PDS4 Data Dictionary - Unabridged - V.0.2.0.0.d

PDS4 Data Design Working Group

Version 0.2.0.0.d - Mon Dec 13 20:27:43 PST 2010

Generated from the PDS4 Information Model Version 0.2.0.0.d

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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 is intended for use by programmers and data engineers who require formal definitions of the components and the organization of PDS4 products.

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 unabridged version includes an entry for each use of an attribute in a class where the abridged version includes only one entry for each attribute.

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 about a *class*.
- A *class* is the set of attributes which identifies a family. A *class* is generic – a template from which individual members of each family may be constructed.
- A *conceptual object* is an object that is not tangible. For example, a mission is 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 *descriptive class* provides information that is useful for the interpretation of a *data object*.
- A *digital object* is an object consisting of digital information. For example, an image is a *digital object*.
- *Formal* as used in the definition of attributes that are names indicates that an established procedure was involved in creating the name.
- A *globally unique identifier* or GUID is a special type of identifier used to provide a reference number which is unique in any context. Note: We
- *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 that is tangible. For example, a spacecraft instrument is a *physical object*.
- A *resource* is the referent of any Uniform Resource Identifier. The concept of *resource* is primitive in the Web architecture and is used in the definition of its fundamental elements.
- A *structural class* provides information that defines the components and organization of a *digital object*.

PDS4 Attribute Definitions - Mon Dec 13 20:27:43 PST 2010

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- **abstract_desc**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Set**
  version: **0.2.0.0.d**

   - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
   - description: **The abstract desc attribute provides a summary of a text, scientific article, or document.**
   - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
   - data_type: **ASCII_Text_Preserved**
   - minimum_characters: **1**
   - maximum_characters: **2147483647**

- **acknowledgement_text**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**
  version: **0.2.0.0.d**

   - **data element** - data element concept:**DEC_TEXT** - administration_record: Beta_DD_0.2.0.0.d
   - description: **The acknowledgement_text attribute is a character string which recognizes another's contribution,**

authority, or right.
- **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **actor_name**

  steward: **pds**
  name space id: **pds:**
  class: **Update_Entry**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The actor_name attribute names the person or organization performing an act.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **affiliation_type**

  steward: **ops**
  name space id: **ops:**
  class: **Personnel**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The affiliation type data attribute describes the type of relationship an individual has with the PDS.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **Manager** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Technical_Staff** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Data_Provider** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Affiliate** - begin date: 2009-06-09 - end date: 2019-12-31

- **alternate_id**

  steward: **pds**
  name space id: **pds:**
  class: **Identification_Area**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The alternate id attribute is an additional identifier supplied by the data provider. This identifier has no role in any system function.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **alternate_telephone_number**

  steward: **pds**
  name space id: **pds:**
  class: **PDS_Affiliate**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NUMBER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The telephone_number attribute provides a telephone number in international notation in compliance with the E.164 telephone number format recommendation.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **30**

- permissible value: **+cc ddd ddd dddd** - begin date: 2009-06-09 - end date: 2019-12-31

- **alternate_title**

  steward: **pds**
  name space id: **pds:**
  class: **Identification_Area**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TITLE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The alternate title attribute provides one or more alternate names for a product.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **UTF8_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **application_process_id**

  steward: **img**
  name space id: **img:**
  class: **Telemetry_Parameters**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The application_process_id identifies the process, or source, which created the data.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **application_process_name**

  steward: **img**
  name space id: **img:**
  class: **Telemetry_Parameters**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The application_process_name element provides the name associated with the source or process which created the data.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **256**
  - permissible value: **APXS** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **DESCENT IMAGER** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **HAZCAM LEFT FRONT** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **HAZCAM LEFT REAR** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **HAZCAM RIGHT FRONT** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **HAZCAM RIGHT REAR** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **MB** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **MI** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **MINITES** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **NAVCAM LEFT** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **NAVCAM RIGHT** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **PANCAM LEFT** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **PANCAM RIGHT** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **RAT** - begin date: 2009-06-09 - end date: 2019-12-31

- **application_process_subtype_id**

  steward: **img**
  name space id: **img:**
  class: **Telemetry_Parameters**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d

- description: **The application_process_subtype_id element identifies the source or subprocess that created the data.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **2**

- **archive_status**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Set**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_STATUS** - administration_record: Beta_DD_0.2.0.0.d
  - 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 domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **ACCUMULATING** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ARCHIVED** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **IN_LIEN_RESOLUTION** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **IN_PEER_REVIEW** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **IN_QUEUE** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **LOCALLY_ARCHIVED** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **PRE_PEER_REVIEW** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **SAVED** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **SUPERSEDED** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **SAFED** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **IN_QUEUE"ACCUMULATING** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **PRE_PEER_REVIEW"ACCUMULATING** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **IN_PEER_REVIEW"ACCUMULATING** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **IN_LIEN_RESOLUTION"ACCUMULATING** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **LOCALLY_ARCHIVED"ACCUMULATING** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ARCHIVED"ACCUMULATING** - begin date: 2009-06-09 - end date: 2019-12-31

- **author_list**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LIST** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The author list attribute lists the composers of a work.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **510**

- **axes**

  steward: **pds**
  name space id: **pds:**
  class: **Array_2D**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The axes attribute provides a count of the axes.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer** - Enumerated
  - minimum_value: **1**
  - maximum_value: **16**

- permissible value: **2** - begin date: 2009-06-09 - end date: 2019-12-31

- **axes**

  steward: **pds**
  name space id: **pds:**
  class: **Array_3D**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The axes attribute provides a count of the axes.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer** - Enumerated
  - minimum_value: **1**
  - maximum_value: **16**
  - permissible value: **3** - begin date: 2009-06-09 - end date: 2019-12-31

- **axes**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Base**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The axes attribute provides a count of the axes.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **16**

- **axis_order**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Base**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ORDER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The axis order attribute gives the axis index that varies fastest with respect to storage order.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **FIRST_INDEX_FASTEST** - begin date: 2009-06-09 - end date: 2019-12-31

- **axis_order**

  steward: **pds**
  name space id: **pds:**
  class: **Image_3D**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ORDER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The axis order attribute gives the axis index that varies fastest with respect to storage order.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **FIRST_INDEX_FASTEST** - begin date: 2009-06-09 - end date: 2019-12-31

- **axis_order**

  steward: **pds**
  name space id: **pds:**
  class: **Image_Grayscale**

version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_ORDER** - administration_record: Beta_DD_0.2.0.0.d
- description: **The axes order attribute indicates the axis index that varies the fastest with respect to axis element storage order.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value: **FIRST_INDEX_FASTEST** - begin date: 2009-06-09 - end date: 2019-12-31

- **a_axis_radius**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_RADIUS** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**
  - unit_of_measure_name: **UnitOfMeasure_Length**
  - default_unit_id: **m**

- **begin_date**

  steward: **pds**
  name space id: **pds:**
  class: **Permissible_Value**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The begin_date attribute provides the lower bound of the time interval within which the defined item is in effect.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_YMD**
  - minimum_characters: **1**
  - maximum_characters: **10**

- **bits**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Binary_Grouped_Bit_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The bits attrribute provides the number of bits**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **32**

- **bit_mask**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Binary_Grouped_Bit_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_MASK** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The bit mask attribute provides a bit mask**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer_Hex**

- **bytes**

  steward: **pds**
  name space id: **pds:**
  class: **Header**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The bytes attribute provides the number of bytes.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **2147483647**

- **b_axis_radius**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_RADIUS** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**
  - unit_of_measure_name: **UnitOfMeasure_Length**
  - default_unit_id: **m**

- **center_latitude**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LATITUDE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-90.0**
  - maximum_value: **90.0**
  - unit_of_measure_name: **UnitOfMeasure_Angle**
  - default_unit_id: **deg**

- **center_longitude**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LONGITUDE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-180.0**
  - maximum_value: **360.0**
  - unit_of_measure_name: **UnitOfMeasure_Angle**
  - default_unit_id: **deg**

- **citation_text**

  steward: **pds**

name space id: **pds:**
class: **Citation**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_TEXT** - administration_record: Beta_DD_0.2.0.0.d
- description: **The citation_text attribute is a character string containing a literature or other citation in sufficient detail that the material could be located in PDS or elsewhere.**
- **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **citation_text**

steward: **pds**
name space id: **pds:**
class: **Data_Set**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_TEXT** - administration_record: Beta_DD_0.2.0.0.d
- description: **The citation_text attribute is a character string containing a literature or other citation in sufficient detail that the material could be located in PDS or elsewhere.**
- **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **class_name**

steward: **pds**
name space id: **pds:**
class: **Element_Definition**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The class_name attribute provides a common name for a class.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **class_name**

steward: **pds**
name space id: **pds:**
class: **Name_Resolution**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The class_name attribute provides a common name for a class.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **coefficient_1**

steward: **img**
name space id: **img:**
class: **Coefficients_Array**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
- description: **xxx TBD E. Rye xxx**
- **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Real**
- minimum_value: **-INF**

- maximum_value: **INF**

- **coefficient_2**

  steward: **img**
  name space id: **img:**
  class: **Coefficients_Array**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**

- **coefficient_3**

  steward: **img**
  name space id: **img:**
  class: **Coefficients_Array**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**

- **comment**

  steward: **img**
  name space id: **img:**
  class: **Imaging**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The comment element provides an optional remark or observation about the current class.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **comment**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Attribute**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **comment**

  steward: **ops**
  name space id: **ops:**
  class: **Local_DD**
  version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **comment**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Part**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **comment**

  steward: **pds**
  name space id: **pds:**
  class: **File**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **comment**

  steward: **pds**
  name space id: **pds:**
  class: **Observation_Area**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **comment**

  steward: **pds**
  name space id: **pds:**
  class: **TDO_Structures**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **confidence_level_note**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Set**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NOTE** - administration_record: Beta_DD_0.2.0.0.d
    - 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 domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Text_Preserved**
    - minimum_characters: **1**
    - maximum_characters: **2147483647**

- **constant_value**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Association**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_VALUE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The constant value attribute provides the value to be used if an attribute is static.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **container_type**

  steward: **ops**
  name space id: **ops:**
  class: **Product_Zipped**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The container type attribute indicates the method used to package the components.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **ZIP** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **GZIP** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **LZIP** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **TAR** - begin date: 2009-06-09 - end date: 2019-12-31

- **coordinate_system_name**

  steward: **img**
  name space id: **img:**
  class: **Coordinate_System**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This attribute is used in the image map projection. Under review. xxx TBD E. Rye xxx**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **apxs_frame** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **body_fixed_spherical_coords** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **earth-sun_line_cartes_coords** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **ecliptic_inertial_cart_coords** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **ecliptic_inertl_sphercl_coords** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **equatorial_inert_sphrcl_coords** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **equatorial_inertial_cart_coord** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **jupiter_minus_system_iii** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **mast_frame** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **mb_frame** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **mean_inertial_hg_1950** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **mi_frame** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **neptune_west_longitude_system** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **non-rotating_spin_coordinates** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **planet_centered_cylindrical** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **planetocentric** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **planetographic** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **pvo_inertial_spacecraft_coords** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **pvo_spinning_spacecraft_coords** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **rat_frame** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **rover_frame** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **saturn_minus_longitude_system** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **sc_centered_ecliptic_coords** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **uranus_minus_longitude_system** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **uranus_west_longitude_system** - begin date: 2009-06-09 - end date: 2019-12-31

- **coordinate_system_name**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review. xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **apxs_frame** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **body_fixed_spherical_coords** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **earth-sun_line_cartes_coords** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ecliptic_inertial_cart_coords** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ecliptic_inertl_sphercl_coords** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **equatorial_inert_sphrcl_coords** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **equatorial_inertial_cart_coord** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **jupiter_minus_system_iii** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mast_frame** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mb_frame** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mean_inertial_hg_1950** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mi_frame** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **neptune_west_longitude_system** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **non-rotating_spin_coordinates** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **planet_centered_cylindrical** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **planetocentric** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **planetographic** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **pvo_inertial_spacecraft_coords** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **pvo_spinning_spacecraft_coords** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **rat_frame** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **rover_frame** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **saturn_minus_longitude_system** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **sc_centered_ecliptic_coords** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **uranus_minus_longitude_system** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **uranus_west_longitude_system** - begin date: 2009-06-09 - end date: 2019-12-31

- **coordinate_system_type**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated

- minimum_characters: **1**
- maximum_characters: **25**
- permissible value: **body-fixed_non-rotating** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **body-fixed_rotating** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **inertial** - begin date: 2009-06-09 - end date: 2019-12-31

- **copyright**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - 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 domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **cosine**

  steward: **img**
  name space id: **img:**
  class: **Quaternion**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COSINE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**

- **creation_date_time**

  steward: **pds**
  name space id: **pds:**
  class: **File**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The creation date time attribute provides a date and time when the object was created.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_Time**

- **c_axis_radius**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_RADIUS** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**
  - unit_of_measure_name: **UnitOfMeasure_Length**
  - default_unit_id: **m**

- **data_element_concept**

  steward: **pds**

name space id: **pds:**
class: **Element_Definition**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
- description: **The data_element_concept attribute is a classification of the data elements. The data element concept for axes is DEC_COUNT since all data elements ending in "s" imply count.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **data_set_desc**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Set**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - 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 domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **data_set_id**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The data_set_id element is a unique alphanumeric identifier for a data set or a data product. The data_set_id value for a given data set or product is constructed according to flight project naming conventions. In most cases the data_set_id is an abbreviation of the data_set_name. Example value In the PDS data_set_name are constructed according to standards outlined in the Standards Reference.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **40**

- **data_set_id**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Set**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The data set id provides a formal name used to refer to a data set.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **data_set_name**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Set**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - 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 domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **data_set_release_date**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Set**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE** - administration_record: Beta_DD_0.2.0.0.d
  - 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 domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_YMD**

- **data_set_terse_desc**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Set**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **A one line description of the data set**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **5000**

- **data_type**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Attribute**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The data_type attribute provides the hardware representation used to store a value.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **30**
  - permissible value: **ASCII_Boolean_TF** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_YMD** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Integer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Real** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_AnyURI** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_DOY** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_Time_DOY** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_Time_UTC** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_Time_YMD** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_LID** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_LIDVID** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_MD5_Checksum** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Short_String_Collapsed** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Text_Preserved** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Short_String_Preserved** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Time** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_VID** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_DOI** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **ASCII_Integer_Binary** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ASCII_Integer_Hex** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ASCII_NonNegative_Integer** - begin date: 2009-06-09 - end date: 2019-12-31

- **data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Element**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The data_type attribute provides the hardware representation used to store a value.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **30**
  - permissible value: **IEEE754Single** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **IEEE754Double** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnsignedByte** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **SignedMSB2** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **SignedMSB4** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **SignedMSB8** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **SignedLSB4** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **SignedLSB2** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **SignedLSB8** - begin date: 2009-06-09 - end date: 2019-12-31

- **data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Value_Domain**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The data_type attribute provides the hardware representation used to store a value.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **30**
  - permissible value: **ascii_complex** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ascii_integer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ascii_real** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **binary_coded_decimal** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **bit_string** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **boolean** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **character** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **complex** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **date** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ebcdic_character** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **float** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ibm_complex** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ibm_integer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ibm_real** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ibm_unsigned_integer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ieee_complex** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ieee_real** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **integer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **lsb_bit_string** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **lsb_integer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **lsb_unsigned_integer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mac_complex** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mac_integer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mac_real** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mac_unsigned_integer** - begin date: 2009-06-09 - end date: 2019-12-31

- **date_time**

steward: **pds**
name space id: **pds:**
class: **Update_Entry**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_DATE_TIME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The date_time attribute provides the date and time of an event.**
- **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Date_Time**

- **default_unit_id**

steward: **pds**
name space id: **pds:**
class: **Value_Domain**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
- description: **The defaut unit id attribute provides the unit id used when minimum and maximum values are provided as attribute constraints in the data dictionary.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **definition**

steward: **ops**
name space id: **ops:**
class: **Local_Attribute**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
- description: **The definition attribute provides a statement, picture in words, or account that describes.**
- **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **definition**

steward: **pds**
name space id: **pds:**
class: **Terminological_Entry**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
- description: **The definition attribute provides a statement, picture in words, or account that describes.**
- **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **description**

steward: **ops**
name space id: **ops:**
class: **Local_Class**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
- description: **The description attribute is a character string that provides a statement, picture in words, or account that describes or is otherwise relevant to the object. Dublin Core: An account of the resource.**
- **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **description**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The description attribute is a character string that provides a statement, picture in words, or account that describes or is otherwise relevant to the object. Dublin Core: An account of the resource.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **description**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Format**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The description attribute is a character string that provides a statement, picture in words, or account that describes or is otherwise relevant to the object. Dublin Core: An account of the resource.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **description**

  steward: **pds**
  name space id: **pds:**
  class: **Header**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The description attribute is a character string that provides a statement, picture in words, or account that describes or is otherwise relevant to the object. Dublin Core: An account of the resource.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **description**

  steward: **pds**
  name space id: **pds:**
  class: **Investigation**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The description attribute is a character string that provides a statement, picture in words, or account that describes or is otherwise relevant to the object. Dublin Core: An account of the resource.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **description**

  steward: **pds**
  name space id: **pds:**
  class: **Resource**

version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
- description: **An account of the resource. Description may include but is not limited to: an abstract, a table of contents, a graphical representation, or a free-text account of the resource. Dublin Core**
- **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **description**

  steward: **pds**
  name space id: **pds:**
  class: **TNDO_Context**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The description attribute is a character string that provides a statement, picture in words, or account that describes or is otherwise relevant to the object. Dublin Core: An account of the resource.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **description**

  steward: **pds**
  name space id: **pds:**
  class: **TNDO_Supplemental**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The description attribute is a character string that provides a statement, picture in words, or account that describes or is otherwise relevant to the object. Dublin Core: An account of the resource.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **description**

  steward: **pds**
  name space id: **pds:**
  class: **Update_Entry**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The description attribute is a character string that provides a statement, picture in words, or account that describes or is otherwise relevant to the object. Dublin Core: An account of the resource.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **designation**

  steward: **pds**
  name space id: **pds:**
  class: **Terminological_Entry**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The designation attribute provides a name.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**

- maximum_characters: **255**

- **directory_path_name**

  steward: **pds**
  name space id: **pds:**
  class: **Document_File**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The directory path name attribute provides a sequence of names that locates a directory in a hierarchy of directories.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **directory_path_name**

  steward: **pds**
  name space id: **pds:**
  class: **Manifest_Entry**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The directory path name attribute provides a sequence of names that locates a directory in a hierarchy of directories.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **discipline_desc**

  steward: **pds**
  name space id: **pds:**
  class: **Discipline_Description**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The discipline_desc attribute provides a description for the science discipline**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **discipline_name**

  steward: **pds**
  name space id: **pds:**
  class: **Discipline_Description**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The discipline_name attribute identifies the major academic or scientific domain or specialty of interest to an individual or to a PDS Node.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **Engineering+** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Geosciences** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Imaging** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Navigation_Ancillary_Information_Facility** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Planetary_Atmospheres** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Planetary_Plasma_Interactions** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Planetary_Rings** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **Radio_Science** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **Small_Bodies** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **Engineering** - begin date: 2009-06-09 - end date: 2019-12-31

- **document_title**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TITLE** - administration_record: Beta_DD_0.2.0.0.d
  - 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 domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **UTF8_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **doi**

  steward: **pds**
  name space id: **pds:**
  class: **Bibliographic_Reference**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DOI** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The doi attribute gives the Digital Object Identifier for an object, assigned by the appropriate DOI System Registration Agency.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **doi**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DOI** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The doi attribute gives the Digital Object Identifier for an object, assigned by the appropriate DOI System Registration Agency.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **doi**

  steward: **pds**
  name space id: **pds:**
  class: **Reference**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DOI** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The doi attribute gives the Digital Object Identifier for an object, assigned by the appropriate DOI System Registration Agency.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **earth_received_start_time**

steward: **img**
name space id: **img:**
class: **Telemetry_Parameters**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_DATE_TIME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The earth_received_start_time element provides the beginning time at which telemetry was received during a time period of interest.**
- **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Date_Time**

- **earth_received_stop_time**

  steward: **img**
  name space id: **img:**
  class: **Telemetry_Parameters**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The earth_received_stop_time element provides the ending time for receiving telemetry during a time period of interest.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_Time**

- **eastern_most_longitude**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LONGITUDE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **editor_list**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LIST** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The editor list attribute lists the editors of a work.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **510**

- **edit_mode_id**

  steward: **img**
  name space id: **img:**
  class: **Camera_Parameters**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This element indicates the amount of data read from an imaging instrument's vidicon. '1:1' indicates the full-resolution of the vidicon. Example values: (Voyager) 3:4, 1:2, 1:3, 1:5, and 1:1.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **100**

- **electronic_mail_address**

  steward: **pds**
  name space id: **pds:**
  class: **PDS_Affiliate**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ADDRESS** - administration_record: Beta_DD_0.2.0.0.d
    - 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 domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **elements**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Axis**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The elements attribute provides the count of the number of elements in an axis.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer**
    - minimum_value: **1**
    - maximum_value: **2147483647**

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Base**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The encoding type attribute indicates the storage algorithm.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **30**
    - permissible value: **BINARY** - begin date: 2009-06-09 - end date: 2019-12-31

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **Document_File**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The encoding type attribute indicates the storage algorithm.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **30**
    - permissible value: **BINARY** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **CHARACTER** - begin date: 2009-06-09 - end date: 2019-12-31

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Part**
  version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
- description: **The encoding type attribute indicates the storage algorithm.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **30**
- permissible value: **BINARY** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **CHARACTER** - begin date: 2009-06-09 - end date: 2019-12-31

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **Encoded_Byte_Stream**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The encoding type attribute indicates the storage algorithm.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **30**
  - permissible value: **BINARY** - begin date: 2009-06-09 - end date: 2019-12-31

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **Parsable_Byte_Stream**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The encoding type attribute indicates the storage algorithm.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **30**
  - permissible value: **CHARACTER** - begin date: 2009-06-09 - end date: 2019-12-31

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **SPICE_Kernel_Text**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The encoding type attribute indicates the storage algorithm.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **30**
  - permissible value: **CHARACTER** - begin date: 2009-06-09 - end date: 2019-12-31

