3.Beta**
  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**

- **INTEGER**

  version_identifier: **0.5.1.3.Beta**
  definition: **Mathematically, the infinite ring produced from the additive identity (0) and the multiplicative identity (1) by requiring 0 = 1 and Add(x,1) ? y for any y = x . That is: ..., -2, -1, 0, 1, 2, ... (a denumerably infinite list). - ISO/IEC 11404**

- **OCTET**

  version_identifier: **0.5.1.3.Beta**
  definition: **Each value of datatype octet is a code, represented by a non-negative integer value in the range [0, 255]. - ISO/IEC 11404**

- **REAL**

  version_identifier: **0.5.1.3.Beta**
  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**

- **SCALED**

  version_identifier: **0.5.1.3.Beta**
  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**

- **TIME**

  version_identifier: **0.5.1.3.Beta**
  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**

- **TIME_INTERVAL**

  version_identifier: **0.5.1.3.Beta**
  definition: **All values which are integral multiples of one radix ^ (-factor) unit of the specified timeunit. - ISO/IEC 11404**

- **VOID**

  version_identifier: **0.5.1.3.Beta**
  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**

- **COUNT**

  version_identifier: **0.5.1.3.Beta**
  definition: **A numeric value indicating a current total or tally.**

- **DATE**

  version_identifier: **0.5.1.3.Beta**
  definition: **A representation of time in which the smallest unit of measure is a day.**

- **DATE_TIME**

  version_identifier: **0.5.1.3.Beta**
  definition: **A value that measures the point of occurrence of an event expressed in date and time in a standard form.**

- **DESCRIPTION**

  version_identifier: **0.5.1.3.Beta**
  definition: **A free-form, unlimited-length character string that provides a description of the item identified.**

- **DIRECTION**

  version_identifier: **0.5.1.3.Beta**
  definition: **TBD**
- **FLAG**

  version_identifier: **0.5.1.3.Beta**
  definition: **A boolean condition indicator, limited to two states.**
- **FORMAT**

  version_identifier: **0.5.1.3.Beta**
  definition: **A specified or predetermined arrangement of data within a file or on a storage medium.**
- **GROUP**

  version_identifier: **0.5.1.3.Beta**
  definition: **Names a collection or aggregation of elements. Example: ALT FLAG GROUP**
- **GUID**

  version_identifier: **0.5.1.3.Beta**
  definition: **A globally unique, immutable, and opaque product identifer.**
- **ID**

  version_identifier: **0.5.1.3.Beta**
  definition: **A shorthand alphanumeric identifier.**
- **IDENTIFIER**

  version_identifier: **0.5.1.3.Beta**
  definition: **A shorthand alphanumeric identifier.**
- **LOCAL_IDENTIFIER**

  version_identifier: **0.5.1.3.Beta**
  definition: **An identifier unique within a product label. When appended to the LID, it provides a global identifier for a component of an product.**
- **LOGICAL_IDENTIFIER**

  version_identifier: **0.5.1.3.Beta**
  definition: **A unique product identifier without the version. It identifies the set of all versions of a product.**
- **MASK**

  version_identifier: **0.5.1.3.Beta**
  definition: **An unsigned numeric value representing the bit positions within a value.**
- **NAME**

  version_identifier: **0.5.1.3.Beta**
  definition: **A literal value representing the common term used to identify an element.**
- **NOTE**

  version_identifier: **0.5.1.3.Beta**
  definition: **A textual expression of opinion, an observation, or a criticism; a remark.**
- **NUMBER**

  version_identifier: **0.5.1.3.Beta**
  definition: **A quantity.**
- **QUATERNION**

  version_identifier: **0.5.1.3.Beta**
  definition: **TBD**
- **RATIO**

  version_identifier: **0.5.1.3.Beta**
  definition: **The relation between two quantities with respect to the number of times the first contains the second.**
- **SEQUENCE**

  version_identifier: **0.5.1.3.Beta**
  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.**
- **SET**

  version_identifier: **0.5.1.3.Beta**
  definition: **A collection of items having some feature in common or which bear a certain relation to one another, e.g. all even numbers.**
- **SUMMARY**

  version_identifier: **0.5.1.3.Beta**
  definition: **An abridged description.**
- **TEXT**

version_identifier: **0.5.1.3.Beta**
definition: **A free-form, unlimited length character string.**