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The encoding type attribute indicates the storage algorithm.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **30**

- permissible value: **CHARACTER** - begin date: 2009-06-09 - end date: 2019-12-31

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Base_Binary**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The encoding type attribute indicates the storage algorithm.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **30**
    - permissible value: **BINARY** - begin date: 2009-06-09 - end date: 2019-12-31

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Base_Character**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The encoding type attribute indicates the storage algorithm.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **30**
    - permissible value: **CHARACTER** - begin date: 2009-06-09 - end date: 2019-12-31

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **TDO_Structures**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The encoding type attribute indicates the storage algorithm.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **30**

- **encoding_type**

  steward: **pds**
  name space id: **pds:**
  class: **XML_Schema**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The encoding type attribute indicates the storage algorithm.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **30**
    - permissible value: **CHARACTER** - begin date: 2009-06-09 - end date: 2019-12-31

- **end_date**

  steward: **pds**
  name space id: **pds:**
  class: **Permissible_Value**

version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_DATE** - administration_record: Beta_DD_0.2.0.0.d
- description: **The end_date attribute provides the upper bound of the time interval within which the defined item is in effect.**
- **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Date_YMD**
- minimum_characters: **1**
- maximum_characters: **10**

- **error_constant**

  steward: **pds**
  name space id: **pds:**
  class: **Special_Constants**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_CONSTANT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The error_constant attribute provides a value that indicates the original value was in error.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **expected_packets**

  steward: **img**
  name space id: **img:**
  class: **Telemetry_Parameters**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **xxx TBD E. Rye xxx**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer**
    - minimum_value: **0**
    - maximum_value: **2147483647**

- **exposure_duration**

  steward: **img**
  name space id: **img:**
  class: **Camera_Parameters**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_DURATION** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This element provides the value of the time interval between the opening and closing of an instrument aperture (such as a camera shutter).**
    - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Real**
    - minimum_value: **0.0**
    - maximum_value: **INF**
    - unit_of_measure_name: **UnitOfMeasure_Time**
    - default_unit_id: **s**

- **external_standard_id**

  steward: **pds**
  name space id: **pds:**
  class: **Document_File**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The external standard id attribute provides the formal name of a standard not under PDS governance.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**

- maximum_characters: **255**
- permissible value: **PDF-A** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ENCAPSULATED_POSTSCRIPT** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **GIF** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **HTML** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **JPG** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **LaTEX** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **MICROSOFT_WORD** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **PNG** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **POSTSCRIPT** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **RICH_TEXT** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **TEXT** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **TIFF** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **PDF** - begin date: 2009-06-09 - end date: 2019-12-31

- **external_standard_id**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Part**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The external standard id attribute provides the formal name of a standard not under PDS governance.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **PDF-A** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **ENCAPSULATED_POSTSCRIPT** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **GIF** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **HTML** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **JPG** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **LaTEX** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **MICROSOFT_WORD** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **PNG** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **POSTSCRIPT** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **RICH_TEXT** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **TEXT** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **TIFF** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **PDF** - begin date: 2009-06-09 - end date: 2019-12-31

- **external_standard_id**

  steward: **pds**
  name space id: **pds:**
  class: **Encoded_Byte_Stream**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The external standard id attribute provides the formal name of a standard not under PDS governance.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - 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: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The external standard id attribute provides the formal name of a standard not under PDS governance.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**

- maximum_characters: **255**
- permissible value: **JPEG** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **GIF** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **TIFF** - begin date: 2009-06-09 - end date: 2019-12-31

- **external_standard_id**

  steward: **pds**
  name space id: **pds:**
  class: **File_PDF**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The external standard id attribute provides the formal name of a standard not under PDS governance.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **PDF** - begin date: 2009-06-09 - end date: 2019-12-31

- **external_standard_id**

  steward: **pds**
  name space id: **pds:**
  class: **Header**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The external standard id attribute provides the formal name of a standard not under PDS governance.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **VICR** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ODL** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **FITS** - begin date: 2009-06-09 - end date: 2019-12-31

- **external_standard_id**

  steward: **pds**
  name space id: **pds:**
  class: **Parsable_Byte_Stream**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The external standard id attribute provides the formal name of a standard not under PDS governance.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **external_standard_id**

  steward: **pds**
  name space id: **pds:**
  class: **SPICE_Kernel_Binary**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The external standard id attribute provides the formal name of a standard not under PDS governance.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **SPICE** - begin date: 2009-06-09 - end date: 2019-12-31

- **external_standard_id**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The external standard id attribute provides the formal name of a standard not under PDS governance.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **CSV** - begin date: 2009-06-09 - end date: 2019-12-31

- **external_standard_id**

  steward: **pds**
  name space id: **pds:**
  class: **XML_Schema**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The external standard id attribute provides the formal name of a standard not under PDS governance.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **XML_Schema** - begin date: 2009-06-09 - end date: 2019-12-31

- **fields**

  steward: **pds**
  name space id: **pds:**
  class: **Inventory_LID**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The fields attribute provides a count of the fields.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer** - Enumerated
    - minimum_value: **1**
    - maximum_value: **2147483647**
    - permissible value: **2** - begin date: 2009-06-09 - end date: 2019-12-31

- **fields**

  steward: **pds**
  name space id: **pds:**
  class: **Inventory_LIDVID**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The fields attribute provides a count of the fields.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer** - Enumerated
    - minimum_value: **1**
    - maximum_value: **2147483647**
    - permissible value: **2** - begin date: 2009-06-09 - end date: 2019-12-31

- **fields**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited**
  version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
- description: **The fields attribute provides a count of the fields.**
- **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **fields**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Base**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The fields attribute provides a count of the fields.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **2147483647**

- **field_bytes**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field bytes attribute provides the maximum number of bytes allowed for a field.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **2147483647**

- **field_data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field data type indicates the machine representation in which a field value is digitally stored.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **ASCII_Boolean_TF** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_YMD** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Integer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Real** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_AnyURI** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_DOY** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_Time_DOY** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_Time_UTC** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_Time_YMD** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_LID** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_LIDVID** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_MD5_Checksum** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Short_String_Collapsed** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Text_Preserved** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Short_String_Preserved** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Time** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_VID** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_DOI** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Integer_Binary** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Integer_Hex** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **ASCII_NonNegative_Integer** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Binary_Field**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field data type indicates the machine representation in which a field value is digitally stored.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **Bit** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **ComplexB16** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **ComplexB8** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **SignedLSB2** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **SignedLSB4** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **SignedLSB8** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **SignedMSB2** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **SignedMSB4** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **SignedMSB8** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **UnsignedByte** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **UnsignedLSB2** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **UnsignedLSB4** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **UnsignedMSB2** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **UnsignedMSB4** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **IEEE754Double** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **IEEE754Single** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Binary_Grouped_Bit_Field**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field data type indicates the machine representation in which a field value is digitally stored.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **Bit** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Binary_Grouped_Field**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field data type indicates the machine representation in which a field value is digitally stored.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **Bit** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **ComplexB16** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **ComplexB8** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **SignedLSB2** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **SignedLSB4** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **SignedLSB8** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **SignedMSB2** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **SignedMSB4** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **SignedMSB8** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **UnsignedByte** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **UnsignedLSB2** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **UnsignedLSB4** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **UnsignedMSB2** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **UnsignedMSB4** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **IEEE754Double** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **IEEE754Single** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Character_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field data type indicates the machine representation in which a field value is digitally stored.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **ASCII_Boolean_TF** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_YMD** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Integer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Real** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_AnyURI** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_DOY** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_Time_DOY** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_Time_UTC** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_Time_YMD** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_LID** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_LIDVID** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_MD5_Checksum** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Short_String_Collapsed** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Text_Preserved** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Short_String_Preserved** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Time** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_VID** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_DOI** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Integer_Binary** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Integer_Hex** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_NonNegative_Integer** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Character_Grouped_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field data type indicates the machine representation in which a field value is digitally stored.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **ASCII_Boolean_TF** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_YMD** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Integer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Real** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_AnyURI** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_DOY** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_Time_DOY** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_Time_UTC** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Date_Time_YMD** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_LID** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_LIDVID** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_MD5_Checksum** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ASCII_Short_String_Collapsed** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **ASCII_Text_Preserved** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ASCII_Short_String_Preserved** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ASCII_Time** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ASCII_VID** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ASCII_DOI** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ASCII_Integer_Binary** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ASCII_Integer_Hex** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ASCII_NonNegative_Integer** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field data type indicates the machine representation in which a field value is digitally stored.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **field_data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_File_Specification_Name**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field data type indicates the machine representation in which a field value is digitally stored.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **ASCII_File_Specification_Name** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_LID**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field data type indicates the machine representation in which a field value is digitally stored.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **ASCII_LID** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_data_type**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_LIDVID**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field data type indicates the machine representation in which a field value is digitally stored.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **ASCII_LIDVID** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_delimiter**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DELIMITER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field_delimiter provides the character or characters that indicate the end of a character string.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **2**
  - maximum_characters: **255**
  - permissible value: **0x09** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **0x3B** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **0x7C** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **0x2C** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_description**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field description attribute provides a statement, picture in words, or account that describes a field.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **field_description**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DESCRIPTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field description attribute provides a statement, picture in words, or account that describes a field.**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **field_format**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_FORMAT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field format attribute indicates how a field value is to be presented in printable characters. The allowed formats are Fortran and C printing formats.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **field_format**

  steward: **pds**
  name space id: **pds:**

class: **Table_Field**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_FORMAT** - administration_record: Beta_DD_0.2.0.0.d
- description: **The field format attribute indicates how a field value is to be presented in printable characters. The allowed formats are Fortran and C printing formats.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **field_format**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_Extended**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_FORMAT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field format attribute indicates how a field value is to be presented in printable characters. The allowed formats are Fortran and C printing formats.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **field_format**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_File_Specification_Name**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_FORMAT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field format attribute indicates how a field value is to be presented in printable characters. The allowed formats are Fortran and C printing formats.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **dir1/dir2/file_name.file_extension** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_format**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_LID**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_FORMAT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field format attribute indicates how a field value is to be presented in printable characters. The allowed formats are Fortran and C printing formats.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **URN:NASA:PDS:xxxx** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_format**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_LIDVID**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_FORMAT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field format attribute indicates how a field value is to be presented in printable characters. The allowed**

formats are Fortran and C printing formats.
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value: **URN:NASA:PDS:xxxx::M.n** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_length**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_LENGTH** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field length attribute indicates the maximum number of characters allowed for a value in a field.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer**
    - minimum_value: **1**
    - maximum_value: **2147483647**

- **field_length**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_File_Specification_Name**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_LENGTH** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field length attribute indicates the maximum number of characters allowed for a value in a field.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer**
    - minimum_value: **1**
    - maximum_value: **2147483647**

- **field_length**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_LIDVID**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_LENGTH** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field length attribute indicates the maximum number of characters allowed for a value in a field.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer**
    - minimum_value: **1**
    - maximum_value: **2147483647**

- **field_location**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Character_Field**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_LOCATION** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field location attribute indicates the starting position for a field in a record.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer**
    - minimum_value: **1**
    - maximum_value: **2147483647**

- **field_location**

  steward: **pds**

name space id: **pds:**
class: **Table_Field**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_LOCATION** - administration_record: Beta_DD_0.2.0.0.d
- description: **The field location attribute indicates the starting position for a field in a record.**
- **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **field_location**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_File_Specification_Name**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LOCATION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field location attribute indicates the starting position for a field in a record.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **2147483647**

- **field_location**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_LID**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LOCATION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field location attribute indicates the starting position for a field in a record.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer** - Enumerated
  - minimum_value: **1**
  - maximum_value: **2147483647**
  - permissible value: **1** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_location**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_LIDVID**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LOCATION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field location attribute indicates the starting position for a field in a record.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer** - Enumerated
  - minimum_value: **1**
  - maximum_value: **2147483647**
  - permissible value: **1** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_max_logical**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LOGICAL** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field max logical attribute provides the maximum valid operating range for an instrument (with the same scaling factors and offsets applied to the data values).**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**

- minimum_characters: **1**
- maximum_characters: **255**

- **field_max_logical**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_Extended**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_LOGICAL** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field max logical attribute provides the maximum valid operating range for an instrument (with the same scaling factors and offsets applied to the data values).**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **field_min_logical**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Field**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_LOGICAL** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field min logical attribute provides the minimum valid operating range for an instrument (with the same scaling factors and offsets applied to the data values).**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **field_min_logical**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_Extended**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_LOGICAL** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field min logical attribute provides the minimum valid operating range for an instrument (with the same scaling factors and offsets applied to the data values).**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **field_name**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Field**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field name attribute provides a word or a combination of words by which a field is known.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **field_name**

  steward: **pds**
  name space id: **pds:**

class: **Table_Field**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The field name attribute provides a word or a combination of words by which a field is known.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **field_name**

steward: **pds**
name space id: **pds:**
class: **Table_Field_File_Specification_Name**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The field name attribute provides a word or a combination of words by which a field is known.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value: **file_specification_name** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_name**

steward: **pds**
name space id: **pds:**
class: **Table_Field_LID**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The field name attribute provides a word or a combination of words by which a field is known.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value: **LID** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_name**

steward: **pds**
name space id: **pds:**
class: **Table_Field_LIDVID**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The field name attribute provides a word or a combination of words by which a field is known.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value: **LIDVID** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_number**

steward: **pds**
name space id: **pds:**
class: **Stream_Delimited_Field**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_NUMBER** - administration_record: Beta_DD_0.2.0.0.d
- description: **The field number attribute provides the location of a field in a series of fields.**
- **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Integer**
- minimum_value: **1**

- maximum_value: **2147483647**

- **field_number**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NUMBER** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field number attribute provides the location of a field in a series of fields.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer**
    - minimum_value: **1**
    - maximum_value: **2147483647**

- **field_number**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_File_Specification_Name**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NUMBER** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field number attribute provides the location of a field in a series of fields.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer** - Enumerated
    - minimum_value: **1**
    - maximum_value: **2147483647**
    - permissible value: **2** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_number**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_LID**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NUMBER** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field number attribute provides the location of a field in a series of fields.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer** - Enumerated
    - minimum_value: **1**
    - maximum_value: **2147483647**
    - permissible value: **1** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_number**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_LIDVID**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NUMBER** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field number attribute provides the location of a field in a series of fields.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer** - Enumerated
    - minimum_value: **1**
    - maximum_value: **2147483647**
    - permissible value: **1** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_scaling_factor**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Field**

version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_FACTOR** - administration_record: Beta_DD_0.2.0.0.d
- description: **The field scaling factor attribute provides a number which scales or multiplies with the value of the field.**
- **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

- **field_scaling_factor**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_Extended**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_FACTOR** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field scaling factor attribute provides a number which scales or multiplies with the value of the field.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**

- **field_unit**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_UNIT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field unit attribute indicates the unit of measurement associated with a field value.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **mol** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **arcmin** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **arcsec** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **deg** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **hr** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mrad** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **rad** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **deg/day** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **deg/s** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **rad/s** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **m**2** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **hz** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **AU** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Angstrom** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **cm** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **km** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **m** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **micrometer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mm** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **nm** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **g** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **kg** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **DN** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **pixel** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **none** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **airmass** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Pa** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **bar** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **hPa** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mbar** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **W*m**-2*sr**-1** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **counts/bin** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **kilobits/s** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **electron/DN** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **km/pixel** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **m/pixel** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **mm/pixel** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **pixel/deg** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **sr** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **byte** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **K** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **degC** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **day** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **microseconds** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **min** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ms** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **s** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **yr** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **cm/s** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **km/s** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **m/s** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **V** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **mV** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **m**3** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_unit**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_Extended**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_UNIT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The field unit attribute indicates the unit of measurement associated with a field value.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **mol** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **arcmin** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **arcsec** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **deg** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **hr** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **mrad** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **rad** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **deg/day** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **deg/s** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **rad/s** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **m**2** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **hz** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **AU** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **Angstrom** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **cm** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **km** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **m** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **micrometer** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **mm** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **nm** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **g** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **kg** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **DN** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **pixel** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **none** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **airmass** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **Pa** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **bar** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **hPa** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **mbar** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **W*m**-2*sr**-1** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **counts/bin** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **kilobits/s** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **electron/DN** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **km/pixel** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **m/pixel** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **mm/pixel** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **pixel/deg** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **sr** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **byte** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **K** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **degC** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **day** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **microseconds** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **min** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ms** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **s** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **yr** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **cm/s** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **km/s** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **m/s** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **V** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **mV** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **m**3** - begin date: 2009-06-09 - end date: 2019-12-31

- **field_value_offset**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_OFFSET** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field value offset attribute provides a number that indicates a displacement from the value in the field.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **field_value_offset**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_Extended**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_OFFSET** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The field value offset attribute provides a number that indicates a displacement from the value in the field.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **file_local_identifier**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Location**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LOCAL_IDENTIFIER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The file local identifier attribute provides a formal name used to refer to a file description within the label. A file local identifier is unique within a label.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **file_name**

  steward: **pds**
  name space id: **pds:**

class: **File**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The file name attribute provides the name of a file.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **120**

- **file_name**

  steward: **pds**
  name space id: **pds:**
  class: **File_Location**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The file name attribute provides the name of a file.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **120**

- **file_name**

  steward: **pds**
  name space id: **pds:**
  class: **Manifest_Entry**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The file name attribute provides the name of a file.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **120**

- **file_size**

  steward: **pds**
  name space id: **pds:**
  class: **File**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_SIZE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The file size attribute provides the size of the file.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **-2147483648**
  - maximum_value: **2147483647**

- **file_specification_name**

  steward: **pds**
  name space id: **pds:**
  class: **Bundle_Member_Entry**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The file specification name attribute provides the file_name prepended by the directory_path to the file.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **file_specification_name**

  steward: **pds**
  name space id: **pds:**
  class: **Zipped_Member_Entry**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The file specification name attribute provides the file_name prepended by the directory_path to the file.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **filter_id**

  steward: **img**
  name space id: **img:**
  class: **Camera_Parameters**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **(Old filter_number) This element provides the unique identifier of an instrument filter through which an image or meansurement was acquired or which is associated with a given instrument mode.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **0** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **1** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **2** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **3** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **4** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **5** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **6** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **7** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **8** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **A** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **B** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **C1** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **C2** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **C3** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **D** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **HFM1** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **LFM1** - begin date: 2009-06-09 - end date: 2019-12-31

- **filter_name**

  steward: **img**
  name space id: **img:**
  class: **Camera_Parameters**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This element provides the commonly-used name of the instrument filter through which an image or measurement was acquired or which is associated with a given instrument mode.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **100**
    - permissible value: **A** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **B** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **BLUE** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **BLUE-GREEN** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **C** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **CLEAR** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **D** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **E** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **F** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **GREEN** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **IR-7270** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **IR-7560** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **IR-8890** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **IR-9680** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L1000_R480** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L440_R440** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L450_R670** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L670_R670** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L800_R750** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L860_R-DIOPTER** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L885_R947** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L900_R600** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L925_R935** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L930_R530** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L935_R990** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L965_R965** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **LONGWAVE** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **METHANE-JST** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **METHANE-U** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **MINUS BLUE** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **MI_CLOSED** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **MI_OPEN** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **NEAR-INFRARED** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **NONE** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ORANGE** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **PANCAM_L2_753NM** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **PANCAM_L8_440NM** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **PANCAM_LV_602NM** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **PANCAM_R8_880NM** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **RED** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **SHORTWAVE** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **SODIUM-D** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **SOLAR UV-22** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **T11** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **T15** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **T20** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **T7** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **T9** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ULTRAVIOLET** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **VIOLET** - begin date: 2009-06-09 - end date: 2019-12-31

- **first_line**

  steward: **pds**
  name space id: **pds:**
  class: **Image_2D_Display**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The first_line attribute indicates the line within a source image that corresponds to the first line in a sub-image. Note: For the MPF IMP EDRs, the source image was the complete 256x256 image area within the CCD.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **2147483647**

- **first_line_sample**

  steward: **pds**
  name space id: **pds:**
  class: **Image_2D_Display**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The first_line_sample attribute indicates the sample within a source image that corresponds to the first sample in a sub-image. Note: For the MPF IMP EDRs, the source image was the complete 256x256 image area within the CCD.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**

- maximum_value: **2147483647**

- **first_standard_parallel**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_PARALLEL** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This attribute is used in the image map projection. Under review.**
    - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Real**
    - minimum_value: **-90.0**
    - maximum_value: **90.0**
    - unit_of_measure_name: **UnitOfMeasure_Angle**
    - default_unit_id: **deg**

- **formation_rule**

  steward: **pds**
  name space id: **pds:**
  class: **Value_Domain**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The formation rule attribute provides a format for a value.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **format_type**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Format**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The format type attribute indicates the digital format used.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **HTML** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **TEXT** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **PDF-A** - begin date: 2009-06-09 - end date: 2019-12-31

- **full_name**

  steward: **ops**
  name space id: **ops:**
  class: **Local_DD**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The full_name attribute provides the complete name for a person performing the role of lexicographer.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **100**

- **full_name**

  steward: **pds**

name space id: **pds:**
class: **Subject_Area**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The full_name attribute provides the complete name for a person and includes titles and suffixes.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **100**

- **gain_mode_id**

  steward: **img**
  name space id: **img:**
  class: **Camera_Parameters**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This element identifies the gain state of an instrument. Gain is a constant value which is multiplied with an instrument's output signal to increase or decrease the level of that output.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **100**
  - permissible value: **100K** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **10K** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **400K** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **40K** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **HIGH** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **LOW** - begin date: 2009-06-09 - end date: 2019-12-31

- **home**

  steward: **pds**
  name space id: **pds:**
  class: **Identification_Area_System**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_HOME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The home attribute indicates where an object resides. It provides sufficient information to be able to access the object.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **horizontal_framelet_offset**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_OFFSET** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **1.0**
  - maximum_value: **INF**

- **identifier**

  steward: **pds**
  name space id: **pds:**
  class: **Element_Definition**
  version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_IDENTIFIER** - administration_record: Beta_DD_0.2.0.0.d
- description: **The identifier attribute provides the formal name used to refer to a product. An identifier is unique within the PDS and is used to create the logical identifier. The formation rule depends on the type of product. For example the identifier for a Mission product is the value of mission_name.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**
- pattern: **[a-zA-Z]{1}([-._a-zA-Z0-9]*)**

- **image_id**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **100**

- **incidence_angle**

  steward: **rings**
  name space id: **rings:**
  class: **Rings_Prod_Info**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ANGLE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The incidence_angle element provides a measure of the lighting condition at the intercept point. Incidence angle is the angle between the local vertical at the intercept point (surface) and a vector from the intercept point to the sun. The incidence_angle varies from 0 degrees when the intercept point coincides with the sub_solar point to 90 degrees when the intercept point is at the terminator (i.e., in the shadowed or dark portion of the target body). Thus, higher values of incidence_angle indicate the existence of a greater number of surface shadows. Note: In PDS labels for Magellan's altimetry and radiometry products, incidence_angle is defined as the value of the angle between the local vertical and the spacecraft direction, measured at the center of the radiometer footprint at rad_spacecraft_epoch_time.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **0.0**
  - maximum_value: **180.0**
  - unit_of_measure_name: **UnitOfMeasure_Angle**
  - default_unit_id: **deg**

- **institution_name**

  steward: **pds**
  name space id: **pds:**
  class: **Node**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The institution_name attribute provides the name of the associated institution.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **100**
  - pattern: **[a-zA-Z]{1}([-/,._a-zA-Z0-9]*)**

- **institution_name**

  steward: **pds**
  name space id: **pds:**
  class: **PDS_Affiliate**
  version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The institution_name attribute provides the name of the associated institution.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **100**
- pattern: **[a-zA-Z]{1}([-/,._a-zA-Z0-9]*)**

- **instrument_host_name**

  steward: **pds**
  name space id: **pds:**
  class: **Subject_Area**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
    - 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 domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **120**

- **instrument_name**

  steward: **pds**
  name space id: **pds:**
  class: **Subject_Area**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The instrument name attribute provides a unique name for an instrument.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **100**

- **invalid_constant**

  steward: **pds**
  name space id: **pds:**
  class: **Special_Constants**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_CONSTANT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The invalid constant attribute provides a value that indicates the original value was invalid.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **20**

- **investigation_name**

  steward: **pds**
  name space id: **pds:**
  class: **Subject_Area**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The investigation name attribute provides a unique name for an investigation.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **is_enumerated_flag**

  steward: **pds**
  name space id: **pds:**
  class: **Element_Definition**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_FLAG** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The is_enumerated_flag attribute indicates whether an attribute has an enumerated set of permissible values.**
    - **value domain** - conceptual domain:**CD_BOOLEAN** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Boolean_TF** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **1**
    - permissible value: **T** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **F** - begin date: 2009-06-09 - end date: 2019-12-31

- **is_primary_collection**

  steward: **pds**
  name space id: **pds:**
  class: **Identification_Area_Collection**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_COLLECTION** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The is primary collection attribute indicates whether a collection is a primary collection.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - 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: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The kernel type attribute identifies the type of SPICE kernel.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **18**
    - permissible value: **SPK** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **PCK** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **CK** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **EK** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **DSK** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **DBK** - begin date: 2009-06-09 - end date: 2019-12-31

- **kernel_type**

  steward: **pds**
  name space id: **pds:**
  class: **SPICE_Kernel_Text**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The kernel type attribute identifies the type of SPICE kernel.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **18**
    - permissible value: **LSK** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **SCLK** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **PCK** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **EK** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **IK** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **FK** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **MK** - begin date: 2009-06-09 - end date: 2019-12-31

- **language**

  steward: **pds**
  name space id: **pds:**
  class: **Terminological_Entry**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The language attribute indicates the natural language used for a designation and definition.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **English** - begin date: 2009-06-09 - end date: 2019-12-31

- **last_modification_date_time**

  steward: **ops**
  name space id: **ops:**
  class: **Local_DD**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The last modification date time attribute gives the most recent date and time that a change was made.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_Time**

- **last_modification_date_time**

  steward: **pds**
  name space id: **pds:**
  class: **Identification_Area**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The last modification date time attribute gives the most recent date and time that a change was made.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_Time**

- **lidvid_reference**

  steward: **pds**
  name space id: **pds:**
  class: **Name_Resolution**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_REFERENCE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The lidvid_reference attribute provides the unique identifier for the product that describes the object.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - 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]*)

- **lidvid_reference**

  steward: **pds**
  name space id: **pds:**
  class: **Reference_Entry_Generic**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_REFERENCE** - administration_record: Beta_DD_0.2.0.0.d

- description: **The lidvid_reference attribute provides the logical_identifier plus a version_id for a product.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- 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]*)

- **lidvid_reference**

  steward: **pds**
  name space id: **pds:**
  class: **Zipped_Member_Entry**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_REFERENCE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The lidvid_reference attribute provides the logical_identifier plus a version_id for a product.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - 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: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_REFERENCE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The lid reference attribute provides the logical_identifier for a product.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **lid_reference**

  steward: **pds**
  name space id: **pds:**
  class: **Reference_Entry_Generic**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_REFERENCE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The lid reference attribute provides the logical_identifier for a product.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **line_display_direction**

  steward: **pds**
  name space id: **pds:**
  class: **Image_2D_Display**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_DIRECTION** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The line_display_direction attribute gives the preferred direction for displaying image lines on a display device. The default value is down, meaning lines are displayed top to bottom. When used, "line_display_direction" must be accompanied by "sample_display_direction", which gives the order of sample display within each line. Image rotation attributes such as TWIST_ANGLE, CELESTIAL_NORTH_CLOCK_ANGLE, and BODY_POLE_CLOCK_ANGLE are defined assuming that the image is displayed in its preferred orientation.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **6**

- permissible value: **DOWN** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **LEFT** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **RIGHT** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **UP** - begin date: 2009-06-09 - end date: 2019-12-31

- **line_first_pixel**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_PIXEL** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This attribute is used in the image map projection. Under review.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer**
    - minimum_value: **0**
    - maximum_value: **2147483647**

- **line_last_pixel**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_PIXEL** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This attribute is used in the image map projection. Under review.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer**
    - minimum_value: **0**
    - maximum_value: **2147483647**

- **line_projection_offset**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_OFFSET** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This attribute is used in the image map projection. Under review.**
    - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Real**
    - minimum_value: **-INF**
    - maximum_value: **INF**
    - unit_of_measure_name: **UnitOfMeasure_Misc**
    - default_unit_id: **pixel**

- **local_attribute_id**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Association**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The local_attribute_id provides the identifier of an attribute and indicates membership in a class.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **local_attribute_id**

  steward: **ops**

name space id: **ops:**
class: **Local_Attribute**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
- description: **The local_attribute_id provides the identifier of an attribute and indicates membership in a class.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **local_identifier**

  steward: **img**
  name space id: **img:**
  class: **Imaging**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LOCAL_IDENTIFIER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The local identifier element provides a formal name used to refer to the current class. The local identifier must be unique within a label.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **local_identifier**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Part**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LOCAL_IDENTIFIER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The local identifier attribute provides the name of a local object; it is unique within a label. The value of local_identifier should be the class name. If several instances of the same class exist, then a numeric suffix is appended to the class name.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **local_identifier**

  steward: **pds**
  name space id: **pds:**
  class: **File**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LOCAL_IDENTIFIER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The local identifier attribute provides the name of a local object; it is unique within a label. The value of local_identifier should be the class name. If several instances of the same class exist, then a numeric suffix is appended to the class name.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **local_identifier**

  steward: **pds**
  name space id: **pds:**
  class: **Observing_System**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LOCAL_IDENTIFIER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The local identifier attribute provides the name of a local object; it is unique within a label. The value of**

local_identifier should be the class name. If several instances of the same class exist, then a numeric suffix is appended to the class name.
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **local_identifier**

  steward: **pds**
  name space id: **pds:**
  class: **TDO_Structures**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LOCAL_IDENTIFIER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The local identifier attribute provides the name of a local object; it is unique within a label. The value of local_identifier should be the class name. If several instances of the same class exist, then a numeric suffix is appended to the class name.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **local_identifier**

  steward: **pds**
  name space id: **pds:**
  class: **TNDO_Supplemental**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LOCAL_IDENTIFIER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The local identifier attribute provides the name of a local object; it is unique within a label. The value of local_identifier should be the class name. If several instances of the same class exist, then a numeric suffix is appended to the class name.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **logical_identifier**

  steward: **pds**
  name space id: **pds:**
  class: **Identification_Area**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LOGICAL_IDENTIFIER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **A logical identifier identifies the set of all versions of an object. It is an object identifier without a version.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **map_projection_name**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **(Old map_projection_type). This element identifies the type of projection characteristic of a given map.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **AITOFF** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **ALBERS** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **BONNE** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **BRIESEMEISTER** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **CYLINDRICAL_EQUAL_AREA** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **EQUIDISTANT** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **EQUIRECTANGULAR** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **GNOMONIC** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **HAMMER** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **HENDU** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **LAMBERT AZIMUTHAL EQUAL AREA** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **LAMBERT CONFORMAL** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **MERCATOR** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **MOLLWEIDE** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **OBLIQUE CYLINDRICAL** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ORTHOGRAPHIC** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **POLAR STEREOGRAPHIC** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **SIMPLE CYLINDRICAL** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **SINUSOIDAL** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **STEREOGRAPHIC** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **TRANSVERSE MERCATOR** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **VAN DER GRINTEN** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **WERNER** - begin date: 2009-06-09 - end date: 2019-12-31

- **map_projection_rotation**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ROTATION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **0.0**
  - maximum_value: **180.0**
  - unit_of_measure_name: **UnitOfMeasure_Angle**
  - default_unit_id: **deg**

- **map_resolution**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_RESOLUTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **0.0**
  - maximum_value: **INF**
  - unit_of_measure_name: **UnitOfMeasure_Scale**
  - default_unit_id: **pixel/deg**

- **map_scale**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_SCALE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**

- unit_of_measure_name: **UnitOfMeasure_Scale**
- default_unit_id: **km/pixel**

- **maximum**

  steward: **pds**
  name space id: **pds:**
  class: **Object_Statistics**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_MAXIMUM** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The maximum attribute indicates the highest value in an object.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**

- **maximum_characters**

  steward: **pds**
  name space id: **pds:**
  class: **Value_Domain**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The maximum_characters attribute sets an upper (inclusive) bound on the number of characters.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **maximum_latitude**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_LATITUDE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-90.0**
  - maximum_value: **90.0**
  - unit_of_measure_name: **UnitOfMeasure_Angle**
  - default_unit_id: **deg**

- **maximum_occurrences**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Association**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The maximum occurences attribute indicates the number of times something may occur and is also called the maximum cardinality.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **maximum_record_length**

  steward: **pds**
  name space id: **pds:**

class: **Stream_Delimited**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_LENGTH** - administration_record: Beta_DD_0.2.0.0.d
- description: **The maximum record length attribute sets an upper (inclusive) bound on the number of bytes in a record.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **maximum_ring_radius**

  steward: **rings**
  name space id: **rings:**
  class: **Rings_Prod_Info**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_RADIUS** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The maximum_ring_radius element indicates the maximum (outermost) radial location of an area within a planetary ring system. Radii are measured from the center of the planet along the nominal ring plane.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **0.0**
  - maximum_value: **INF**
  - unit_of_measure_name: **UnitOfMeasure_Length**
  - default_unit_id: **m**

- **maximum_scaled_value**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The maximum_scaled_value attribute provides the maximum value after application of "scaling_factor" and "offset".**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **maximum_scaled_value**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_Extended**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The maximum_scaled_value attribute provides the maximum value after application of "scaling_factor" and "offset".**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **maximum_value**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Attribute**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The maximum_value attribute sets an upper (inclusive) bound on a value.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d

- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **maximum_value**

  steward: **pds**
  name space id: **pds:**
  class: **Value_Domain**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_VALUE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The maximum_value attribute sets an upper (inclusive) bound on a value.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **max_record_bytes**

  steward: **pds**
  name space id: **pds:**
  class: **File**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The max record bytes attribute provides the maximum number of bytes that may be contained in a record.**
    - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Integer**
    - minimum_value: **-2147483648**
    - maximum_value: **2147483647**

- **md5_checksum**

  steward: **pds**
  name space id: **pds:**
  class: **File**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_CHECKSUM** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The md5_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - 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: **Manifest_Entry**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_CHECKSUM** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The md5_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - 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: **0.2.0.0.d**

- **data element** - data element concept:**DEC_CHECKSUM** - administration_record: Beta_DD_0.2.0.0.d
- description: **The md5_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- 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: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_CHECKSUM** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The md5_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - 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: **Object_Statistics**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_MEAN** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The mean attribute (or arithmetic mean) of a list of numbers is the sum of all of the list divided by the number of items in the list.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **0.0**
  - maximum_value: **INF**

- **median**

  steward: **pds**
  name space id: **pds:**
  class: **Object_Statistics**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_MEDIAN** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The median attribute is the number separating the higher half of a list of numbers from the lower half.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**

- **minimum**

  steward: **pds**
  name space id: **pds:**
  class: **Object_Statistics**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_MINIMUM** - administration_record: Beta_DD_0.2.0.0.d

- description: **The minimum attribute indicates the lowest value in an object.**
- **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

- **minimum_characters**

  steward: **pds**
  name space id: **pds:**
  class: **Value_Domain**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The minimum_characters attribute sets a lower (inclusive) bound on the number of characters.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **minimum_latitude**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_LATITUDE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This attribute is used in the image map projection. Under review.**
    - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Real**
    - minimum_value: **-90.0**
    - maximum_value: **90.0**
    - unit_of_measure_name: **UnitOfMeasure_Angle**
    - default_unit_id: **deg**

- **minimum_occurrences**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Association**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The minimum occurences attribute indicates the number of times something may occur and is also called the minimum cardinality.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **minimum_ring_radius**

  steward: **rings**
  name space id: **rings:**
  class: **Rings_Prod_Info**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_RADIUS** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The minimum_ring_radius element indicates the minimum (innermost) radial location of an area within a planetary ring system. Radii are measured from the center of the planet along the nominal ring plane.**
    - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Real**
    - minimum_value: **0.0**
    - maximum_value: **INF**
    - unit_of_measure_name: **UnitOfMeasure_Length**
    - default_unit_id: **m**

- **minimum_scaled_value**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Field**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_VALUE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The minimum_scaled_value attribute provides the minimum value after application of "scaling_factor" and "offset".**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **minimum_scaled_value**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Field_Extended**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_VALUE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The minimum_scaled_value attribute provides the minimum value after application of "scaling_factor" and "offset".**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **minimum_value**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Attribute**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_VALUE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The minimum_value attribute sets a lower (inclusive) bound on a value.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **minimum_value**

  steward: **pds**
  name space id: **pds:**
  class: **Value_Domain**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_VALUE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The minimum_value attribute sets a lower (inclusive) bound on a value.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **missing_constant**

  steward: **pds**
  name space id: **pds:**
  class: **Special_Constants**
  version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_CONSTANT** - administration_record: Beta_DD_0.2.0.0.d
- description: **The missing constant attribute provides a value that indicates the original value was missing.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **20**

- **name**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Attribute**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The name attribute provides a word or combination of words by which the object is known.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **61**

- **name**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Class**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The name attribute provides a word or combination of words by which the object is known.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **61**

- **name**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Axis**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The name attribute indicates the label or significance of the dimension.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **61**

- **name**

  steward: **pds**
  name space id: **pds:**
  class: **Header**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The name attribute provides a word or combination of words by which the object is known.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **61**

- **name**

  steward: **pds**

name space id: **pds:**
class: **Name_Resolution**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The name attribute provides a title for the object.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **61**

- **name_space_id**

  steward: **ops**
  name space id: **ops:**
  class: **Local_DD**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The name_space_id attribute identifies the XML Schema namespace container for a logical grouping of data elements.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **name_space_id**

  steward: **pds**
  name space id: **pds:**
  class: **Element_Definition**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The name_space_id attribute identifies the XML Schema namespace container for a logical grouping of data elements.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **name_space_id**

  steward: **pds**
  name space id: **pds:**
  class: **Property_Map**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The name_space_id attribute identifies the XML Schema namespace container for a logical grouping of data elements.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **node_id**

  steward: **rings**
  name space id: **rings:**
  class: **Rings_Prod_Info**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The node_id element provides the node id assigned to a science community node.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated

- minimum_characters: **1**
- maximum_characters: **12**
- permissible value: **RINGS** - begin date: 2009-06-09 - end date: 2019-12-31

- **node_name**

  steward: **pds**
  name space id: **pds:**
  class: **Node**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The node_name attribute provides the name of a PDS Node.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **100**
  - permissible value: **Geosciences** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Imaging** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Navigation_Ancillary_Information_Facility** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Planetary_Atmospheres** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Planetary_Plasma_Interactions** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Planetary_Rings** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Radio_Science** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Small_Bodies** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Engineering** - begin date: 2009-06-09 - end date: 2019-12-31

- **node_name**

  steward: **pds**
  name space id: **pds:**
  class: **PDS_Affiliate**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The node_name attribute provides the name of a PDS Node.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **100**
  - permissible value: **Engineering** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Geosciences** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Imaging** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Navigation_Ancillary_Information_Facility** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Planetary_Atmospheres** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Planetary_Plasma_Interactions** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Planetary_Rings** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Radio_Science** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Small_Bodies** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **unk** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **HQ** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **National_Space_Science_Data_Center** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **PDS_Management** - begin date: 2009-06-09 - end date: 2019-12-31

- **node_name**

  steward: **rings**
  name space id: **rings:**
  class: **Rings_Prod_Info**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The node_name element provides the officially recognized name of a PDS Node.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **100**
  - permissible value: **Planetary_Rings** - begin date: 2009-06-09 - end date: 2019-12-31

- **not_applicable_constant**

  steward: **pds**
  name space id: **pds:**
  class: **Special_Constants**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_CONSTANT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The not applicable constant attribute provides a value that indicates the original value was not applicable.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **20**

- **objectives_summary**

  steward: **pds**
  name space id: **pds:**
  class: **Investigation**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_SUMMARY** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The objectives_summary attribute describes the scientific objectives of an investigation**
  - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Text_Preserved**
  - minimum_characters: **1**
  - maximum_characters: **2147483647**

- **observing_system_component_type**

  steward: **pds**
  name space id: **pds:**
  class: **Observing_System_Component**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The Observing System Component Type attribute indicates whether an observing system component is a 'source' or 'sensor'.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **SENSOR** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **SOURCE** - begin date: 2009-06-09 - end date: 2019-12-31

- **observing_system_name**

  steward: **pds**
  name space id: **pds:**
  class: **Subject_Area**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The observing system name attribute provides a unique identifer for an observing system.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **occultation_type**

  steward: **rings**
  name space id: **rings:**
  class: **Rings_Prod_Info**
  version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
- description: **The occultation type element distinguishes between two types of occultation experiments, stellar and radio. Stellar occultations involve observing a star as a targeted ring or body passes in front, as seen from either a spacecraft or Earth-based observatory. Radio occultations typically involve observing the continuous-wave radio transmissions from a spacecraft as it passes behind the target as seen from a radio telescope on Earth.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **10**
- permissible value: **STELLAR** - begin date: 2009-06-09 - end date: 2019-12-31

- **offset**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Location**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_OFFSET** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The offset attribute is the displacement from a starting position (in a file, record, etc.). The value of offset starts at zero.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **-2147483648**
  - maximum_value: **2147483647**

- **packet_map_mask**

  steward: **img**
  name space id: **img:**
  class: **Telemetry_Parameters**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_MASK** - administration_record: Beta_DD_0.2.0.0.d
  - description: **xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer_Hex**

- **pattern**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Attribute**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_PATTERN** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The pattern attribute gives the formation rule for a value.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **pattern**

  steward: **pds**
  name space id: **pds:**
  class: **Value_Domain**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_PATTERN** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The pattern attribute gives the formation rule for a value.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **pds4_merge_flag**

  steward: **ops**
  name space id: **ops:**
  class: **Local_DD**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_FLAG** - administration_record: Beta_DD_0.2.0.0.d
    - 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 domain** - conceptual domain:**CD_BOOLEAN** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Boolean_TF** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **1**
    - permissible value: **T** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **F** - begin date: 2009-06-09 - end date: 2019-12-31

- **planetary_occultation_flag**

  steward: **rings**
  name space id: **rings:**
  class: **Rings_Prod_Info**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_FLAG** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The planetary_occultation_flag element is a yes-or-no flag hat indicates whether a ring occultation track also intersects the planet.**
    - **value domain** - conceptual domain:**CD_BOOLEAN** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Boolean_TF** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **1**
    - permissible value: **n** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **y** - begin date: 2009-06-09 - end date: 2019-12-31

- **positive_azimuth_direction**

  steward: **img**
  name space id: **img:**
  class: **Az_el_coordinate_system**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_DIRECTION** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The positive_azimuth_direction element provides the direction in which azimuth is measured in positive degrees for an observer on the surface of a body. The azimuth is measured with respect to the elevational reference plane. A value of CLOCKWISE indicates that azimuth increases positively clockwise, while a value of COUNTERCLOCKWISE indicates that azimuth increases positively counter-clockwise.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **clockwise** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **counterclockwise** - begin date: 2009-06-09 - end date: 2019-12-31

- **positive_elevation_direction**

  steward: **img**
  name space id: **img:**
  class: **Az_el_coordinate_system**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_DIRECTION** - administration_record: Beta_DD_0.2.0.0.d
    - description: **TBD_description**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **10**
    - permissible value: **down** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **nadir** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **up** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **zenith** - begin date: 2009-06-09 - end date: 2019-12-31

- **positive_longitude_direction**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_DIRECTION** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This attribute is used in the image map projection. Under review.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **4**
    - permissible value: **east** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **west** - begin date: 2009-06-09 - end date: 2019-12-31

- **postal_address_text**

  steward: **pds**
  name space id: **pds:**
  class: **PDS_Affiliate**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TEXT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The postal address text attribute provides a mailing address.**
    - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Text_Preserved**
    - minimum_characters: **1**
    - maximum_characters: **2147483647**

- **primary_name**

  steward: **pds**
  name space id: **pds:**
  class: **Name_Resolution**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The primary_name attribute provides the name that anchors a list of additional names for an object.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **process_level_id**

  steward: **pds**
  name space id: **pds:**
  class: **Collection_Data**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The processing level id attribute indicates whether data are raw, reduced (partly processed, but not calibrated), calibrated, or derived (processed beyond calibration, often irreversibly)**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **RAW** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **RDC** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **CLB** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **DRV** - begin date: 2009-06-09 - end date: 2019-12-31