- **TYPE**

  version_identifier: **0.5.1.3.Beta**
  definition: **A literal that indicates membership in a predefined class.**

- **UNIT**

  version_identifier: **0.5.1.3.Beta**
  definition: **A determinate quantity adopted as a standard of measurement.**

- **VALUE**

  version_identifier: **0.5.1.3.Beta**
  definition: **The default class word for data element names not terminated with a class word.**

- **VECTOR**

  version_identifier: **0.5.1.3.Beta**
  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_0.5.1.3.Beta**
  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_0.5.1.3.Beta**
  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 Thu Jan 12 17:04:08 PST 2012**

Generated from the PDS4 Information Model Version 0.5.1.3.Beta

- **Data Type:ASCII_AnyURI**

  description: **The ASCII AnyURI class indicates a URI or its subclasses URN and URL.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:anyURI**
  minimum_characters: **1**
  maximum_characters: **255**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Boolean**

  description: **The ASCII_Boolean class indicates a boolean.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:boolean**
  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.**
enumeration_flag: **T**
xml_schema_base_type: **xsd:string**
character_constraint: **ASCII**
minimum_characters: **1**
maximum_characters: **1**
character_encoding: **UTF-8**

- **Data Type:ASCII_DOI**

  description: **The ASCII DOI class indicates a digital object identifier (DOI).**
  enumeration_flag: **F**
  formation_rule: **nn.nnnn/nnn**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **1**
  maximum_characters: **255**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Date**

  description: **The ASCII_Date class indicates a date in either YMD or DOY format.**
  enumeration_flag: **F**
  formation_rule: **YYYY-MM-DD/YYYY-DOY**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **1**
  maximum_characters: **10**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Date_DOY**

  description: **The ASCII_Date_DOY class indicates a date in DOY format.**
  enumeration_flag: **F**
  formation_rule: **YYYY-DOY**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **4**
  maximum_characters: **8**
  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.**
  enumeration_flag: **F**
  formation_rule: **YYYY-MM-DDTHH:MM:SS.SSS/YYYY-DOYTHH:MM:SS.SSS**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **4**
  maximum_characters: **255**
  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.**
  enumeration_flag: **F**
  formation_rule: **YYYY-DOYTHH:MM:SS.SSS**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **4**
  maximum_characters: **30**
  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.**
  enumeration_flag: **F**
  formation_rule: **YYYY-MM-DDTHH:MM:SS.SSSZ**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **4**
  maximum_characters: **30**
  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.**
  enumeration_flag: **F**
  formation_rule: **YYYY-MM-DDTHH:MM:SS.SSS**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**

minimum_characters: **4**
maximum_characters: **30**
character_encoding: **UTF-8**

- **Data Type:ASCII_Date_YMD**

  description: **The ASCII_Date_YMD class indicates a date in YMD format.**
  enumeration_flag: **F**
  formation_rule: **YYYY-MM-DD**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **4**
  maximum_characters: **10**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Directory_Path_Name**

  description: **The ASCII Directory Path Name class indicates a system directory path.**
  enumeration_flag: **F**
  formation_rule: **dir1/dir2/**
  xml_schema_base_type: **xsd:token**
  character_constraint: **ASCII**
  minimum_characters: **1**
  maximum_characters: **255**
  character_encoding: **UTF-8**

- **Data Type:ASCII_File_Name**

  description: **The ASCII File Name class indicates a system file name.**
  enumeration_flag: **F**
  formation_rule: **file_name.file_extension**
  xml_schema_base_type: **xsd:token**
  character_constraint: **ASCII**
  minimum_characters: **1**
  maximum_characters: **255**
  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.**
  enumeration_flag: **F**
  formation_rule: **dir1/dir2/file_name.file_extension**
  xml_schema_base_type: **xsd:token**
  character_constraint: **ASCII**
  minimum_characters: **1**
  maximum_characters: **255**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Identifier**

  description: **The ASCII_Identifier class indicates a identifier.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **1**
  maximum_characters: **100**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Integer**

  description: **The ASCII_Integer class indicates an integer.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:integer**
  maximum_value: **2147483647**
  minimum_value: **-2147483648**
  character_encoding: **UTF-8**

- **Data Type:ASCII_LID**

  description: **The ASCII_LID class indicates a logical identifier.**
  enumeration_flag: **F**
  formation_rule: **urn:nasa:pds:xxxx**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **14**
  maximum_characters: **255**
  character_encoding: **UTF-8**