- **producer_full_name**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Set**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The producer_full_name attribute provides the full_name of the individual mainly responsible for the production of a data set. See also This individual does not have to be registered with the PDS.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **product_class**

  steward: **pds**
  name space id: **pds:**
  class: **Identification_Area**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The product_class attribute identifies the generic class of the product. For example, any black and white image would have product_class=Product_Image_Grayscale.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **100**

- **product_class**

  steward: **pds**
  name space id: **pds:**
  class: **Identification_Area_System**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The product_class attribute identifies the generic class of the product. For example, any black and white image would have product_class=Product_Image_Grayscale.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **100**

- **product_subclass**

  steward: **pds**
  name space id: **pds:**
  class: **Identification_Area**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The product_subclass attribute provides the name of a subclass under a product_class. For example, User_Manual is a subclass of Product_Document.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **product_subclass**

  steward: **pds**
  name space id: **pds:**
  class: **Identification_Area_Document**
  version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
- description: **The product_subclass attribute provides the name of a subclass under a product_class. For example, User_Manual is a subclass of Product_Document.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value: **ERRATA** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **AAREADME** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **SIS** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **Programmers_Manual** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **Users_Manual** - begin date: 2009-06-09 - end date: 2019-12-31

- **property_name**

  steward: **pds**
  name space id: **pds:**
  class: **Property_Map_Entry**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The property name attribute provides a word or a combination of words by which a property is known.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **property_value**

  steward: **pds**
  name space id: **pds:**
  class: **Property_Map_Entry**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The property value attribute provides the value assigned to a property.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **publication_date**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The publication_date attribute provides the date when a published item, such as a document or a physical archival voliume, was issued.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_YMD**
  - minimum_characters: **1**
  - maximum_characters: **10**

- **radial_resolution**

  steward: **rings**
  name space id: **rings:**
  class: **Rings_Prod_Info**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_RESOLUTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The radial_resolution element indicates the nominal radial distance over which changes in ring properties can be detected within a data product. Note: this value may be larger than the radial_sampling_interval value, since many data products are over-sampled.**

- **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Real**
- minimum_value: **0.0**
- maximum_value: **INF**
- unit_of_measure_name: **UnitOfMeasure_Length**
- default_unit_id: **m**

- **received_packets**

  steward: **img**
  name space id: **img:**
  class: **Telemetry_Parameters**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **0**
  - maximum_value: **2147483647**

- **records**

  steward: **pds**
  name space id: **pds:**
  class: **File**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The records attribute provides a count of records.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **2147483647**

- **records**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The records attribute provides a count of records.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **2147483647**

- **records**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Base**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The records attribute provides a count of records.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **2147483647**

- **record_bytes**

  steward: **pds**

name space id: **pds:**
class: **Table_Base**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
- description: **The record bytes attribute provides a count of the bytes in a record.**
- **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Integer**
- minimum_value: **0**
- maximum_value: **2147483647**

- **record_delimiter**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DELIMITER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The record delimiter attribute provides the character or characters used to indicate the end of a record.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **0xOA** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **0xOD** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **0xOD_0xOA** - begin date: 2009-06-09 - end date: 2019-12-31

- **reference_association_type**

  steward: **pds**
  name space id: **pds:**
  class: **Bundle_Member_Entry**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The reference association type attribute provides the name of the association used in a reference.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **has_miscellaneous_collection** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **has_browse_collection** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **has_calibration_collection** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **has_data_collection** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **has_document_collection** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **has_geometry_collection** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **has_spice_collection** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **has_xml_schema_collection** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **has_member_collection** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **has_context_collection** - begin date: 2009-06-09 - end date: 2019-12-31

- **reference_association_type**

  steward: **pds**
  name space id: **pds:**
  class: **Collection_Reference_Entry**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The reference association type attribute provides the name of the association used in a reference.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **has_update_collection** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **has_associated_collection** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **has_investigation_collection** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **has_manifest_collection** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **has_node_collection** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **has_publication_collection** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **has_target_collection** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **has_delivery_file_manifest** - begin date: 2009-06-09 - end date: 2019-12-31

- **reference_association_type**

  steward: **pds**
  name space id: **pds:**
  class: **Context_Reference_Entry**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The reference association type attribute provides the name of the association used in a reference.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **has_instrument_host** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_instrument** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: *has_investigation * - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_node** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_personnel** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_publication** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_resource** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_target** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_association** - begin date: 2009-06-09 - end date: 2019-12-31

- **reference_association_type**

  steward: **pds**
  name space id: **pds:**
  class: **Inventory_LID**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The reference association type attribute provides the name of the association used in a reference.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **has_member** - begin date: 2009-06-09 - end date: 2019-12-31

- **reference_association_type**

  steward: **pds**
  name space id: **pds:**
  class: **Inventory_LIDVID**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The reference association type attribute provides the name of the association used in a reference.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **has_member** - begin date: 2009-06-09 - end date: 2019-12-31

- **reference_association_type**

  steward: **pds**
  name space id: **pds:**
  class: **Observing_System_Reference_Entry**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The reference association type attribute provides the name of the association used in a reference.**

- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value: **has_instrument_host** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **has_instrument** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **has_association** - begin date: 2009-06-09 - end date: 2019-12-31

- **reference_association_type**

  steward: **pds**
  name space id: **pds:**
  class: **Product_Reference_Entry**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The reference association type attribute provides the name of the association used in a reference.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **has_browse** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_calibration** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_publication** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_geometry** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_personnel** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_spice** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_target** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_thumbnail** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **curated_by_node** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_association** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_document** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_investigation** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_node** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_instrument** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_instrument_host** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_primary_collection** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_resource** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **has_primary_product** - begin date: 2009-06-09 - end date: 2019-12-31

- **reference_association_type**

  steward: **pds**
  name space id: **pds:**
  class: **Reference_Entry**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The reference association type attribute provides the name of the association used in a reference.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **has_association** - begin date: 2009-06-09 - end date: 2019-12-31

- **reference_association_type**

  steward: **pds**
  name space id: **pds:**
  class: **Reference_Entry_Generic**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The reference association type attribute provides the name of the association used in a reference.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **reference_association_type**

  steward: **pds**
  name space id: **pds:**
  class: **Zipped_Member_Entry**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The reference association type attribute provides the name of the association used in a reference.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - permissible value: **manifest_product** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **contained_product** - begin date: 2009-06-09 - end date: 2019-12-31

- **reference_coordinate_system_name**

  steward: **img**
  name space id: **img:**
  class: **Az_el_coordinate_system**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The reference_coordinate_system_name provides the full name of the reference coordinate system for the group in which the keyword occurs. All vectors and positions relating to 3-D space within the enclosing class are expressed using this reference coordinate system. In non-unique coordinate system (such as 'SITE' for rover missions), which have multiple instances using the same name, reference_coordinate_system_index is also required to completely identify the reference coordinate system.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **reference_latitude**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_LATITUDE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This attribute is used in the image map projection. Under review.**
    - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Real**
    - minimum_value: **-90.0**
    - maximum_value: **90.0**
    - unit_of_measure_name: **UnitOfMeasure_Angle**
    - default_unit_id: **deg**

- **reference_longitude**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_LONGITUDE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This attribute is used in the image map projection. Under review.**
    - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Real**
    - minimum_value: **-180.0**
    - maximum_value: **360.0**
    - unit_of_measure_name: **UnitOfMeasure_Angle**
    - default_unit_id: **deg**

- **reference_text**

  steward: **pds**
  name space id: **pds:**
  class: **Bibliographic_Reference**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TEXT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The reference_text attribute provides a complete bibliographic citation for a published work.**
    - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Text_Preserved**
    - minimum_characters: **1**
    - maximum_characters: **2147483647**

- **reference_text**

  steward: **pds**
  name space id: **pds:**
  class: **Reference**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_TEXT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The reference_text attribute provides a complete bibliographic citation for a published work.**
    - **value domain** - conceptual domain:**CD_TEXT** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Text_Preserved**
    - minimum_characters: **1**
    - maximum_characters: **2147483647**

- **registered_by**

  steward: **pds**
  name space id: **pds:**
  class: **Element_Definition**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The registered by attribute provides the name of the person or organization that registered the object.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **registration_authority_id**

  steward: **ops**
  name space id: **ops:**
  class: **Local_DD**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The registration_authority_id attribute provides the name of the person or organization that registered the object.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **registration_authority_id**

  steward: **pds**
  name space id: **pds:**
  class: **Element_Definition**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The registration_authority_id attribute provides the name of the person or organization that registered the object.**

- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **registration_date**

  steward: **ops**
  name space id: **ops:**
  class: **Personnel**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The registration_date attribute provides the date of registration within the PDS system.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_YMD**
  - minimum_characters: **1**
  - maximum_characters: **10**

- **repetitions**

  steward: **pds**
  name space id: **pds:**
  class: **Stream_Delimited_Grouped_Sequence**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The repetitions attribute indicates the number of occurrences.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **2147483647**

- **repetitions**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Binary_Grouped_Sequence**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The repetitions attribute indicates the number of occurrences.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **2147483647**

- **repetitions**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Character_Grouped_Sequence**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The repetitions attribute indicates the number of occurrences.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **2147483647**

- **revision_id**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Desc**

version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
- description: **The revision_id attribute indicates the revision level of a document, as distinct from the version_id, which tracks revisions to the files and label that constitute the document product.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **ring_event_start_time**

  steward: **rings**
  name space id: **rings:**
  class: **Rings_Prod_Info**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The ring_event_start_time element indicates the starting instant of a data product as measured at the ring plane. This element differs from the observation start time because it allows for light travel time.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_Time**

- **ring_event_stop_time**

  steward: **rings**
  name space id: **rings:**
  class: **Rings_Prod_Info**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The ring_event_stop_time element indicates the stopping instant of a data product as measured at the ring plane. This element differs from the observation stop time because it allows for light travel time.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_Time**

- **ring_occultation_direction**

  steward: **rings**
  name space id: **rings:**
  class: **Rings_Prod_Info**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DIRECTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The ring_occultation_direction element indicates the radial direction of a ring occultation track.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **20**
  - permissible value: **both** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **egress** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ingress** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **multiple** - begin date: 2009-06-09 - end date: 2019-12-31

- **role**

  steward: **pds**
  name space id: **pds:**
  class: **Name_Resolution**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ROLE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The role attribute indicates the role performed by this class.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**

- permissible value: **PRIMARY** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **ALTERNATE** - begin date: 2009-06-09 - end date: 2019-12-31

- **sample_bit_mask**

  steward: **pds**
  name space id: **pds:**
  class: **Object_Statistics**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_MASK** - administration_record: Beta_DD_0.2.0.0.d
  - 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 domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer_Hex**

- **sample_display_direction**

  steward: **pds**
  name space id: **pds:**
  class: **Image_2D_Display**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DIRECTION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The sample_display_direction attribute is the preferred orientation of samples within a line for viewing on a display device. The default is right, meaning samples are viewed from left to right on the display. "sample_display_direction" must be used with "line_display_direction". Image rotation attributes such as TWIST_ANGLE, CELESTIAL_NORTH_CLOCK_ANGLE, and BODY_POLE_CLOCK_ANGLE are defined under the assumption that the image is displayed in its preferred orientation.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **6**
  - permissible value: **DOWN** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **LEFT** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **RIGHT** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UP** - begin date: 2009-06-09 - end date: 2019-12-31

- **sample_first_pixel**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_PIXEL** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **0**
  - maximum_value: **2147483647**

- **sample_last_pixel**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_PIXEL** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This attribute is used in the image map projection. Under review.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **0**
  - maximum_value: **2147483647**

- **sample_projection_offset**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_OFFSET** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This attribute is used in the image map projection. Under review.**
    - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Real**
    - minimum_value: **-INF**
    - maximum_value: **INF**
    - unit_of_measure_name: **UnitOfMeasure_Misc**
    - default_unit_id: **pixel**

- **saturated_constant**

  steward: **pds**
  name space id: **pds:**
  class: **Special_Constants**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_CONSTANT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The saturated constant attribute provides a value that indicates the original value was saturated.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **scaling_factor**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Element**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_FACTOR** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The scaling factor attribute is the scaling factor to be applied to each stored value in order to recover the original observation value. The observed value (Ov) is calculated from the stored value (Sv) thus: Ov = (Sv * scaling_factor) + value_offset.**
    - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Real**
    - minimum_value: **-INF**
    - maximum_value: **INF**

- **scan_mode_id**

  steward: **img**
  name space id: **img:**
  class: **Camera_Parameters**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This element identifies one of several internal rates for data acquisition by an instrument.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **100**
    - permissible value: **.055** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **4.0** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **epf** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **long** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **short** - begin date: 2009-06-09 - end date: 2019-12-31

- **second_standard_parallel**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_PARALLEL** - administration_record: Beta_DD_0.2.0.0.d
- description: **This attribute is used in the image map projection. Under review.**
- **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Real**
- minimum_value: **-90.0**
- maximum_value: **90.0**
- unit_of_measure_name: **UnitOfMeasure_Angle**
- default_unit_id: **deg**

- **sequence_number**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Axis**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NUMBER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The sequence number attribute provides a number that is used to order elements in an array.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **-2147483648**
  - maximum_value: **2147483647**

- **shutter_mode_id**

  steward: **img**
  name space id: **img:**
  class: **Camera_Parameters**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **This element identifies the state of an imaging instrument's shutter during image acquisition. Note: the instrument shutter mode affects the radiometric properties of the camera.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **100**
  - permissible value: **BODARK** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **BOTSIM** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **BSIMAN** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **NADARK** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **NAONLY** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **WADARK** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **WAONLY** - begin date: 2009-06-09 - end date: 2019-12-31

- **sort_name**

  steward: **ops**
  name space id: **ops:**
  class: **Personnel**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - 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 domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**
  - pattern: **[a-zA-Z]{1}([-.,_a-zA-Z0-9]*)**

- **spacecraft_clock_start_count**

steward: **pds**
name space id: **pds:**
class: **Observation_Area**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
- description: **The spacecraft clock start count attribute provides the value of the spacecraft clock at the beginning of a time period of interest.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **30**

- **spacecraft_clock_stop_count**

  steward: **pds**
  name space id: **pds:**
  class: **Observation_Area**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_COUNT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The spacecraft clock stop count attribute provides the value of the spacecraft clock at the end of a time period of interest.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **30**

- **spice_file_name**

  steward: **img**
  name space id: **img:**
  class: **Telemetry_Parameters**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **180**

- **standard_deviation**

  steward: **pds**
  name space id: **pds:**
  class: **Object_Statistics**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DEVIATION** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The standard deviation attribute gives the standard deviation of the values.**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **0.0**
  - maximum_value: **INF**

- **starting_point_identifier**

  steward: **pds**
  name space id: **pds:**
  class: **Document_Format**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_IDENTIFIER** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The starting point identifer attribute provides the local_identifier of the file to be accessed first.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**

- minimum_characters: **1**
- maximum_characters: **255**

- **start_bit**

  steward: **pds**
  name space id: **pds:**
  class: **Table_Binary_Grouped_Bit_Field**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_BIT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The start bit attribute provides the position of the first bit within an ordered sequence of bits.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **1**
  - maximum_value: **2147483647**

- **start_date**

  steward: **pds**
  name space id: **pds:**
  class: **Investigation**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The start_date attribute provides the date when an activity began.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_YMD**
  - minimum_characters: **1**
  - maximum_characters: **10**

- **start_date_time**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Set**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The start_date_time attribute provides the date and time at the beginning of a time interval of interest.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_Time_YMD**

- **start_date_time**

  steward: **pds**
  name space id: **pds:**
  class: **Observation_Area**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The start_date_time attribute provides the date and time at the beginning of a time interval of interest.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_Time**

- **star_name**

  steward: **rings**
  name space id: **rings:**
  class: **Rings_Prod_Info**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The star_name element provides the identifying name of star, including the catalog name if necessary. Examples include 'sigma Sgr' and 'SAO 123456' (for star number 123456 in the Smithsonian Astrophysical Observatory catalog).**

- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **40**

- **steward_id**

  steward: **ops**
  name space id: **ops:**
  class: **Local_DD**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The steward_id attribute gives the name of the person or organization managing a set of registered attributes and classes.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **steward_id**

  steward: **pds**
  name space id: **pds:**
  class: **Element_Definition**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The steward attribute indicates the person or organization who manages a set of registered attributes and classes.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **stop_date**

  steward: **pds**
  name space id: **pds:**
  class: **Investigation**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The stop_date attribute provides the date when an activity ended.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_YMD**
  - minimum_characters: **1**
  - maximum_characters: **10**

- **stop_date_time**

  steward: **pds**
  name space id: **pds:**
  class: **Data_Set**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_DATE_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The stop_date_time attribute provides the date and time at the end of a time interval of interest.**
  - **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Date_Time_YMD**

- **stop_date_time**

  steward: **pds**
  name space id: **pds:**
  class: **Observation_Area**

version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_DATE_TIME** - administration_record: Beta_DD_0.2.0.0.d
- description: **The stop_date_time attribute provides the date and time at the end of a time interval of interest.**
- **value domain** - conceptual domain:**CD_TIME** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Date_Time**

- **submitter_id**

  steward: **pds**
  name space id: **pds:**
  class: **Element_Definition**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The submitter_id attribute identifies the individual or organization that submitted the item.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **target_name**

  steward: **pds**
  name space id: **pds:**
  class: **Subject_Area**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The target name attribute provides a name by which the target is formally known.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **120**

- **telemetry_provider_id**

  steward: **img**
  name space id: **img:**
  class: **Telemetry_Parameters**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **ssw_mer_dp** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ttacs** - begin date: 2009-06-09 - end date: 2019-12-31

- **telemetry_source_name**

  steward: **img**
  name space id: **img:**
  class: **Telemetry_Parameters**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **100**

- **telemetry_source_type**

steward: **img**
name space id: **img:**
class: **Telemetry_Parameters**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
- description: **xxx TBD E. Rye xxx**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value: **data_product** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **sfdu** - begin date: 2009-06-09 - end date: 2019-12-31

- **telephone_number**

steward: **pds**
name space id: **pds:**
class: **PDS_Affiliate**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_NUMBER** - administration_record: Beta_DD_0.2.0.0.d
- description: **The telephone_number attribute provides a telephone number in international notation in compliance with the E.164 telephone number format recommendation.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **30**
- permissible value: **+cc ddd ddd dddd** - begin date: 2009-06-09 - end date: 2019-12-31

- **title**

steward: **pds**
name space id: **pds:**
class: **Element_Definition**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_TITLE** - administration_record: Beta_DD_0.2.0.0.d
- description: **The name given to the resource. Typically, a Title will be a name by which the resource is formally known. - Dublin Core**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **UTF8_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **title**

steward: **pds**
name space id: **pds:**
class: **Identification_Area**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_TITLE** - administration_record: Beta_DD_0.2.0.0.d
- 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 domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **UTF8_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **title**

steward: **pds**
name space id: **pds:**
class: **Observing_System**
version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_TITLE** - administration_record: Beta_DD_0.2.0.0.d
- description: **The name given to the resource. Typically, a Title will be a name by which the resource is formally known. - Dublin Core**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **UTF8_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **unit**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Axis**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_UNIT** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The unit attribute indicates unit of measurement.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed** - Enumerated
    - minimum_characters: **1**
    - maximum_characters: **40**
    - permissible value: **mol** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **arcmin** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **arcsec** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **deg** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **hr** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **mrad** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **rad** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **deg/day** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **deg/s** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **rad/s** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **m**2** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **hz** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **AU** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **Angstrom** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **cm** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **km** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **m** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **micrometer** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **mm** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **nm** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **g** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **kg** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **DN** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **pixel** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **none** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **airmass** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **Pa** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **bar** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **hPa** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **mbar** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **W*m**-2*sr**-1** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **counts/bin** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **kilobits/s** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **electron/DN** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **km/pixel** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **m/pixel** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **mm/pixel** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **pixel/deg** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **sr** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **byte** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **K** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **degC** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **day** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **microseconds** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **min** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **ms** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **s** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **yr** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **cm/s** - begin date: 2009-06-09 - end date: 2019-12-31
    - permissible value: **km/s** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **m/s** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **V** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **mV** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **m**3** - begin date: 2009-06-09 - end date: 2019-12-31

- **unit**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Element**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_UNIT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The unit attribute indicates unit of measurement.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed** - Enumerated
  - minimum_characters: **1**
  - maximum_characters: **40**
  - permissible value: **mol** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **arcmin** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **arcsec** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **deg** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **hr** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mrad** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **rad** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **deg/day** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **deg/s** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **rad/s** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **m**2** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **hz** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **AU** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Angstrom** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **cm** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **km** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **m** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **micrometer** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mm** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **nm** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **g** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **kg** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **DN** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **pixel** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **none** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **airmass** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **Pa** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **bar** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **hPa** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mbar** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **W*m**-2*sr**-1** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **counts/bin** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **kilobits/s** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **electron/DN** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **km/pixel** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **m/pixel** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **mm/pixel** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **pixel/deg** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **sr** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **byte** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **K** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **degC** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **day** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **microseconds** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **min** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **ms** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **s** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **yr** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **cm/s** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **km/s** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **m/s** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **V** - begin date: 2009-06-09 - end date: 2019-12-31

- permissible value: **mV** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **L** - begin date: 2009-06-09 - end date: 2019-12-31
- permissible value: **m**3** - begin date: 2009-06-09 - end date: 2019-12-31

- **unit_of_measure_name**

  steward: **pds**
  name space id: **pds:**
  class: **Value_Domain**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_NAME** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The unit_of_measure_name attribute indicates the units in which a value is given.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **unit_of_measure_type**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Attribute**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_TYPE** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The unit of measure type element indicates the named grouping of units to be used for this attribute.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**
  - permissible value: **UnitOfMeasure_AmountOfSubstance** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Angle** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Angular_Velocity** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Area** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Frequency** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Length** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Mass** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Misc** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_None** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_OpticalPathLength** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Pressure** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Radiance** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Rates** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Scale** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Solid_Angle** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Storage** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Temperature** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Time** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Velocity** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Voltage** - begin date: 2009-06-09 - end date: 2019-12-31
  - permissible value: **UnitOfMeasure_Volume** - begin date: 2009-06-09 - end date: 2019-12-31

- **unknown_constant**

  steward: **pds**
  name space id: **pds:**
  class: **Special_Constants**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_CONSTANT** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The unknown constant attribute provides a value that indicates the original value was unknown.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **20**

- **url**

  steward: **pds**
  name space id: **pds:**
  class: **Bibliographic_Reference**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_URL** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The URL attribute (Uniform Resource Locator) is a Uniform Resource Identifier (URI) that specifies where an identified resource is available and the mechanism for retrieving it.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **url**

  steward: **pds**
  name space id: **pds:**
  class: **Resource**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_URL** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The URL attribute (Uniform Resource Locator) is a Uniform Resource Identifier (URI) that specifies where an identified resource is available and the mechanism for retrieving it.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **value**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Value_Domain**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_VALUE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The value attribute is an expression of a value meaning allowed in a specific value domain. A permissible value for axes is 2"."**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **value**

  steward: **pds**
  name space id: **pds:**
  class: **Permissible_Value**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_VALUE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The value attribute is an expression of a value meaning allowed in a specific value domain. A permissible value for axes is 2"."**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **value_meaning**

  steward: **ops**
  name space id: **ops:**
  class: **Local_Value_Domain**
  version: **0.2.0.0.d**

- **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
- description: **The value_meaning attribute is the meaning or semantic content of a permissible value.**
- **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **value_meaning**

  steward: **pds**
  name space id: **pds:**
  class: **Permissible_Value**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The value_meaning attribute is the meaning or semantic content of a permissible value.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Short_String_Collapsed**
  - minimum_characters: **1**
  - maximum_characters: **255**

- **value_offset**

  steward: **pds**
  name space id: **pds:**
  class: **Array_Element**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_OFFSET** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The value offset attribute is the fixed value to be added to each real value stored in order to recover the original observation value. The observed value (Ov) is calculated from the stored value (Sv) thus: Ov = (Sv * scaling_factor) + value_offset.**
  - **value domain** - conceptual domain:**CD_INTEGER** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Integer**
  - minimum_value: **-2147483648**
  - maximum_value: **2147483647**

- **version_id**

  steward: **ops**
  name space id: **ops:**
  class: **Local_DD**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The version id attribute gives the version.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - 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: **Element_Definition**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
  - description: **The version id attribute gives the version.**
  - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
  - 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: **Identification_Area**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_ID** - administration_record: Beta_DD_0.2.0.0.d
    - description: **The version id attribute gives the version.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**
    - pattern: **([-._a-zA-Z0-9]*)**

- **vertical_framelet_offset**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_OFFSET** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This attribute is used in the image map projection. Under review.**
    - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Real**
    - minimum_value: **1.0**
    - maximum_value: **INF**

- **western_most_longitude**

  steward: **img**
  name space id: **img:**
  class: **Image_Map_Projection**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_LONGITUDE** - administration_record: Beta_DD_0.2.0.0.d
    - description: **This attribute is used in the image map projection. Under review.**
    - **value domain** - conceptual domain:**CD_SHORT_STRING** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Short_String_Collapsed**
    - minimum_characters: **1**
    - maximum_characters: **255**

- **x**

  steward: **img**
  name space id: **img:**
  class: **Quaternion**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
    - description: **xxx TBD E. Rye xxx**
    - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
    - data_type: **ASCII_Real**
    - minimum_value: **-INF**
    - maximum_value: **INF**

- **x**

  steward: **img**
  name space id: **img:**
  class: **Vector**
  version: **0.2.0.0.d**

    - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
    - description: **xxx TBD E. Rye xxx**

- **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
- data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

- **y**

  steward: **img**
  name space id: **img:**
  class: **Quaternion**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**

- **y**

  steward: **img**
  name space id: **img:**
  class: **Vector**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**

- **z**

  steward: **img**
  name space id: **img:**
  class: **Quaternion**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**

- **z**

  steward: **img**
  name space id: **img:**
  class: **Vector**
  version: **0.2.0.0.d**

  - **data element** - data element concept:**DEC_VALUE2** - administration_record: Beta_DD_0.2.0.0.d
  - description: **xxx TBD E. Rye xxx**
  - **value domain** - conceptual domain:**CD_REAL** - administration_record: Beta_DD_0.2.0.0.d
  - data_type: **ASCII_Real**
  - minimum_value: **-INF**
  - maximum_value: **INF**

- **CD_BOOLEAN**

  version_identifier: **0.2.0.0.d**
  definition: **The values true and false, such that true is not equal to false. - ISO/IEC 11404**

- **CD_CHARACTER**

  version_identifier: **0.2.0.0.d**
  definition: **The value space of a character datatype comprises exactly the members of the character-sets identified by the repertoire-list. - ISO/IEC 11404**

- **CD_COMPLEX**

  version_identifier: **0.2.0.0.d**
  definition: **The value space of the mathematical complex type is the field which is the solution space of all polynomial equations having real coefficients. The value space of a computational complex datatype shall be a subset of the mathematical complex type, characterized by two parametric values, radix and factor, which, taken together, describe the precision to which values of the datatype are distinguishable. - ISO/IEC 11404**

- **CD_ENUMERATED**

  version_identifier: **0.2.0.0.d**
  definition: **The value space of an enumerated datatype is the set comprising exactly the named values in the enumerated-value-list, each of which is designated by a unique enumerated-literal. The order of these values is given by the sequence of their occurrence in the enumerated-value-list, which shall be referred to as the naming sequence of the enumerated datatype. - ISO/IEC 11404**

- **CD_INTEGER**

  version_identifier: **0.2.0.0.d**
  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**

- **CD_OCTET**

  version_identifier: **0.2.0.0.d**
  definition: **Each value of datatype octet is a code, represented by a non-negative integer value in the range 0, 255. - ISO/IEC 11404**

- **CD_REAL**

  version_identifier: **0.2.0.0.d**
  definition: **The value space of the mathematical real type comprises all values which are the limits of convergent sequences of rational numbers. The value space of a computational real datatype shall be a subset of the mathematical real type. - ISO/IEC 11404**

- **CD_SCALED**

  version_identifier: **0.2.0.0.d**
  definition: **The value space of a scaled datatype is that set of values of the rational datatype which are expressible as a value of datatype Integer divided by radix raised to the power factor. - ISO/IEC 11404**

- **CD_TIME**

  version_identifier: **0.2.0.0.d**
  definition: **The value-space of a date-and-time datatype is the denumerably infinite set of all possible points in time with the resolution (time-unit, radix, factor). The time-literal denotes the date-and-time value specified by the characterstring as interpreted under ISO 8601. - ISO/IEC 11404**

- **CD_TIME_INTERVAL**

  version_identifier: **0.2.0.0.d**
  definition: **All values which are integral multiples of one radix ^ (-factor) unit of the specified timeunit. - ISO/IEC 11404**

- **CD_VOID**

  version_identifier: **0.2.0.0.d**
  definition: **Conceptually, the value space of the void datatype is empty, but a single nominal value is necessary to perform the "presence required" function. - ISO/IEC 11404**

- **DEC_COUNT**

  version_identifier: **0.2.0.0.d**
  definition: **A numeric value indicating a current total or tally.**

- **DEC_DATE**

  version_identifier: **0.2.0.0.d**
  definition: **A representation of time in which the smallest unit of measure is a day.**

- **DEC_DATE_TIME**

  version_identifier: **0.2.0.0.d**
  definition: **A value that measures the point of occurrence of an event expressed in date and time in a standard form.**

- **DEC_DESCRIPTION**

  version_identifier: **0.2.0.0.d**
  definition: **A free-form, unlimited-length character string that provides a description of the item identified.**

- **DEC_DIRECTION**

  version_identifier: **0.2.0.0.d**
  definition: **TBD**

- **DEC_FLAG**

  version_identifier: **0.2.0.0.d**
  definition: **A boolean condition indicator, limited to two states.**

- **DEC_FORMAT**

  version_identifier: **0.2.0.0.d**
  definition: **A specified or predetermined arrangement of data within a file or on a storage medium.**

- **DEC_GROUP**

  version_identifier: **0.2.0.0.d**
  definition: **Names a collection or aggregation of elements. Example: ALT FLAG GROUP**

- **DEC_GUID**

  version_identifier: **0.2.0.0.d**
  definition: **A globally unique, immutable, and opaque product identifer.**

- **DEC_ID**

  version_identifier: **0.2.0.0.d**
  definition: **A shorthand alphanumeric identifier.**

- **DEC_IDENTIFIER**

version_identifier: **0.2.0.0.d**
definition: **A shorthand alphanumeric identifier.**

- **DEC_LOCAL_IDENTIFIER**

version_identifier: **0.2.0.0.d**
definition: **An identifier unique within a product label. When appended to the LID, it provides a global identifier for a component of an product.**

- **DEC_LOGICAL_IDENTIFIER**

version_identifier: **0.2.0.0.d**
definition: **A unique product identifier without the version. It identifies the set of all versions of a product.**

- **DEC_MASK**

version_identifier: **0.2.0.0.d**
definition: **An unsigned numeric value representing the bit positions within a value.**

- **DEC_NAME**

version_identifier: **0.2.0.0.d**
definition: **A literal value representing the common term used to identify an element.**

- **DEC_NOTE**

version_identifier: **0.2.0.0.d**
definition: **A textual expression of opinion, an observation, or a criticism; a remark.**

- **DEC_NUMBER**

version_identifier: **0.2.0.0.d**
definition: **A quantity.**

- **DEC_QUATERNION**

version_identifier: **0.2.0.0.d**
definition: **TBD**

- **DEC_RANGE**

version_identifier: **0.2.0.0.d**
definition: **Numeric values which identify the starting and stopping points of an interval.**

- **DEC_RATIO**

version_identifier: **0.2.0.0.d**
definition: **The relation between two quantities with respect to the number of times the first contains the second.**

- **DEC_SEQUENCE**

version_identifier: **0.2.0.0.d**
definition: **1) an arrangement of items in accordance with some criterion that defines their spacewise or timewise succession; 2) an orderly progression of items or operations in accordance with some rule, such as alphabetical or numerical order.**

- **DEC_SET**

version_identifier: **0.2.0.0.d**
definition: **A collection of items having some feature in common or which bear a certain relation to one another, e.g. all even numbers.**

- **DEC_SUMMARY**

  version_identifier: **0.2.0.0.d**
  definition: **An abridged description.**

- **DEC_TEXT**

  version_identifier: **0.2.0.0.d**
  definition: **A free-form, unlimited length character string.**

- **DEC_TYPE**

  version_identifier: **0.2.0.0.d**
  definition: **A literal that indicates membership in a predefined class.**

- **DEC_UNIT**

  version_identifier: **0.2.0.0.d**
  definition: **A determinate quantity adopted as a standard of measurement.**

- **DEC_VALUE**

  version_identifier: **0.2.0.0.d**
  definition: **The default class word for data element names not terminated with a class word.**

- **DEC_VECTOR**

  version_identifier: **0.2.0.0.d**
  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.**

- **Administration Record: Beta_DD_0.2.0.0.d**

  administration_record: **Beta_DD_0.2.0.0.d**
  version_identifier: **0.2.0.0.d**
  steward: **Steward_PDS**
  submitter: **Submitter_PDS**
  registered_by: **RA_0001_NASA_PDS_1**
  registration_authority_identifier: **0001_NASA_PDS_1**

- **Administration Record: Beta_DD_0.2.0.0.d**

  administration_record: **Beta_DD_0.2.0.0.d**
  version_identifier: **0.2.0.0.d**
  steward: **Steward_PDS**
  submitter: **Submitter_PDS**
  registered_by: **RA_0001_NASA_PDS_1**
  registration_authority_identifier: **0001_NASA_PDS_1**

- **Administration Record: Beta_DD_0.2.0.0.d**

  administration_record: **Beta_DD_0.2.0.0.d**
  version_identifier: **0.2.0.0.d**
  steward: **Steward_PDS**

submitter: **Submitter_PDS**
registered_by: **RA_0001_NASA_PDS_1**
registration_authority_identifier: **0001_NASA_PDS_1**

- **Administration Record: Beta_DD_0.2.0.0.d**

  administration_record: **Beta_DD_0.2.0.0.d**
  version_identifier: **0.2.0.0.d**
  steward: **Steward_PDS**
  submitter: **Submitter_PDS**
  registered_by: **RA_0001_NASA_PDS_1**
  registration_authority_identifier: **0001_NASA_PDS_1**

- **Administration Record: Beta_DD_0.2.0.0.d**

  administration_record: **Beta_DD_0.2.0.0.d**
  version_identifier: **0.2.0.0.d**
  steward: **Steward_PDS**
  submitter: **Submitter_PDS**
  registered_by: **RA_0001_NASA_PDS_1**
  registration_authority_identifier: **0001_NASA_PDS_1**

- **AdministrationRecord**

  identifier: **Beta_DD_0.2.0.0.d**
  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: **Beta_DD_0.2.0.0.d**
  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**

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- **Az_el_coordinate_system**

  description: **xxx TBD E. Rye xxx**
  role: **Concrete**
  attribute: **local_identifier** value: *value*
  attribute: **comment** value: *value* ^{Optional}
  attribute: **coordinate_system_name** value: **..., apxs_frame, body_fixed_spherical_coords, earth-sun_line_cartes_coords, ecliptic_inertial_cart_coords, ecliptic_inertl_sphercl_coords, equatorial_inert_sphrcl_coords, equatorial_inertial_cart_coord, jupiter_minus_system_iii, mast_frame, mb_frame, mean_inertial_hg_1950, mi_frame, neptune_west_longitude_system, non-rotating_spin_coordinates, planet_centered_cylindrical, planetocentric, planetographic, pvo_inertial_spacecraft_coords, pvo_spinning_spacecraft_coords, rat_frame, rover_frame, saturn_minus_longitude_system, sc_centered_ecliptic_coords, uranus_minus_longitude_system, uranus_west_longitude_system**
  attribute: **positive_azimuth_direction** value: **clockwise, counterclockwise**
  attribute: **positive_elevation_direction** value: **down, nadir, up, zenith**
  attribute: **reference_coordinate_system_name** value: *value*

  - **Origin_Offset_Vector Occurs 1 Times**

    description: **xxx TBD E. Rye xxx**
    role: **Concrete**
    attribute: **x** value: *value*
    attribute: **y** value: *value*
    attribute: **z** value: *value*

  - **End_Class**

  - **Origin_Rotation_Quaternion Occurs 1 Times**

    description: **xxx TBD E. Rye xxx**
    role: **Concrete**
    attribute: **cosine** value: *value*
    attribute: **x** value: *value*
    attribute: **y** value: *value*
    attribute: **z** value: *value*

  - **End_Class**
- **End_Class**

- **CAHVORE**

  description: **Built upon the CAHVOR model, but describes more general cameras including those with fisheye or otherwise wide field of view lenses.**
  role: **Concrete**
  attribute: **local_identifier** value: *value*
  attribute: **comment** value: *value* ^{Optional}

  - **Coordinate_System Occurs 1 Times**

    description: **xxx TBD E. Rye xxx**
    role: **Abstract**
    attribute: **local_identifier** value: *value*
    attribute: **comment** value: *value* ^{Optional}
    attribute: **coordinate_system_name** value: **..., apxs_frame, body_fixed_spherical_coords, earth-sun_line_cartes_coords, ecliptic_inertial_cart_coords, ecliptic_inertl_sphercl_coords, equatorial_inert_sphrcl_coords, equatorial_inertial_cart_coord, jupiter_minus_system_iii, mast_frame, mb_frame, mean_inertial_hg_1950, mi_frame, neptune_west_longitude_system, non-rotating_spin_coordinates, planet_centered_cylindrical, planetocentric, planetographic, pvo_inertial_spacecraft_coords, pvo_spinning_spacecraft_coords, rat_frame, rover_frame, saturn_minus_longitude_system, sc_centered_ecliptic_coords, uranus_minus_longitude_system, uranus_west_longitude_system**

  - **End_Class**

- **Axis_Vector Occurs 1 Times**

  description: **A vector defining the camera axis, which is normal to the image plane.**
  role: **Concrete**
  attribute: **x** value: *value*
  attribute: **y** value: *value*
  attribute: **z** value: *value*

- **End_Class**

- **Center_Vector Occurs 1 Times**

  description: **xxx TBD E. Rye xxx**
  role: **Concrete**
  attribute: **x** value: *value*
  attribute: **y** value: *value*
  attribute: **z** value: *value*

- **End_Class**

- **Horizontal_Vector Occurs 1 Times**

  description: **xxx TBD E. Rye xxx**
  role: **Concrete**
  attribute: **x** value: *value*
  attribute: **y** value: *value*
  attribute: **z** value: *value*

- **End_Class**

- **Vertical_Vector Occurs 1 Times**

  description: **xxx TBD E. Rye xxx**
  role: **Concrete**
  attribute: **x** value: *value*
  attribute: **y** value: *value*
  attribute: **z** value: *value*

- **End_Class**

- **Vector Occurs 1 Times**

  description: **Provides the coordinates of a point (x, y, z) in Cartesian space relative to the origin of a reference frame, thereby providing the magnitude and direction of a line from the origin to that point.**
  role: **Concrete**
  attribute: **x** value: *value*
  attribute: **y** value: *value*
  attribute: **z** value: *value*

- **End_Class**

- **Coefficients_Array Occurs 1 Times**

  description: **An array providing the coefficients of a polynomial**
  role: **Concrete**
  attribute: **local_identifier** value: *value*
  attribute: **comment** value: *value* Optional
  attribute: **coefficient_1** value: *value*
  attribute: **coefficient_2** value: *value*
  attribute: **coefficient_3** value: *value*

- **End_Class**

- **Coefficients_Array Occurs 1 Times**

  description: **An array providing the coefficients of a polynomial**
  role: **Concrete**
  attribute: **local_identifier** value: *value*
  attribute: **comment** value: *value* Optional

attribute: **coefficient_1** value: ***value***
attribute: **coefficient_2** value: ***value***
attribute: **coefficient_3** value: ***value***

- **End_Class**
- **End_Class**

- **CAHVOR**

  description: **Built upon the CAHV camera model, but also allows for cameras with radial lens distortion about the lens axis. (See Gennery, D. B. 1993)**
  role: **Concrete**
  attribute: **local_identifier** value: ***value***
  attribute: **comment** value: ***value*** Optional

  - **Coordinate_System Occurs 1 Times**

    description: **xxx TBD E. Rye xxx**
    role: **Abstract**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **coordinate_system_name** value: **..., apxs_frame, body_fixed_spherical_coords, earth-sun_line_cartes_coords, ecliptic_inertial_cart_coords, ecliptic_inertl_sphercl_coords, equatorial_inert_sphrcl_coords, equatorial_inertial_cart_coord, jupiter_minus_system_iii, mast_frame, mb_frame, mean_inertial_hg_1950, mi_frame, neptune_west_longitude_system, non-rotating_spin_coordinates, planet_centered_cylindrical, planetocentric, planetographic, pvo_inertial_spacecraft_coords, pvo_spinning_spacecraft_coords, rat_frame, rover_frame, saturn_minus_longitude_system, sc_centered_ecliptic_coords, uranus_minus_longitude_system, uranus_west_longitude_system**

  - **End_Class**

  - **Axis_Vector Occurs 1 Times**

    description: **A vector defining the camera axis, which is normal to the image plane.**
    role: **Concrete**
    attribute: **x** value: ***value***
    attribute: **y** value: ***value***
    attribute: **z** value: ***value***

  - **End_Class**

  - **Center_Vector Occurs 1 Times**

    description: **xxx TBD E. Rye xxx**
    role: **Concrete**
    attribute: **x** value: ***value***
    attribute: **y** value: ***value***
    attribute: **z** value: ***value***

  - **End_Class**

  - **Horizontal_Vector Occurs 1 Times**

    description: **xxx TBD E. Rye xxx**
    role: **Concrete**
    attribute: **x** value: ***value***
    attribute: **y** value: ***value***
    attribute: **z** value: ***value***

  - **End_Class**

  - **Vertical_Vector Occurs 1 Times**

    description: **xxx TBD E. Rye xxx**
    role: **Concrete**
    attribute: **x** value: ***value***
    attribute: **y** value: ***value***
    attribute: **z** value: ***value***

- **End_Class**

- **Vector Occurs 1 Times**

  description: **Provides the coordinates of a point (x, y, z) in Cartesian space relative to the origin of a reference frame, thereby providing the magnitude and direction of a line from the origin to that point.**
  role: **Concrete**
  attribute: **x** value: *value*
  attribute: **y** value: *value*
  attribute: **z** value: *value*

- **End_Class**

- **Coefficients_Array Occurs 1 Times**

  description: **An array providing the coefficients of a polynomial**
  role: **Concrete**
  attribute: **local_identifier** value: *value*
  attribute: **comment** value: *value* Optional
  attribute: **coefficient_1** value: *value*
  attribute: **coefficient_2** value: *value*
  attribute: **coefficient_3** value: *value*

  - **End_Class**
- **End_Class**

- **CAHV**

  description: **A camera model, designed at JPL, equivalent to the standard linear photogrammetric model for a pinhole camera. It is useful for very small field of view cameras and as a building block for more complex camera models. (Madison et. al., 2005)**
  role: **Concrete**
  attribute: **local_identifier** value: *value*
  attribute: **comment** value: *value* Optional

  - **Coordinate_System Occurs 1 Times**

    description: **xxx TBD E. Rye xxx**
    role: **Abstract**
    attribute: **local_identifier** value: *value*
    attribute: **comment** value: *value* Optional
    attribute: **coordinate_system_name** value: **..., apxs_frame, body_fixed_spherical_coords, earth-sun_line_cartes_coords, ecliptic_inertial_cart_coords, ecliptic_inertl_sphercl_coords, equatorial_inert_sphrcl_coords, equatorial_inertial_cart_coord, jupiter_minus_system_iii, mast_frame, mb_frame, mean_inertial_hg_1950, mi_frame, neptune_west_longitude_system, non-rotating_spin_coordinates, planet_centered_cylindrical, planetocentric, planetographic, pvo_inertial_spacecraft_coords, pvo_spinning_spacecraft_coords, rat_frame, rover_frame, saturn_minus_longitude_system, sc_centered_ecliptic_coords, uranus_minus_longitude_system, uranus_west_longitude_system**