- **Data Type:ASCII_LIDVID**

  description: **The ASCII_LIDVID class indicates a logical identifier and version identifier.**
  enumeration_flag: **F**

formation_rule: **urn:nasa:pds:xxxx::M.n**
xml_schema_base_type: **xsd:string**
character_constraint: **ASCII**
minimum_characters: **19**
maximum_characters: **255**
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).**
  enumeration_flag: **F**
  formation_rule: **0123456789abcdef**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **32**
  maximum_characters: **32**
  character_encoding: **UTF-8**

- **Data Type:ASCII_NonNegative_Integer**

  description: **The ASCII_NonNegative_Integer class indicates a non-negative integer.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:integer**
  maximum_value: **4294967295**
  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.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:hexBinary**
  minimum_characters: **1**
  maximum_characters: **255**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Numeric_Base2**

  description: **The ASCII Numeric Base2 class indicates a ASCII encoded string constrained to binary digits.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **1**
  maximum_characters: **255**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Numeric_Base8**

  description: **The ASCII Numeric Base8 class indicates a ASCII encoded string constrained to octal digits.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **1**
  maximum_characters: **255**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Real**

  description: **The ASCII_Real class indicates a real.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:double**
  maximum_value: **INF**
  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.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:token**
  character_constraint: **ASCII**
  minimum_characters: **1**
  maximum_characters: **255**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Short_String_Preserved**

  description: **The ASCII_Short_String_Preserved class indicates a limited length, whitespace-preserved string.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **1**

maximum_characters: **255**
character_encoding: **UTF-8**

- **Data Type:ASCII_Text_Collapsed**

  description: **The ASCII_Text_Collapsed class indicates an unlimited length, whitespace-collapsed text string.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:token**
  character_constraint: **ASCII**
  minimum_characters: **1**
  maximum_characters: **2147483647**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Text_Preserved**

  description: **The ASCII_Text_Preserved class indicates an unlimited length, whitespace-preserved text string.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **1**
  maximum_characters: **2147483647**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Time**

  description: **The ASCII_Time class indicates a time value.**
  enumeration_flag: **F**
  formation_rule: **HH:MM:SS.SSS**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **1**
  maximum_characters: **20**
  character_encoding: **UTF-8**

- **Data Type:ASCII_VID**

  description: **The ASCII_VID class indicates a version identifier.**
  enumeration_flag: **F**
  formation_rule: **M.m**
  xml_schema_base_type: **xsd:string**
  character_constraint: **ASCII**
  minimum_characters: **3**
  maximum_characters: **100**
  character_encoding: **UTF-8**

- **Data Type:Bit**

  description: **A single binary digit.**

- **Data Type:ComplexLSB16**

  description: **Complex number consisting of two LSB 8 byte decimal reals.**

- **Data Type:ComplexLSB8**

  description: **Complex number consisting of two LSB 4 byte decimal reals.**

- **Data Type:ComplexMSB16**

  description: **Complex number consisting of two MSB 8 byte decimal reals.**

- **Data Type:ComplexMSB8**

  description: **Complex number consisting of two MSB 4 byte decimal reals.**

- **Data Type:Float3Vector**

  description: **The Float3Vector data type class is a prototype of Anne's simple demo schema for float3vector.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:token**
  character_encoding: **UTF-8**

- **Data Type:IEEE754LSBDouble**

  description: **IEEE 754 LSB double precision floating point**

- **Data Type:IEEE754LSBSingle**

  description: **IEEE 754 LSB single precision floating point**

- **Data Type:IEEE754MSBDouble**

  description: **IEEE 754 MSB double precision floating point**

- **Data Type:IEEE754MSBSingle**

  description: **IEEE 754 MSB single precision floating point**

- **Data Type:SignedByte**

  description: **Signed 8-bit byte**

- **Data Type:SignedLSB2**

  description: **Signed 2's-complement LSB 2-byte integer**
- **Data Type:SignedLSB4**

  description: **Signed 2's-complement LSB 4-byte integer**
- **Data Type:SignedLSB8**

  description: **Signed 2's-complement LSB 8-byte integer**
- **Data Type:SignedMSB2**

  description: **Signed 2's-complement MSB 2-byte integer**
- **Data Type:SignedMSB4**