  - **End_Class**

  - **Axis_Vector Occurs 1 Times**

    description: **A vector defining the camera axis, which is normal to the image plane.**
    role: **Concrete**
    attribute: **x** value: *value*
    attribute: **y** value: *value*
    attribute: **z** value: *value*

  - **End_Class**

  - **Center_Vector Occurs 1 Times**

    description: **xxx TBD E. Rye xxx**
    role: **Concrete**

attribute: **x** value: ***value***
attribute: **y** value: ***value***
attribute: **z** value: ***value***

- **End_Class**

- **Horizontal_Vector Occurs 1 Times**

  description: **xxx TBD E. Rye xxx**
  role: **Concrete**
  attribute: **x** value: ***value***
  attribute: **y** value: ***value***
  attribute: **z** value: ***value***

  - **End_Class**

- **Vertical_Vector Occurs 1 Times**

  description: **xxx TBD E. Rye xxx**
  role: **Concrete**
  attribute: **x** value: ***value***
  attribute: **y** value: ***value***
  attribute: **z** value: ***value***

  - **End_Class**
- **End_Class**

- **Camera_Parameters**

  description: **xxx TBD E. Rye xxx**
  role: **Concrete**
  attribute: **local_identifier** value: ***value***
  attribute: **comment** value: ***value*** Optional
  attribute: **edit_mode_id** value: ***value*** Optional
  attribute: **exposure_duration** value: ***value*** Optional
  attribute: **filter_id** value: **0, 1, 2, 3, 4, 5, 6, 7, 8, A, B, C1, C2, C3, D, HFM1, LFM1** Optional
  attribute: **filter_name** value: **A, B, BLUE, BLUE-GREEN, C, CLEAR, D, E, F, GREEN, IR-7270, IR-7560, IR-8890, IR-9680, L1000_R480, L440_R440, L450_R670, L670_R670, L800_R750, L860_R-DIOPTER, L885_R947, L900_R600, L925_R935, L930_R530, L935_R990, L965_R965, LONGWAVE, METHANE-JST, METHANE-U, MINUS BLUE, MI_CLOSED, MI_OPEN, NEAR-INFRARED, NONE, ORANGE, PANCAM_L2_753NM, PANCAM_L8_440NM, PANCAM_LV_602NM, PANCAM_R8_880NM, RED, SHORTWAVE, SODIUM-D, SOLAR UV-22, T11, T15, T20, T7, T9, ULTRAVIOLET, VIOLET** Optional
  attribute: **gain_mode_id** value: **100K, 10K, 400K, 40K, HIGH, LOW** Optional
  attribute: **scan_mode_id** value: **.055, 4.0, epf, long, short** Optional
  attribute: **shutter_mode_id** value: **BODARK, BOTSIM, BSIMAN, NADARK, NAONLY, WADARK, WAONLY** Optional

- **End_Class**

- **Coefficients_Array**

  description: **An array providing the coefficients of a polynomial**
  role: **Concrete**
  attribute: **local_identifier** value: ***value***
  attribute: **comment** value: ***value*** Optional
  attribute: **coefficient_1** value: ***value***
  attribute: **coefficient_2** value: ***value***
  attribute: **coefficient_3** value: ***value***

- **End_Class**

- **Collection_Browse**

  description: **A Browse collection is a product that has a table of references to one or more browse products.**
  role: **Concrete**

- **Identification_Area_Collection Occurs 1 Times**

  description: **The collection identification area consists of attributes involved in the role of identifying and naming a collection.**
  role: **Concrete**
  attribute: **logical_identifier** value: ***value***
  attribute: **version_id** value: ***value***
  attribute: **product_class** value: ***value***
  attribute: **title** value: ***value***
  attribute: **alternate_title** value: ***value*** ^{Optional}
  attribute: **alternate_id** value: ***value*** ^{Optional}
  attribute: **is_primary_collection** value: ***value***
  attribute: **last_modification_date_time** value: ***value*** ^{Optional}
  attribute: **product_subclass** value: ***value*** ^{Optional}

  - **Subject_Area - Occurs 0 to 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: ***value*** ^{Optional}
    attribute: **instrument_name** value: ***value*** ^{Optional}
    attribute: **instrument_host_name** value: ***value*** ^{Optional}
    attribute: **full_name** value: ***value*** ^{Optional}
    attribute: **investigation_name** value: ***value*** ^{Optional}
    attribute: **observing_system_name** value: ***value*** ^{Optional}

    - **Name_Resolution - Occurs 0 to * Times**

      description: **The Name_Resolution class provides both primary and alternate names of an object.**
      role: **Concrete**
      attribute: **class_name** value: ***value***
      attribute: **lidvid_reference** value: ***value*** ^{Optional}
      attribute: **name** value: ***value***
      attribute: **primary_name** value: ***value***
      attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **doi** value: ***value*** ^{Optional}
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** ^{Optional}

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value*** ^{Optional}

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

- **Observing_System_Component - Occurs 1 to 2 Times**

  description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
  role: **Concrete**
  attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

  - **Observing_System_Reference_Entry - Occurs 1 to * Times**

    description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** ^{Optional}
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Collection_Reference_Entry - Occurs 0 to * Times**

  description: **The Collection Reference Entry class provides a collection specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** ^{Optional}
  attribute: **lidvid_reference** value: ***value*** ^{Optional}
  attribute: **reference_association_type** value: **has_associated_collection, has_delivery_file_manifest, has_investigation_collection, has_manifest_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

    - **End_Class**
- **End_Class**

- **Data_Area_Inventory_LIDVID Occurs 1 Times**

  description: **The Data_Area_Inventory_LIDVID class requires one table character with two fields, one field of which is a LIDVID.**
  role: **Concrete**

  - **Inventory_LIDVID Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory_LIDVID class is used to provide LIDVID product references for a primary collection.**
role: **Concrete**

- **Data_Location Occurs 1 Times**

  description: **The Data Location class provides the location of a digital object.**
  role: **Concrete**
  attribute: **file_local_identifier** value: **value**
  attribute: **offset** value: **value**

- **End_Class**
  attribute: **local_identifier** value: **value**
  attribute: **comment** value: **value** Optional
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **fields** value: **2**
  attribute: **record_bytes** value: **value**
  attribute: **records** value: **value**
  attribute: **reference_association_type** value: **has_member**

- **Table_Record_Inventory_LIDVID - Occurs 1 to * Times**

  description: **The Table_Record_Inventory_LIDVID class defines the record of an inventory for a primary collection.**
  role: **Concrete**

  - **Table_Field_LIDVID Occurs 1 Times**

    description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**
    role: **Concrete**
    attribute: **field_name** value: **LIDVID**
    attribute: **field_number** value: **1**
    attribute: **field_data_type** value: **ASCII_LIDVID**
    attribute: **field_location** value: **1**
    attribute: **field_length** value: **value**
    attribute: **field_format** value: **URN:NASA:PDS:xxxx::M.n** Optional
    attribute: **field_description** value: **value** Optional

  - **End_Class**

  - **Table_Field_File_Specification_Name Occurs 1 Times**

    description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**
    role: **Concrete**
    attribute: **field_name** value: **file_specification_name**
    attribute: **field_number** value: **2** Optional
    attribute: **field_data_type** value: **ASCII_File_Specification_Name**
    attribute: **field_location** value: **value**
    attribute: **field_length** value: **value**
    attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional
    attribute: **field_description** value: **value** Optional

    - **End_Class**
  - **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Calibration**

description: **A Calibration collection is a product that has a table of references to one or more calibrartion products.**
role: **Concrete**

- **Identification_Area_Collection Occurs 1 Times**

  description: **The collection identification area consists of attributes involved in the role of identifying and naming a**

collection.
role: **Concrete**
attribute: **logical_identifier** value: **_value_**
attribute: **version_id** value: **_value_**
attribute: **product_class** value: **_value_**
attribute: **title** value: **_value_**
attribute: **alternate_title** value: **_value_** ^{Optional}
attribute: **alternate_id** value: **_value_** ^{Optional}
attribute: **is_primary_collection** value: **_value_**
attribute: **last_modification_date_time** value: **_value_** ^{Optional}
attribute: **product_subclass** value: **_value_** ^{Optional}

- **Subject_Area - Occurs 0 to 1 Times**

  description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
  role: **Concrete**
  attribute: **target_name** value: **_value_** ^{Optional}
  attribute: **instrument_name** value: **_value_** ^{Optional}
  attribute: **instrument_host_name** value: **_value_** ^{Optional}
  attribute: **full_name** value: **_value_** ^{Optional}
  attribute: **investigation_name** value: **_value_** ^{Optional}
  attribute: **observing_system_name** value: **_value_** ^{Optional}

  - **Name_Resolution - Occurs 0 to * Times**

    description: **The Name_Resolution class provides both primary and alternate names of an object.**
    role: **Concrete**
    attribute: **class_name** value: **_value_**
    attribute: **lidvid_reference** value: **_value_** ^{Optional}
    attribute: **name** value: **_value_**
    attribute: **primary_name** value: **_value_**
    attribute: **role** value: **ALTERNATE, PRIMARY**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: **_value_**
    attribute: **description** value: **_value_** ^{Optional}
    attribute: **doi** value: **_value_** ^{Optional}
    attribute: **reference_text** value: **_value_**
    attribute: **url** value: **_value_** ^{Optional}

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: **_value_** ^{Optional}
    attribute: **description** value: **_value_** ^{Optional}
    attribute: **title** value: **_value_**

    - **Observing_System_Component - Occurs 1 to 2 Times**

description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
role: **Concrete**
attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

- **Observing_System_Reference_Entry - Occurs 1 to * Times**

  description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Reference_Entry - Occurs 0 to * Times**

  description: **The Collection Reference Entry class provides a collection specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **reference_association_type** value: **has_associated_collection, has_delivery_file_manifest, has_investigation_collection, has_manifest_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

    description: **The File class consists of attributes involved in the role of describing a file in a data store.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **creation_date_time** value: ***value*** Optional
    attribute: **file_name** value: ***value***
    attribute: **file_size** value: ***value*** Optional
    attribute: **max_record_bytes** value: ***value*** Optional
    attribute: **md5_checksum** value: ***value*** Optional
    attribute: **records** value: ***value*** Optional

    - **End_Class**
- **End_Class**

- **Data_Area_Inventory_LIDVID Occurs 1 Times**

  description: **The Data_Area_Inventory_LIDVID class requires one table character with two fields, one field of which is a LIDVID.**
  role: **Concrete**

  - **Inventory_LIDVID Occurs 1 Times - Base_Class:Table_Base**

    description: **The Inventory_LIDVID class is used to provide LIDVID product references for a primary collection.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

description: **The Data Location class provides the location of a digital object.**
role: **Concrete**
attribute: **file_local_identifier** value: *value*
attribute: **offset** value: *value*

- **End_Class**
  attribute: **local_identifier** value: *value*
  attribute: **comment** value: *value* Optional
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **fields** value: **2**
  attribute: **record_bytes** value: *value*
  attribute: **records** value: *value*
  attribute: **reference_association_type** value: **has_member**

- **Table_Record_Inventory_LIDVID - Occurs 1 to * Times**

  description: **The Table_Record_Inventory_LIDVID class defines the record of an inventory for a primary collection.**
  role: **Concrete**

    - **Table_Field_LIDVID Occurs 1 Times**

      description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**
      role: **Concrete**
      attribute: **field_name** value: **LIDVID**
      attribute: **field_number** value: **1**
      attribute: **field_data_type** value: **ASCII_LIDVID**
      attribute: **field_location** value: **1**
      attribute: **field_length** value: *value*
      attribute: **field_format** value: **URN:NASA:PDS:xxxx::M.n** Optional
      attribute: **field_description** value: *value* Optional

    - **End_Class**

    - **Table_Field_File_Specification_Name Occurs 1 Times**

      description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**
      role: **Concrete**
      attribute: **field_name** value: **file_specification_name**
      attribute: **field_number** value: **2** Optional
      attribute: **field_data_type** value: **ASCII_File_Specification_Name**
      attribute: **field_location** value: *value*
      attribute: **field_length** value: *value*
      attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional
      attribute: **field_description** value: *value* Optional

      - **End_Class**
  - **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Context**

  description: **A Context collection is a product that has a table of references to one or more context products.**
  role: **Concrete**

    - **Identification_Area_Collection Occurs 1 Times**

      description: **The collection identification area consists of attributes involved in the role of identifying and naming a collection.**
      role: **Concrete**
      attribute: **logical_identifier** value: *value*
      attribute: **version_id** value: *value*
      attribute: **product_class** value: *value*

attribute: **title** value: ***value***
attribute: **alternate_title** value: ***value*** ^{Optional}
attribute: **alternate_id** value: ***value*** ^{Optional}
attribute: **is_primary_collection** value: ***value***
attribute: **last_modification_date_time** value: ***value*** ^{Optional}
attribute: **product_subclass** value: ***value*** ^{Optional}

- **Subject_Area - Occurs 0 to 1 Times**

  description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
  role: **Concrete**
  attribute: **target_name** value: ***value*** ^{Optional}
  attribute: **instrument_name** value: ***value*** ^{Optional}
  attribute: **instrument_host_name** value: ***value*** ^{Optional}
  attribute: **full_name** value: ***value*** ^{Optional}
  attribute: **investigation_name** value: ***value*** ^{Optional}
  attribute: **observing_system_name** value: ***value*** ^{Optional}

    - **Name_Resolution - Occurs 0 to * Times**

      description: **The Name_Resolution class provides both primary and alternate names of an object.**
      role: **Concrete**
      attribute: **class_name** value: ***value***
      attribute: **lidvid_reference** value: ***value*** ^{Optional}
      attribute: **name** value: ***value***
      attribute: **primary_name** value: ***value***
      attribute: **role** value: **ALTERNATE, PRIMARY**

        - **End_Class**
    - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

      description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
      role: **Concrete**
      attribute: **local_identifier** value: ***value***
      attribute: **description** value: ***value*** ^{Optional}
      attribute: **doi** value: ***value*** ^{Optional}
      attribute: **reference_text** value: ***value***
      attribute: **url** value: ***value*** ^{Optional}

    - **End_Class**

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

      description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
      role: **Concrete**
      attribute: **local_identifier** value: ***value*** ^{Optional}
      attribute: **description** value: ***value*** ^{Optional}
      attribute: **title** value: ***value***

        - **Observing_System_Component - Occurs 1 to 2 Times**

          description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
          role: **Concrete**
          attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

- **Observing_System_Reference_Entry - Occurs 1 to * Times**

  description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Collection_Reference_Entry - Occurs 0 to * Times**

  description: **The Collection Reference Entry class provides a collection specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **reference_association_type** value: **has_associated_collection, has_delivery_file_manifest, has_investigation_collection, has_manifest_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

    description: **The File class consists of attributes involved in the role of describing a file in a data store.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **creation_date_time** value: ***value*** Optional
    attribute: **file_name** value: ***value***
    attribute: **file_size** value: ***value*** Optional
    attribute: **max_record_bytes** value: ***value*** Optional
    attribute: **md5_checksum** value: ***value*** Optional
    attribute: **records** value: ***value*** Optional

  - **End_Class**
- **End_Class**

- **Data_Area_Inventory_LIDVID Occurs 1 Times**

  description: **The Data_Area_Inventory_LIDVID class requires one table character with two fields, one field of which is a LIDVID.**
  role: **Concrete**

  - **Inventory_LIDVID Occurs 1 Times - Base_Class:Table_Base**

    description: **The Inventory_LIDVID class is used to provide LIDVID product references for a primary collection.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

- **End_Class**
  attribute: **local_identifier** value: *value*
  attribute: **comment** value: *value* Optional
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **fields** value: **2**
  attribute: **record_bytes** value: *value*
  attribute: **records** value: *value*
  attribute: **reference_association_type** value: **has_member**

- **Table_Record_Inventory_LIDVID - Occurs 1 to * Times**

  description: **The Table_Record_Inventory_LIDVID class defines the record of an inventory for a primary collection.**
  role: **Concrete**

  - **Table_Field_LIDVID Occurs 1 Times**

    description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**
    role: **Concrete**
    attribute: **field_name** value: **LIDVID**
    attribute: **field_number** value: **1**
    attribute: **field_data_type** value: **ASCII_LIDVID**
    attribute: **field_location** value: **1**
    attribute: **field_length** value: *value*
    attribute: **field_format** value: **URN:NASA:PDS:xxxx::M.n** Optional
    attribute: **field_description** value: *value* Optional

  - **End_Class**

  - **Table_Field_File_Specification_Name Occurs 1 Times**

    description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**
    role: **Concrete**
    attribute: **field_name** value: **file_specification_name**
    attribute: **field_number** value: **2** Optional
    attribute: **field_data_type** value: **ASCII_File_Specification_Name**
    attribute: **field_location** value: *value*
    attribute: **field_length** value: *value*
    attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional
    attribute: **field_description** value: *value* Optional

  - **End_Class**
  - **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Data**

  description: **A Data collection is a product that has a table of references to one or more standard digital products.**
  role: **Concrete**

  - **Identification_Area_Collection Occurs 1 Times**

    description: **The collection identification area consists of attributes involved in the role of identifying and naming a collection.**
    role: **Concrete**
    attribute: **logical_identifier** value: *value*
    attribute: **version_id** value: *value*
    attribute: **product_class** value: *value*
    attribute: **title** value: *value*
    attribute: **alternate_title** value: *value* Optional
    attribute: **alternate_id** value: *value* Optional

attribute: **is_primary_collection** value: ***value***
attribute: **last_modification_date_time** value: ***value*** ^{Optional}
attribute: **product_subclass** value: ***value*** ^{Optional}

- **Subject_Area - Occurs 0 to 1 Times**

  description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
  role: **Concrete**
  attribute: **target_name** value: ***value*** ^{Optional}
  attribute: **instrument_name** value: ***value*** ^{Optional}
  attribute: **instrument_host_name** value: ***value*** ^{Optional}
  attribute: **full_name** value: ***value*** ^{Optional}
  attribute: **investigation_name** value: ***value*** ^{Optional}
  attribute: **observing_system_name** value: ***value*** ^{Optional}

  - **Name_Resolution - Occurs 0 to * Times**

    description: **The Name_Resolution class provides both primary and alternate names of an object.**
    role: **Concrete**
    attribute: **class_name** value: ***value***
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **name** value: ***value***
    attribute: **primary_name** value: ***value***
    attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Collection Occurs 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **doi** value: ***value*** ^{Optional}
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** ^{Optional}

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value*** ^{Optional}
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **title** value: ***value***

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
role: **Concrete**
attribute: **lid_reference** value: ***value*** Optional

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

attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Reference_Entry - Occurs 0 to * Times**

  description: **The Collection Reference Entry class provides a collection specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional

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

  attribute: **reference_association_type** value: **has_associated_collection, has_delivery_file_manifest, has_investigation_collection, has_manifest_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

    description: **The File class consists of attributes involved in the role of describing a file in a data store.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **creation_date_time** value: ***value*** Optional
    attribute: **file_name** value: ***value***
    attribute: **file_size** value: ***value*** Optional
    attribute: **max_record_bytes** value: ***value*** Optional
    attribute: **md5_checksum** value: ***value*** Optional
    attribute: **records** value: ***value*** Optional

    - **End_Class**
- **End_Class**
  attribute: **process_level_id** value: **CLB, DRV, RAW, RDC** Optional

- **Data_Area_Inventory_LIDVID Occurs 1 Times**

  description: **The Data_Area_Inventory_LIDVID class requires one table character with two fields, one field of which is a LIDVID.**
  role: **Concrete**

  - **Inventory_LIDVID Occurs 1 Times - Base_Class:Table_Base**

    description: **The Inventory_LIDVID class is used to provide LIDVID product references for a primary collection.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: **2**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**
attribute: **reference_association_type** value: **has_member**

- **Table_Record_Inventory_LIDVID - Occurs 1 to * Times**

  description: **The Table_Record_Inventory_LIDVID class defines the record of an inventory for a primary collection.**
  role: **Concrete**

  - **Table_Field_LIDVID Occurs 1 Times**

    description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**
    role: **Concrete**
    attribute: **field_name** value: **LIDVID**
    attribute: **field_number** value: **1**
    attribute: **field_data_type** value: **ASCII_LIDVID**
    attribute: **field_location** value: **1**
    attribute: **field_length** value: **value**
    attribute: **field_format** value: **URN:NASA:PDS:xxxx::M.n** ^{Optional}
    attribute: **field_description** value: **value** ^{Optional}

  - **End_Class**

  - **Table_Field_File_Specification_Name Occurs 1 Times**

    description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**
    role: **Concrete**
    attribute: **field_name** value: **file_specification_name**
    attribute: **field_number** value: **2** ^{Optional}
    attribute: **field_data_type** value: **ASCII_File_Specification_Name**
    attribute: **field_location** value: **value**
    attribute: **field_length** value: **value**
    attribute: **field_format** value: **dir1/dir2/file_name.file_extension** ^{Optional}
    attribute: **field_description** value: **value** ^{Optional}

  - **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Document**

  description: **A Document collection is a product that has a table of references to one or more document products.**
  role: **Concrete**

  - **Identification_Area_Collection Occurs 1 Times**

    description: **The collection identification area consists of attributes involved in the role of identifying and naming a collection.**
    role: **Concrete**
    attribute: **logical_identifier** value: **value**
    attribute: **version_id** value: **value**
    attribute: **product_class** value: **value**
    attribute: **title** value: **value**
    attribute: **alternate_title** value: **value** ^{Optional}
    attribute: **alternate_id** value: **value** ^{Optional}

attribute: **is_primary_collection** value: ***value***
attribute: **last_modification_date_time** value: ***value*** ^{Optional}
attribute: **product_subclass** value: ***value*** ^{Optional}

- **Subject_Area - Occurs 0 to 1 Times**

  description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
  role: **Concrete**
  attribute: **target_name** value: ***value*** ^{Optional}
  attribute: **instrument_name** value: ***value*** ^{Optional}
  attribute: **instrument_host_name** value: ***value*** ^{Optional}
  attribute: **full_name** value: ***value*** ^{Optional}
  attribute: **investigation_name** value: ***value*** ^{Optional}
  attribute: **observing_system_name** value: ***value*** ^{Optional}

  - **Name_Resolution - Occurs 0 to * Times**

    description: **The Name_Resolution class provides both primary and alternate names of an object.**
    role: **Concrete**
    attribute: **class_name** value: ***value***
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **name** value: ***value***
    attribute: **primary_name** value: ***value***
    attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **doi** value: ***value*** ^{Optional}
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** ^{Optional}

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value*** ^{Optional}
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **title** value: ***value***

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
role: **Concrete**
attribute: **lid_reference** value: ***value*** Optional
attribute: **lidvid_reference** value: ***value*** Optional
attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Reference_Entry - Occurs 0 to * Times**

  description: **The Collection Reference Entry class provides a collection specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **reference_association_type** value: **has_associated_collection, has_delivery_file_manifest, has_investigation_collection, has_manifest_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

    description: **The File class consists of attributes involved in the role of describing a file in a data store.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **creation_date_time** value: ***value*** Optional
    attribute: **file_name** value: ***value***
    attribute: **file_size** value: ***value*** Optional
    attribute: **max_record_bytes** value: ***value*** Optional
    attribute: **md5_checksum** value: ***value*** Optional
    attribute: **records** value: ***value*** Optional

    - **End_Class**
- **End_Class**

- **Data_Area_Inventory_LIDVID Occurs 1 Times**

  description: **The Data_Area_Inventory_LIDVID class requires one table character with two fields, one field of which is a LIDVID.**
  role: **Concrete**

  - **Inventory_LIDVID Occurs 1 Times - Base_Class:Table_Base**

    description: **The Inventory_LIDVID class is used to provide LIDVID product references for a primary collection.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***

attribute: **comment** value: ***value*** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: **2**
attribute: **record_bytes** value: ***value***
attribute: **records** value: ***value***
attribute: **reference_association_type** value: **has_member**

- **Table_Record_Inventory_LIDVID - Occurs 1 to * Times**

  description: **The Table_Record_Inventory_LIDVID class defines the record of an inventory for a primary collection.**
  role: **Concrete**

  - **Table_Field_LIDVID Occurs 1 Times**

    description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**
    role: **Concrete**
    attribute: **field_name** value: **LIDVID**
    attribute: **field_number** value: **1**
    attribute: **field_data_type** value: **ASCII_LIDVID**
    attribute: **field_location** value: **1**
    attribute: **field_length** value: ***value***
    attribute: **field_format** value: **URN:NASA:PDS:xxxx::M.n** Optional
    attribute: **field_description** value: ***value*** Optional

  - **End_Class**

  - **Table_Field_File_Specification_Name Occurs 1 Times**

    description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**
    role: **Concrete**
    attribute: **field_name** value: **file_specification_name**
    attribute: **field_number** value: **2** Optional
    attribute: **field_data_type** value: **ASCII_File_Specification_Name**
    attribute: **field_location** value: ***value***
    attribute: **field_length** value: ***value***
    attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional
    attribute: **field_description** value: ***value*** Optional

  - **End_Class**
  - **End_Class**
  - **End_Class**
  - **End_Class**
- **End_Class**

- **Collection_Generic**

  description: **A Generic collection is a product that has a table of references to one or more generic products.**
  role: **Concrete**

  - **Identification_Area_Collection Occurs 1 Times**

    description: **The collection identification area consists of attributes involved in the role of identifying and naming a collection.**
    role: **Concrete**
    attribute: **logical_identifier** value: ***value***
    attribute: **version_id** value: ***value***
    attribute: **product_class** value: ***value***
    attribute: **title** value: ***value***
    attribute: **alternate_title** value: ***value*** Optional
    attribute: **alternate_id** value: ***value*** Optional
    attribute: **is_primary_collection** value: ***value***
    attribute: **last_modification_date_time** value: ***value*** Optional
    attribute: **product_subclass** value: ***value*** Optional

- **Subject_Area - Occurs 0 to 1 Times**

  description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
  role: **Concrete**
  attribute: **target_name** value: **value** Optional
  attribute: **instrument_name** value: **value** Optional
  attribute: **instrument_host_name** value: **value** Optional
  attribute: **full_name** value: **value** Optional
  attribute: **investigation_name** value: **value** Optional
  attribute: **observing_system_name** value: **value** Optional

  - **Name_Resolution - Occurs 0 to * Times**

    description: **The Name_Resolution class provides both primary and alternate names of an object.**
    role: **Concrete**
    attribute: **class_name** value: **value**
    attribute: **lidvid_reference** value: **value** Optional
    attribute: **name** value: **value**
    attribute: **primary_name** value: **value**
    attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: **value**
    attribute: **description** value: **value** Optional
    attribute: **doi** value: **value** Optional
    attribute: **reference_text** value: **value**
    attribute: **url** value: **value** Optional

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: **value** Optional
    attribute: **description** value: **value** Optional
    attribute: **title** value: **value**

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

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

attribute: **lid_reference** value: ***value*** Optional
attribute: **lidvid_reference** value: ***value*** Optional
attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Reference_Entry - Occurs 0 to * Times**

  description: **The Collection Reference Entry class provides a collection specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **reference_association_type** value: **has_associated_collection, has_delivery_file_manifest, has_investigation_collection, has_manifest_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

    description: **The File class consists of attributes involved in the role of describing a file in a data store.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **creation_date_time** value: ***value*** Optional
    attribute: **file_name** value: ***value***
    attribute: **file_size** value: ***value*** Optional
    attribute: **max_record_bytes** value: ***value*** Optional
    attribute: **md5_checksum** value: ***value*** Optional
    attribute: **records** value: ***value*** Optional

    - **End_Class**
- **End_Class**

- **Data_Area_Inventory_LIDVID Occurs 1 Times**

  description: **The Data_Area_Inventory_LIDVID class requires one table character with two fields, one field of which is a LIDVID.**
  role: **Concrete**

  - **Inventory_LIDVID Occurs 1 Times - Base_Class:Table_Base**

    description: **The Inventory_LIDVID class is used to provide LIDVID product references for a primary collection.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** Optional
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **fields** value: **2**
      attribute: **record_bytes** value: ***value***

attribute: **records** value: *value*
attribute: **reference_association_type** value: **has_member**

- **Table_Record_Inventory_LIDVID - Occurs 1 to * Times**

  description: **The Table_Record_Inventory_LIDVID class defines the record of an inventory for a primary collection.**
  role: **Concrete**

  - **Table_Field_LIDVID Occurs 1 Times**

    description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**
    role: **Concrete**
    attribute: **field_name** value: **LIDVID**
    attribute: **field_number** value: **1**
    attribute: **field_data_type** value: **ASCII_LIDVID**
    attribute: **field_location** value: **1**
    attribute: **field_length** value: *value*
    attribute: **field_format** value: **URN:NASA:PDS:xxxx::M.n** Optional
    attribute: **field_description** value: *value* Optional

  - **End_Class**

  - **Table_Field_File_Specification_Name Occurs 1 Times**

    description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**
    role: **Concrete**
    attribute: **field_name** value: **file_specification_name**
    attribute: **field_number** value: **2** Optional
    attribute: **field_data_type** value: **ASCII_File_Specification_Name**
    attribute: **field_location** value: *value*
    attribute: **field_length** value: *value*
    attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional
    attribute: **field_description** value: *value* Optional

  - **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Geometry**

description: **A Geometry collection is a product that has a table of references to one or more geometry products.**
role: **Concrete**

- **Identification_Area_Collection Occurs 1 Times**

  description: **The collection identification area consists of attributes involved in the role of identifying and naming a collection.**
  role: **Concrete**
  attribute: **logical_identifier** value: *value*
  attribute: **version_id** value: *value*
  attribute: **product_class** value: *value*
  attribute: **title** value: *value*
  attribute: **alternate_title** value: *value* Optional
  attribute: **alternate_id** value: *value* Optional
  attribute: **is_primary_collection** value: *value*
  attribute: **last_modification_date_time** value: *value* Optional
  attribute: **product_subclass** value: *value* Optional

  - **Subject_Area - Occurs 0 to 1 Times**

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

phrases, or classification codes.
role: **Concrete**
attribute: **target_name** value: **value** Optional
attribute: **instrument_name** value: **value** Optional
attribute: **instrument_host_name** value: **value** Optional
attribute: **full_name** value: **value** Optional
attribute: **investigation_name** value: **value** Optional
attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

  description: **The Name_Resolution class provides both primary and alternate names of an object.**
  role: **Concrete**
  attribute: **class_name** value: **value**
  attribute: **lidvid_reference** value: **value** Optional
  attribute: **name** value: **value**
  attribute: **primary_name** value: **value**
  attribute: **role** value: **ALTERNATE, PRIMARY**

- **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: **value**
    attribute: **description** value: **value** Optional
    attribute: **doi** value: **value** Optional
    attribute: **reference_text** value: **value**
    attribute: **url** value: **value** Optional

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: **value** Optional
    attribute: **description** value: **value** Optional
    attribute: **title** value: **value**

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

        description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
        role: **Concrete**
        attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: ***value*** ^{Optional}
attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Reference_Entry - Occurs 0 to * Times**

  description: **The Collection Reference Entry class provides a collection specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** ^{Optional}
  attribute: **lidvid_reference** value: ***value*** ^{Optional}
  attribute: **reference_association_type** value: **has_associated_collection, has_delivery_file_manifest, has_investigation_collection, has_manifest_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

    - **End_Class**
- **End_Class**

- **Data_Area_Inventory_LIDVID Occurs 1 Times**

  description: **The Data_Area_Inventory_LIDVID class requires one table character with two fields, one field of which is a LIDVID.**
  role: **Concrete**

  - **Inventory_LIDVID Occurs 1 Times - Base_Class:Table_Base**

    description: **The Inventory_LIDVID class is used to provide LIDVID product references for a primary collection.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **fields** value: **2**

attribute: **record_bytes** value: *value*
attribute: **records** value: *value*
attribute: **reference_association_type** value: **has_member**

- **Table_Record_Inventory_LIDVID - Occurs 1 to * Times**

  description: **The Table_Record_Inventory_LIDVID class defines the record of an inventory for a primary collection.**
  role: **Concrete**

  - **Table_Field_LIDVID Occurs 1 Times**

    description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**
    role: **Concrete**
    attribute: **field_name** value: **LIDVID**
    attribute: **field_number** value: **1**
    attribute: **field_data_type** value: **ASCII_LIDVID**
    attribute: **field_location** value: **1**
    attribute: **field_length** value: *value*
    attribute: **field_format** value: **URN:NASA:PDS:xxxx::M.n** Optional
    attribute: **field_description** value: *value* Optional

  - **End_Class**

  - **Table_Field_File_Specification_Name Occurs 1 Times**

    description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**
    role: **Concrete**
    attribute: **field_name** value: **file_specification_name**
    attribute: **field_number** value: **2** Optional
    attribute: **field_data_type** value: **ASCII_File_Specification_Name**
    attribute: **field_location** value: *value*
    attribute: **field_length** value: *value*
    attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional
    attribute: **field_description** value: *value* Optional

  - **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Miscellaneous**

  description: **A Miscellaneous collection is a product that has a table of references to one or more products that are not otherwise classified.**
  role: **Concrete**

  - **Identification_Area_Collection Occurs 1 Times**

    description: **The collection identification area consists of attributes involved in the role of identifying and naming a collection.**
    role: **Concrete**
    attribute: **logical_identifier** value: *value*
    attribute: **version_id** value: *value*
    attribute: **product_class** value: *value*
    attribute: **title** value: *value*
    attribute: **alternate_title** value: *value* Optional
    attribute: **alternate_id** value: *value* Optional
    attribute: **is_primary_collection** value: *value*
    attribute: **last_modification_date_time** value: *value* Optional
    attribute: **product_subclass** value: *value* Optional

    - **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
role: **Concrete**
attribute: **target_name** value: ***value*** Optional
attribute: **instrument_name** value: ***value*** Optional
attribute: **instrument_host_name** value: ***value*** Optional
attribute: **full_name** value: ***value*** Optional
attribute: **investigation_name** value: ***value*** Optional
attribute: **observing_system_name** value: ***value*** Optional

- **Name_Resolution - Occurs 0 to * Times**

  description: **The Name_Resolution class provides both primary and alternate names of an object.**
  role: **Concrete**
  attribute: **class_name** value: ***value***
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **name** value: ***value***
  attribute: **primary_name** value: ***value***
  attribute: **role** value: **ALTERNATE, PRIMARY**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** Optional
    attribute: **doi** value: ***value*** Optional
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** Optional

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value*** Optional
    attribute: **description** value: ***value*** Optional
    attribute: **title** value: ***value***

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

        description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
        role: **Concrete**
        attribute: **lid_reference** value: ***value*** Optional
        attribute: **lidvid_reference** value: ***value*** Optional

attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Reference_Entry - Occurs 0 to * Times**

  description: **The Collection Reference Entry class provides a collection specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **reference_association_type** value: **has_associated_collection, has_delivery_file_manifest, has_investigation_collection, has_manifest_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

    description: **The File class consists of attributes involved in the role of describing a file in a data store.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **creation_date_time** value: ***value*** Optional
    attribute: **file_name** value: ***value***
    attribute: **file_size** value: ***value*** Optional
    attribute: **max_record_bytes** value: ***value*** Optional
    attribute: **md5_checksum** value: ***value*** Optional
    attribute: **records** value: ***value*** Optional

    - **End_Class**
- **End_Class**

- **Data_Area_Inventory_LIDVID Occurs 1 Times**

  description: **The Data_Area_Inventory_LIDVID class requires one table character with two fields, one field of which is a LIDVID.**
  role: **Concrete**

  - **Inventory_LIDVID Occurs 1 Times - Base_Class:Table_Base**

    description: **The Inventory_LIDVID class is used to provide LIDVID product references for a primary collection.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** Optional
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **fields** value: **2**
      attribute: **record_bytes** value: ***value***
      attribute: **records** value: ***value***
      attribute: **reference_association_type** value: **has_member**

- **Table_Record_Inventory_LIDVID - Occurs 1 to * Times**

  description: **The Table_Record_Inventory_LIDVID class defines the record of an inventory for a primary collection.**
  role: **Concrete**

  - **Table_Field_LIDVID Occurs 1 Times**

    description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**
    role: **Concrete**
    attribute: **field_name** value: **LIDVID**
    attribute: **field_number** value: **1**
    attribute: **field_data_type** value: **ASCII_LIDVID**
    attribute: **field_location** value: **1**
    attribute: **field_length** value: **value**
    attribute: **field_format** value: **URN:NASA:PDS:xxxx::M.n** Optional
    attribute: **field_description** value: **value** Optional

  - **End_Class**

  - **Table_Field_File_Specification_Name Occurs 1 Times**

    description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**
    role: **Concrete**
    attribute: **field_name** value: **file_specification_name**
    attribute: **field_number** value: **2** Optional
    attribute: **field_data_type** value: **ASCII_File_Specification_Name**
    attribute: **field_location** value: **value**
    attribute: **field_length** value: **value**
    attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional
    attribute: **field_description** value: **value** Optional

  - **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_Secondary**

  description: **A Secondary collection is a product that has a table of references to one or more generic products. The references are LIDs.**
  role: **Concrete**

  - **Identification_Area_Collection Occurs 1 Times**

    description: **The collection identification area consists of attributes involved in the role of identifying and naming a collection.**
    role: **Concrete**
    attribute: **logical_identifier** value: **value**
    attribute: **version_id** value: **value**
    attribute: **product_class** value: **value**
    attribute: **title** value: **value**
    attribute: **alternate_title** value: **value** Optional
    attribute: **alternate_id** value: **value** Optional
    attribute: **is_primary_collection** value: **value**
    attribute: **last_modification_date_time** value: **value** Optional
    attribute: **product_subclass** value: **value** Optional

    - **Subject_Area - Occurs 0 to 1 Times**

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

attribute: **target_name** value: **_value_** ^{Optional}
attribute: **instrument_name** value: **_value_** ^{Optional}
attribute: **instrument_host_name** value: **_value_** ^{Optional}
attribute: **full_name** value: **_value_** ^{Optional}
attribute: **investigation_name** value: **_value_** ^{Optional}
attribute: **observing_system_name** value: **_value_** ^{Optional}

- **Name_Resolution - Occurs 0 to * Times**

  description: **The Name_Resolution class provides both primary and alternate names of an object.**
  role: **Concrete**
  attribute: **class_name** value: **_value_**
  attribute: **lidvid_reference** value: **_value_** ^{Optional}
  attribute: **name** value: **_value_**
  attribute: **primary_name** value: **_value_**
  attribute: **role** value: **ALTERNATE, PRIMARY**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: **_value_**
    attribute: **description** value: **_value_** ^{Optional}
    attribute: **doi** value: **_value_** ^{Optional}
    attribute: **reference_text** value: **_value_**
    attribute: **url** value: **_value_** ^{Optional}

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: **_value_** ^{Optional}
    attribute: **description** value: **_value_** ^{Optional}
    attribute: **title** value: **_value_**

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

        description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
        role: **Concrete**
        attribute: **lid_reference** value: **_value_** ^{Optional}
        attribute: **lidvid_reference** value: **_value_** ^{Optional}
        attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

        - **End_Class**

- **End_Class**
- **End_Class**

- **Collection_Reference_Entry - Occurs 0 to * Times**

  description: **The Collection Reference Entry class provides a collection specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **reference_association_type** value: **has_associated_collection, has_delivery_file_manifest, has_investigation_collection, has_manifest_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

    description: **The File class consists of attributes involved in the role of describing a file in a data store.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **creation_date_time** value: ***value*** Optional
    attribute: **file_name** value: ***value***
    attribute: **file_size** value: ***value*** Optional
    attribute: **max_record_bytes** value: ***value*** Optional
    attribute: **md5_checksum** value: ***value*** Optional
    attribute: **records** value: ***value*** Optional

  - **End_Class**
- **End_Class**

- **Data_Area_Inventory_LID Occurs 1 Times**

  description: **The Data_Area_Inventory_LID class requires one table character with two fields, one field of which is a LID.**
  role: **Concrete**

  - **Inventory_LID Occurs 1 Times - Base_Class:Table_Base**

    description: **The Inventory_LID class is used to provide LID product references for a secondary collection.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** Optional
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **fields** value: **2**
      attribute: **record_bytes** value: ***value***
      attribute: **records** value: ***value***
      attribute: **reference_association_type** value: **has_member**

    - **Table_Record_Inventory_LID - Occurs 1 to * Times**

      description: **The Table_Record_Inventory_LID class defines the record of an inventory for a secondary collection.**

role: **Concrete**

- **Table_Field_LID Occurs 1 Times**

  description: **The Table_Field_LID class defines a table field that provides the logical identifier for a product.**
  role: **Concrete**
  attribute: **field_name** value: **LID**
  attribute: **field_number** value: **1** ^{Optional}
  attribute: **field_data_type** value: **ASCII_LID**
  attribute: **field_location** value: **1**
  attribute: **field_length** value: *value*
  attribute: **field_format** value: **URN:NASA:PDS:xxxx** ^{Optional}
  attribute: **field_description** value: *value* ^{Optional}

- **End_Class**

- **Table_Field_File_Specification_Name Occurs 1 Times**

  description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**
  role: **Concrete**
  attribute: **field_name** value: **file_specification_name**
  attribute: **field_number** value: **2** ^{Optional}
  attribute: **field_data_type** value: **ASCII_File_Specification_Name**
  attribute: **field_location** value: *value*
  attribute: **field_length** value: *value*
  attribute: **field_format** value: **dir1/dir2/file_name.file_extension** ^{Optional}
  attribute: **field_description** value: *value* ^{Optional}

- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_SPICE**

description: **A SPICE collection is a product that has a table of references to one or more SPICE products.**
role: **Concrete**

- **Identification_Area_Collection Occurs 1 Times**

  description: **The collection identification area consists of attributes involved in the role of identifying and naming a collection.**
  role: **Concrete**
  attribute: **logical_identifier** value: *value*
  attribute: **version_id** value: *value*
  attribute: **product_class** value: *value*
  attribute: **title** value: *value*
  attribute: **alternate_title** value: *value* ^{Optional}
  attribute: **alternate_id** value: *value* ^{Optional}
  attribute: **is_primary_collection** value: *value*
  attribute: **last_modification_date_time** value: *value* ^{Optional}
  attribute: **product_subclass** value: *value* ^{Optional}

  - **Subject_Area - Occurs 0 to 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: *value* ^{Optional}
    attribute: **instrument_name** value: *value* ^{Optional}
    attribute: **instrument_host_name** value: *value* ^{Optional}

attribute: **full_name** value: ***value*** ^{Optional}
attribute: **investigation_name** value: ***value*** ^{Optional}
attribute: **observing_system_name** value: ***value*** ^{Optional}

- **Name_Resolution - Occurs 0 to * Times**

  description: **The Name_Resolution class provides both primary and alternate names of an object.**
  role: **Concrete**
  attribute: **class_name** value: ***value***
  attribute: **lidvid_reference** value: ***value*** ^{Optional}
  attribute: **name** value: ***value***
  attribute: **primary_name** value: ***value***
  attribute: **role** value: **ALTERNATE, PRIMARY**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **doi** value: ***value*** ^{Optional}
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** ^{Optional}

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value*** ^{Optional}
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **title** value: ***value***

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

        description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
        role: **Concrete**
        attribute: **lid_reference** value: ***value*** ^{Optional}
        attribute: **lidvid_reference** value: ***value*** ^{Optional}
        attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

        - **End_Class**
      - **End_Class**
    - **End_Class**

- **Collection_Reference_Entry - Occurs 0 to * Times**

  description: **The Collection Reference Entry class provides a collection specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: **_value_** Optional
  attribute: **lidvid_reference** value: **_value_** Optional
  attribute: **reference_association_type** value: **has_associated_collection, has_delivery_file_manifest, has_investigation_collection, has_manifest_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

    description: **The File class consists of attributes involved in the role of describing a file in a data store.**
    role: **Concrete**
    attribute: **local_identifier** value: **_value_**
    attribute: **comment** value: **_value_** Optional
    attribute: **creation_date_time** value: **_value_** Optional
    attribute: **file_name** value: **_value_**
    attribute: **file_size** value: **_value_** Optional
    attribute: **max_record_bytes** value: **_value_** Optional
    attribute: **md5_checksum** value: **_value_** Optional
    attribute: **records** value: **_value_** Optional

  - **End_Class**
- **End_Class**

- **Data_Area_Inventory_LIDVID Occurs 1 Times**

  description: **The Data_Area_Inventory_LIDVID class requires one table character with two fields, one field of which is a LIDVID.**
  role: **Concrete**