  description: **Signed 2's-complement MSB 4-byte integer**
- **Data Type:SignedMSB8**

  description: **Signed 2's-complement MSB 8-byte integer**
- **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.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:token**
  minimum_characters: **1**
  maximum_characters: **255**
  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.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:string**
  minimum_characters: **1**
  maximum_characters: **255**
  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.**
  enumeration_flag: **F**
  xml_schema_base_type: **xsd:string**
  minimum_characters: **1**
  maximum_characters: **2147483647**
  character_encoding: **UTF-8**
- **Data Type:UnsignedByte**

  description: **Unsigned 8-bit byte**
- **Data Type:UnsignedLSB2**

  description: **Unsigned 2's-complement LSB 2-byte integer**
- **Data Type:UnsignedLSB4**

  description: **Unsigned 2's-complement LSB 4-byte integer**
- **Data Type:UnsignedLSB8**

  description: **Unsigned 2's-complement LSB 8-byte integer**
- **Data Type:UnsignedMSB2**

  description: **Unsigned 2's-complement MSB 2-byte integer**
- **Data Type:UnsignedMSB4**

  description: **Unsigned 2's-complement MSB 4-byte integer**
- **Data Type:UnsignedMSB8**

  description: **Unsigned 2's-complement MSB 8-byte integer**

10. **Product Index**

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- **Collection_Volume_Set_PDS3**
- **Local_DD**
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- **Product_Attribute_Definition**
- **Product_Browse**

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- **Product_XML_Schema**
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11. **Class Index**

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12. Attribute and Class Indices

13. Attribute Index

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- **display_direction** - **display_direction** in pds:Axis_Display
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- **doi** - **doi** in pds:Document_Desc
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- **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
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- **frame_rate** - **frame_rate** in pds:Axis_Display
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- **information_model_version** - **information_model_version** in pds:Identification_Area
- **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_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_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
- **kernel_type** - **kernel_type** in pds:SPICE_Kernel_Binary, **kernel_type** in pds:SPICE_Kernel_Text
- **keywords** - **keywords** in pds:Citation_Information
- **language** - **language** in ops:Terminological_Entry
- **last_modification_date_time** - **last_modification_date_time** in ops:Local_DD
- **last_sampling_parameter_value** - **last_sampling_parameter_value** in pds:Uniformly_Sampled
- **lidvid_reference** - **lidvid_reference** in pds:Bundle_Member_Entry, **lidvid_reference** in pds:Internal_Reference, **lidvid_reference** in pds:Zipped_Member_Entry
- **lid_reference** - **lid_reference** in pds:Bundle_Member_Entry, **lid_reference** in pds:Internal_Reference
- **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:Parsable_Byte_Stream, **local_identifier** in pds:Quaternion, **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:Time_Coordinates
- **local_true_solar_time** - **local_true_solar_time** in pds:Time_Coordinates
- **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, **maximum_characters** in pds:ASCII_Date_Time_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:Table_Delimited
- **maximum_scaled_value** - **maximum_scaled_value** in pds:Field_Binary, **maximum_scaled_value** in pds:Field_Bit, **maximum_scaled_value** in pds:Field_Character, **maximum_scaled_value** in pds:Field_Delimited
- **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_scaled_value** - **minimum_scaled_value** in pds:Field_Binary, **minimum_scaled_value** in pds:Field_Bit, **minimum_scaled_value** in pds:Field_Character, **minimum_scaled_value** in pds:Field_Delimited
- **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_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_start_date** - **mission_start_date** in ops:Mission_PDS3
- **mission_stop_date** - **mission_stop_date** in ops:Mission_PDS3
- **modification_date** - **modification_date** in pds:Modification_Detail
- **naif_host_id** - **naif_host_id** in ops:Instrument_Host
- **naif_instrument_id** - **naif_instrument_id** in ops:Instrument
- **name** - **name** in ops:DD_Attribute, **name** in ops:DD_Class, **name** in ops:External_Reference_Extended, **name** in ops:Node, **name** in ops:PDS_Affiliate, **name** in ops:PDS_Guest, **name** in ops:Software_Desc, **name** in ops:Detector, **name** in pds:Field_Binary, **name** in pds:Field_Bit, **name** in pds:Field_Character, **name** in pds:Field_Delimited, **name** in pds:Header_Binary, **name** in ops:Instrument, **name** in ops:Instrument_Host, **name** in ops:Investigation, **name** in pds:Investigation_Area, **name** in pds:Observing_System, **name** in pds:Observing_System_Component, **name** in pds:Parsable_Byte_Stream, **name** in pds:Quaternion, **name** in pds:Quaternion_Component, **name** in ops:Resource, **name** in ops:Target, **name** in pds:Target_Identification, **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_name** - **node_name** in ops:PDS_Affiliate
- **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
- **offset** - **offset** in pds:Array_Base, **offset** in pds:Encoded_Byte_Stream, **offset** in pds:Parsable_Byte_Stream, **offset** in pds:Table_Base
- **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_Time_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
- **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
- **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
- **publication_year** - **publication_year** in pds:Citation_Information
- **purpose** - **purpose** in pds:Primary_Result_Description
- **quaternion_components** - **quaternion_components** in pds:Quaternion
- **received_packets** - **received_packets** in img:Telemetry_Parameters
- **records** - **records** in pds:File, **records** in pds:Table_Base, **records** in pds:Table_Delimited
- **record_delimiter** - **record_delimiter** in pds:Table_Delimited
- **record_length** - **record_length** in pds:Table_Base
- **reduction_level** - **reduction_level** in pds:Primary_Result_Description, **reduction_level** in pds:Product_Collection
- **reference_text** - **reference_text** in pds:External_Reference
- **reference_type** - **reference_type** in ops:DD_Association, **reference_type** in ops:Delivery_Manifest, **reference_type** in pds:Bundle_Member_Entry, **reference_type** in pds:Internal_Reference, **reference_type** in pds:Inventory_LIDVID_Primary,

reference_type in pds:Inventory_LIDVID_Secondary, **reference_type** in pds:Inventory_LID_Secondary, **reference_type** in pds:Zipped_Member_Entry

- **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:PDS_Affiliate, **registration_date** in ops:PDS_Guest
- **repetitions** - **repetitions** in pds:Group_Field_Binary, **repetitions** in pds:Group_Field_Character, **repetitions** in pds:Group_Field_Delimited
- **revision_id** - **revision_id** in pds:Document_Desc
- **sample_bit_mask** - **sample_bit_mask** in pds:Object_Statistics
- **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:Field_Binary, **scaling_factor** in pds:Field_Bit, **scaling_factor** in pds:Field_Character, **scaling_factor** in pds:Field_Delimited
- **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 ops:Instrument, **serial_number** in ops: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:Time_Coordinates
- **sort_name** - **sort_name** in ops:PDS_Affiliate, **sort_name** in ops:PDS_Guest
- **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:Field_Bit
- **start_date** - **start_date** in ops:Investigation
- **start_date_time** - **start_date_time** in ops:Data_Set_PDS3, **start_date_time** in pds:Archive_Bundle, **start_date_time** in pds:Time_Coordinates
- **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 ops:Investigation
- **stop_date_time** - **stop_date_time** in ops:Data_Set_PDS3, **stop_date_time** in pds:Archive_Bundle, **stop_date_time** in pds:Time_Coordinates
- **submitter_id** - **submitter_id** in ops:DD_Attribute, **submitter_id** in ops:DD_Attribute_Full, **submitter_id** in ops:DD_Class
- **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_Binary, **system_requirements** in ops:Software_Script, **system_requirements** in ops:Software_Source
- **target_desc** - **target_desc** in ops:Target_PDS3
- **target_name** - **target_name** in ops:Target_PDS3
- **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 ops:Detector, **type** in ops:Instrument, **type** in ops:Instrument_Host, **type** in ops:Investigation, **type** in pds:Investigation_Area, **type** in pds:Primary_Result_Description, **type** in pds:Quaternion, **type** in ops:Resource, **type** in ops:Target, **type** in pds:Target_Identification, **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:Field_Binary, **unit** in pds:Field_Bit, **unit** in pds:Field_Character, **unit** in pds:Field_Delimited, **unit** in pds:Quaternion_Component, **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 ops:External_Reference_Extended, **url** in ops: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:Field_Binary, **value_offset** in pds:Field_Bit, **value_offset** in pds:Field_Character, **value_offset** in pds:Field_Delimited
- **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 ops:Instrument, **version_id** in ops:Instrument_Host, **version_id** in pds:Modification_Detail
- **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