  - **Inventory_LIDVID Occurs 1 Times - Base_Class:Table_Base**

    description: **The Inventory_LIDVID class is used to provide LIDVID product references for a primary collection.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: **_value_**
      attribute: **offset** value: **_value_**

    - **End_Class**
      attribute: **local_identifier** value: **_value_**
      attribute: **comment** value: **_value_** Optional
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **fields** value: **2**
      attribute: **record_bytes** value: **_value_**
      attribute: **records** value: **_value_**
      attribute: **reference_association_type** value: **has_member**

    - **Table_Record_Inventory_LIDVID - Occurs 1 to * Times**

      description: **The Table_Record_Inventory_LIDVID class defines the record of an inventory for a primary collection.**
      role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

  description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**
  role: **Concrete**
  attribute: **field_name** value: **LIDVID**
  attribute: **field_number** value: **1**
  attribute: **field_data_type** value: **ASCII_LIDVID**
  attribute: **field_location** value: **1**
  attribute: **field_length** value: ***value***
  attribute: **field_format** value: **URN:NASA:PDS:xxxx::M.n** Optional
  attribute: **field_description** value: ***value*** Optional

- **End_Class**

- **Table_Field_File_Specification_Name Occurs 1 Times**

  description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**
  role: **Concrete**
  attribute: **field_name** value: **file_specification_name**
  attribute: **field_number** value: **2** Optional
  attribute: **field_data_type** value: **ASCII_File_Specification_Name**
  attribute: **field_location** value: ***value***
  attribute: **field_length** value: ***value***
  attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional
  attribute: **field_description** value: ***value*** Optional

  - **End_Class**
  - **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Collection_XML_Schema**

description: **An XML_Schema collection is a product that has a table of references to one or more XML schema products.**
role: **Concrete**

- **Identification_Area_Collection Occurs 1 Times**

  description: **The collection identification area consists of attributes involved in the role of identifying and naming a collection.**
  role: **Concrete**
  attribute: **logical_identifier** value: ***value***
  attribute: **version_id** value: ***value***
  attribute: **product_class** value: ***value***
  attribute: **title** value: ***value***
  attribute: **alternate_title** value: ***value*** Optional
  attribute: **alternate_id** value: ***value*** Optional
  attribute: **is_primary_collection** value: ***value***
  attribute: **last_modification_date_time** value: ***value*** Optional
  attribute: **product_subclass** value: ***value*** Optional

  - **Subject_Area - Occurs 0 to 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: ***value*** Optional
    attribute: **instrument_name** value: ***value*** Optional
    attribute: **instrument_host_name** value: ***value*** Optional
    attribute: **full_name** value: ***value*** Optional
    attribute: **investigation_name** value: ***value*** Optional
    attribute: **observing_system_name** value: ***value*** Optional

- **Name_Resolution - Occurs 0 to * Times**

  description: **The Name_Resolution class provides both primary and alternate names of an object.**
  role: **Concrete**
  attribute: **class_name** value: ***value***
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **name** value: ***value***
  attribute: **primary_name** value: ***value***
  attribute: **role** value: **ALTERNATE, PRIMARY**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** Optional
    attribute: **doi** value: ***value*** Optional
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** Optional

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value*** Optional
    attribute: **description** value: ***value*** Optional
    attribute: **title** value: ***value***

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

        description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
        role: **Concrete**
        attribute: **lid_reference** value: ***value*** Optional
        attribute: **lidvid_reference** value: ***value*** Optional
        attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

        - **End_Class**
      - **End_Class**
    - **End_Class**

  - **Collection_Reference_Entry - Occurs 0 to * Times**

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

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

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

attribute: **reference_association_type** value: **has_associated_collection, has_delivery_file_manifest, has_investigation_collection, has_manifest_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

- **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

  - **End_Class**
- **End_Class**

- **Data_Area_Inventory_LIDVID Occurs 1 Times**

  description: **The Data_Area_Inventory_LIDVID class requires one table character with two fields, one field of which is a LIDVID.**
  role: **Concrete**

  - **Inventory_LIDVID Occurs 1 Times - Base_Class:Table_Base**

    description: **The Inventory_LIDVID class is used to provide LIDVID product references for a primary collection.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **fields** value: **2**
      attribute: **record_bytes** value: ***value***
      attribute: **records** value: ***value***
      attribute: **reference_association_type** value: **has_member**

    - **Table_Record_Inventory_LIDVID - Occurs 1 to * Times**

      description: **The Table_Record_Inventory_LIDVID class defines the record of an inventory for a primary collection.**
      role: **Concrete**

      - **Table_Field_LIDVID Occurs 1 Times**

        description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**
attribute: **field_name** value: **LIDVID**
attribute: **field_number** value: **1**
attribute: **field_data_type** value: **ASCII_LIDVID**
attribute: **field_location** value: **1**
attribute: **field_length** value: ***value***
attribute: **field_format** value: **URN:NASA:PDS:xxxx::M.n** ^{Optional}
attribute: **field_description** value: ***value*** ^{Optional}

- **End_Class**

- **Table_Field_File_Specification_Name Occurs 1 Times**

  description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**
  role: **Concrete**
  attribute: **field_name** value: **file_specification_name**
  attribute: **field_number** value: **2** ^{Optional}
  attribute: **field_data_type** value: **ASCII_File_Specification_Name**
  attribute: **field_location** value: ***value***
  attribute: **field_length** value: ***value***
  attribute: **field_format** value: **dir1/dir2/file_name.file_extension** ^{Optional}
  attribute: **field_description** value: ***value*** ^{Optional}

  - **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Delivery_Manifest**

description: **A delivery manifest is a system product that contains a table of references to one or more files.**
role: **Concrete**

- **Identification_Area_Manifest Occurs 1 Times**

  description: **The manifest identification area consists of attributes involved in the role of identifying and naming a manifest.**
  role: **Concrete**
  attribute: **logical_identifier** value: ***value***
  attribute: **version_id** value: ***value***
  attribute: **product_class** value: ***value***
  attribute: **title** value: ***value***
  attribute: **alternate_title** value: ***value*** ^{Optional}
  attribute: **alternate_id** value: ***value*** ^{Optional}
  attribute: **last_modification_date_time** value: ***value*** ^{Optional}
  attribute: **product_subclass** value: ***value*** ^{Optional}

  - **Subject_Area - Occurs 0 to 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: ***value*** ^{Optional}
    attribute: **instrument_name** value: ***value*** ^{Optional}
    attribute: **instrument_host_name** value: ***value*** ^{Optional}
    attribute: **full_name** value: ***value*** ^{Optional}
    attribute: **investigation_name** value: ***value*** ^{Optional}
    attribute: **observing_system_name** value: ***value*** ^{Optional}

    - **Name_Resolution - Occurs 0 to * Times**

      description: **The Name_Resolution class provides both primary and alternate names of an object.**
      role: **Concrete**
      attribute: **class_name** value: ***value***

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

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

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

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Manifest - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **doi** value: ***value*** ^{Optional}
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** ^{Optional}

    - **End_Class**

  - **Reference_Entry - Occurs 0 to * Times**

    description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** ^{Optional}
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **reference_association_type** value: **has_association**

    - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

    - **End_Class**
- **End_Class**

- **Data_Area_Manifest Occurs 1 Times**

  description: **The Data_Area_Manifest class requires one table character that is compliant to a file generated from MD5 checksum software.**
  role: **Concrete**

  - **Manifest Occurs 1 Times - Base_Class:Table_Base**

description: **The manifest class defines a table for file references.**
role: **Concrete**

- **Data_Location Occurs 1 Times**

  description: **The Data Location class provides the location of a digital object.**
  role: **Concrete**
  attribute: **file_local_identifier** value: **value**
  attribute: **offset** value: **value**

- **End_Class**
  attribute: **local_identifier** value: **value**
  attribute: **comment** value: **value** Optional
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **fields** value: **value**
  attribute: **record_bytes** value: **value**
  attribute: **records** value: **value**

- **Table_Record_Character - Occurs 1 to * Times**

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

  - **Table_Character_Field - Occurs 1 to * Times**

    description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**
    role: **Concrete**
    attribute: **field_name** value: **value**
    attribute: **field_number** value: **value** Optional
    attribute: **field_data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_Integer, ASCII_Integer_Binary, ASCII_Integer_Hex, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
    attribute: **field_location** value: **value**
    attribute: **field_length** value: **value**
    attribute: **field_format** value: **value** Optional
    attribute: **minimum_scaled_value** value: **value** Optional
    attribute: **maximum_scaled_value** value: **value** Optional
    attribute: **field_min_logical** value: **value** Optional
    attribute: **field_max_logical** value: **value** Optional
    attribute: **field_scaling_factor** value: **value** Optional
    attribute: **field_value_offset** value: **value** Optional
    attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional

    attribute: **field_description** value: **value** Optional

    - **Object_Statistics - Occurs 0 to 1 Times**

      description: **The Object Statistics class provides a set of values that provide metrics about the object.**
      role: **Concrete**
      attribute: **local_identifier** value: **value**
      attribute: **description** value: **value** Optional
      attribute: **maximum** value: **value** Optional
      attribute: **md5_checksum** value: **value** Optional
      attribute: **mean** value: **value** Optional
      attribute: **median** value: **value** Optional
      attribute: **minimum** value: **value** Optional
      attribute: **sample_bit_mask** value: **value** Optional
      attribute: **standard_deviation** value: **value** Optional

- **End_Class**

- **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_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Detector**

   description: **The Detector class provides a description of a phyiscal object that collects data.**
   role: **Concrete**
   attribute: **description** value: **_value_** Optional

- **End_Class**

- **Header**

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

   - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: **_value_**
      attribute: **offset** value: **_value_**

   - **End_Class**
      attribute: **local_identifier** value: **_value_**
      attribute: **comment** value: **_value_** Optional
      attribute: **description** value: **_value_** Optional
      attribute: **bytes** value: **_value_**
      attribute: **encoding_type** value: **BINARY**
      attribute: **external_standard_id** value: **FITS, ODL, VICR**
      attribute: **name** value: **_value_** Optional
- **End_Class**

- **Image_3D - Base_Class:Array_Base**

   description: **The Image 3D class is an extension of array_base and defines a three dimensional image.**
   role: **Concrete**

   - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: **_value_**
      attribute: **offset** value: **_value_**

- **End_Class**
  attribute: **local_identifier** value: *value*
  attribute: **comment** value: *value* ^{Optional}
  attribute: **axes** value: **3**
  attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
  attribute: **encoding_type** value: **BINARY**

- **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: **elements** value: *value*
  attribute: **name** value: *value*
  attribute: **sequence_number** value: *value*
  attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** ^{Optional}

- **End_Class**

- **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: **scaling_factor** value: *value* ^{Optional}
  attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** ^{Optional}
  attribute: **value_offset** value: *value* ^{Optional}
  attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte**

  - **End_Class**
- **End_Class**

- **Image_Grayscale - Base_Class:Array_Base**

description: **The Image Grayscale class is an extension of array_base and defines a two dimensional grayscale image.**
role: **Concrete**

- **Data_Location Occurs 1 Times**

  description: **The Data Location class provides the location of a digital object.**
  role: **Concrete**
  attribute: **file_local_identifier** value: *value*
  attribute: **offset** value: *value*

- **End_Class**
  attribute: **local_identifier** value: *value*
  attribute: **comment** value: *value* ^{Optional}
  attribute: **axes** value: **2**
  attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
  attribute: **encoding_type** value: **BINARY**

- **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: **elements** value: *value*
  attribute: **name** value: *value*
  attribute: **sequence_number** value: *value*
  attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin,**

day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional

- **End_Class**

- **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: **scaling_factor** value: **value** Optional
  attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
  attribute: **value_offset** value: **value** Optional
  attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte**

- **End_Class**

- **Image_2D_Display - Occurs 0 to 1 Times**

  description: **The Image_2D_Display class provides attributes to enable the display of a 2D image.**
  role: **Concrete**
  attribute: **first_line** value: **value**
  attribute: **first_line_sample** value: **value**
  attribute: **line_display_direction** value: **DOWN, LEFT, RIGHT, UP**
  attribute: **sample_display_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End_Class**

- **Object_Statistics - Occurs 0 to 1 Times**

  description: **The Object Statistics class provides a set of values that provide metrics about the object.**
  role: **Concrete**
  attribute: **local_identifier** value: **value**
  attribute: **description** value: **value** Optional
  attribute: **maximum** value: **value** Optional
  attribute: **md5_checksum** value: **value** Optional
  attribute: **mean** value: **value** Optional
  attribute: **median** value: **value** Optional
  attribute: **minimum** value: **value** Optional
  attribute: **sample_bit_mask** value: **value** Optional
  attribute: **standard_deviation** value: **value** Optional

- **End_Class**

- **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_Class**
- **End_Class**

- **Image_Map_Projection**

  description: **The IMAGE_MAP_PROJECTION object is one of two distinct objects that define the map projection used in creating**

the digital images in a PDS data set. The name of the other associated object that completes the definition is DATA_SET_MAP_PROJECTION. The map projection information resides in these two objects, essentially to reduce data redundancy and at the same time allow the inclusion of elements needed to process the data at the image level. Basically, static information that is applicable to the complete data set reside in the DATA_SET_MAP_PROJECTION object, while dynamic information that is applicable to the individual images reside in the IMAGE_MAP_PROJECTION object.

role: **Concrete**

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

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

attribute: **data_set_id** value: ***value*** Optional

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

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

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

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

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

attribute: **coordinate_system_name** value: **..., apxs_frame, body_fixed_spherical_coords, earth-sun_line_cartes_coords, ecliptic_inertial_cart_coords, ecliptic_inertl_sphercl_coords, equatorial_inert_sphrcl_coords, equatorial_inertial_cart_coord, jupiter_minus_system_iii, mast_frame, mb_frame, mean_inertial_hg_1950, mi_frame, neptune_west_longitude_system, non-rotating_spin_coordinates, planet_centered_cylindrical, planetocentric, planetographic, pvo_inertial_spacecraft_coords, pvo_spinning_spacecraft_coords, rat_frame, rover_frame, saturn_minus_longitude_system, sc_centered_ecliptic_coords, uranus_minus_longitude_system, uranus_west_longitude_system**

attribute: **coordinate_system_type** value: **body-fixed_non-rotating, body-fixed_rotating, inertial**

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

attribute: **first_standard_parallel** value: ***value*** Optional

attribute: **horizontal_framelet_offset** value: ***value*** Optional

attribute: **image_id** value: ***value*** Optional

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

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

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

attribute: **map_projection_name** value: **AITOFF, ALBERS, BONNE, BRIESEMEISTER, CYLINDRICAL_EQUAL_AREA, EQUIDISTANT, EQUIRECTANGULAR, GNOMONIC, HAMMER, HENDU, LAMBERT AZIMUTHAL EQUAL AREA, LAMBERT CONFORMAL, MERCATOR, MOLLWEIDE, OBLIQUE CYLINDRICAL, ORTHOGRAPHIC, POLAR STEREOGRAPHIC, SIMPLE CYLINDRICAL, SINUSOIDAL, STEREOGRAPHIC, TRANSVERSE MERCATOR, VAN DER GRINTEN, WERNER**

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

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

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

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

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

attribute: **positive_longitude_direction** value: **east, west**

attribute: **reference_latitude** value: ***value*** Optional

attribute: **reference_longitude** value: ***value*** Optional

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

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

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

attribute: **second_standard_parallel** value: ***value*** Optional

attribute: **vertical_framelet_offset** value: ***value*** Optional

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

- **End_Class**

- **Local_DD**

  description: **The Local_DD class defines a local data dictionary.**
  role: **Concrete**
  attribute: **comment** value: ***value***
  attribute: **version_id** value: ***value***
  attribute: **registration_authority_id** value: ***value***
  attribute: **steward_id** value: ***value***
  attribute: **name_space_id** value: ***value***
  attribute: **full_name** value: ***value***
  attribute: **last_modification_date_time** value: ***value***
  attribute: **pds4_merge_flag** value: **F, T**

  - **Local_Attribute - Occurs 1 to * Times**

    description: **The Local_Attribute class defines an attribute for a local data dictionary.**
    role: **Concrete**
    attribute: **comment** value: ***value***
    attribute: **definition** value: ***value***

attribute: **local_attribute_id** value: *value*
attribute: **name** value: *value*
attribute: **unit_of_measure_type** value: **UnitOfMeasure_AmountOfSubstance, UnitOfMeasure_Angle, UnitOfMeasure_Angular_Velocity, UnitOfMeasure_Area, UnitOfMeasure_Frequency, UnitOfMeasure_Length, UnitOfMeasure_Mass, UnitOfMeasure_Misc, UnitOfMeasure_None, UnitOfMeasure_OpticalPathLength, UnitOfMeasure_Pressure, UnitOfMeasure_Radiance, UnitOfMeasure_Rates, UnitOfMeasure_Scale, UnitOfMeasure_Solid_Angle, UnitOfMeasure_Storage, UnitOfMeasure_Temperature, UnitOfMeasure_Time, UnitOfMeasure_Velocity, UnitOfMeasure_Voltage, UnitOfMeasure_Volume**
attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_Integer, ASCII_Integer_Binary, ASCII_Integer_Hex, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
attribute: **minimum_value** value: *value*
attribute: **maximum_value** value: *value*
attribute: **pattern** value: *value*

- **Local_Value_Domain - Occurs 0 to * Times**

  description: **The Local_Value_Domain class defines a value and an optional definition for an attribute in a local data dictionary.**
  role: **Concrete**
  attribute: **value** value: *value*
  attribute: **value_meaning** value: *value* ^{Optional}

- **End_Class**
- **End_Class**

- **Local_Class - Occurs 1 to * Times**

  description: **The Local_Class class defines a user class, a collection of attributes in a local data dictionary.**
  role: **Concrete**
  attribute: **description** value: *value*
  attribute: **name** value: *value*

  - **Local_Association - Occurs 1 to * Times**

    description: **The Local_Association class defines the membership between a class and an attribute in a local data dictionary.**
    role: **Concrete**
    attribute: **constant_value** value: *value*
    attribute: **local_attribute_id** value: *value*
    attribute: **maximum_occurrences** value: *value*
    attribute: **minimum_occurrences** value: *value*

  - **End_Class**
- **End_Class**
- **End_Class**

- **Package**

description: **The Package class is an abstract class. It represents a Manifest Product and all related files logically grouped together for transfer. The Package class does not include the container in which the manifest and files are contained. This class has no subclasses and is not instantiated.**
role: **Concrete**

- **Identification_Area_Manifest Occurs 1 Times**

  description: **The manifest identification area consists of attributes involved in the role of identifying and naming a manifest.**
  role: **Concrete**
  attribute: **logical_identifier** value: *value*
  attribute: **version_id** value: *value*
  attribute: **product_class** value: *value*
  attribute: **title** value: *value*
  attribute: **alternate_title** value: *value* ^{Optional}

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

- **Subject_Area - Occurs 0 to 1 Times**

  description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
  role: **Concrete**
  attribute: **target_name** value: ***value*** ^{Optional}
  attribute: **instrument_name** value: ***value*** ^{Optional}
  attribute: **instrument_host_name** value: ***value*** ^{Optional}
  attribute: **full_name** value: ***value*** ^{Optional}
  attribute: **investigation_name** value: ***value*** ^{Optional}
  attribute: **observing_system_name** value: ***value*** ^{Optional}

  - **Name_Resolution - Occurs 0 to * Times**

    description: **The Name_Resolution class provides both primary and alternate names of an object.**
    role: **Concrete**
    attribute: **class_name** value: ***value***
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **name** value: ***value***
    attribute: **primary_name** value: ***value***
    attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Manifest - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **doi** value: ***value*** ^{Optional}
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** ^{Optional}

  - **End_Class**

  - **Reference_Entry - Occurs 0 to * Times**

    description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** ^{Optional}
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **reference_association_type** value: **has_association**

    - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

- **End_Class**
- **End_Class**

- **Data_Area_Manifest Occurs 1 Times**

  description: **The Data_Area_Manifest class requires one table character that is compliant to a file generated from MD5 checksum software.**
  role: **Concrete**

  - **Manifest Occurs 1 Times - Base_Class:Table_Base**

    description: **The manifest class defines a table for file references.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **fields** value: ***value***
      attribute: **record_bytes** value: ***value***
      attribute: **records** value: ***value***

    - **Table_Record_Character - Occurs 1 to * Times**

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

      - **Table_Character_Field - Occurs 1 to * Times**

        description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**
        role: **Concrete**
        attribute: **field_name** value: ***value***
        attribute: **field_number** value: ***value*** ^{Optional}
        attribute: **field_data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_Integer, ASCII_Integer_Binary, ASCII_Integer_Hex, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
        attribute: **field_location** value: ***value***
        attribute: **field_length** value: ***value***
        attribute: **field_format** value: ***value*** ^{Optional}
        attribute: **minimum_scaled_value** value: ***value*** ^{Optional}
        attribute: **maximum_scaled_value** value: ***value*** ^{Optional}
        attribute: **field_min_logical** value: ***value*** ^{Optional}
        attribute: **field_max_logical** value: ***value*** ^{Optional}
        attribute: **field_scaling_factor** value: ***value*** ^{Optional}
        attribute: **field_value_offset** value: ***value*** ^{Optional}

attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr**
Optional

attribute: **field_description** value: **value** Optional

- **Object_Statistics - Occurs 0 to 1 Times**

  description: **The Object Statistics class provides a set of values that provide metrics about the object.**
  role: **Concrete**
  attribute: **local_identifier** value: **value**
  attribute: **description** value: **value** Optional
  attribute: **maximum** value: **value** Optional
  attribute: **md5_checksum** value: **value** Optional
  attribute: **mean** value: **value** Optional
  attribute: **median** value: **value** Optional
  attribute: **minimum** value: **value** Optional
  attribute: **sample_bit_mask** value: **value** Optional
  attribute: **standard_deviation** value: **value** Optional

- **End_Class**

- **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_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Product_Browse**

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

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
role: **Concrete**
attribute: **logical_identifier** value: **value**
attribute: **version_id** value: **value**
attribute: **product_class** value: **value**
attribute: **title** value: **value**
attribute: **alternate_title** value: **value** Optional
attribute: **alternate_id** value: **value** Optional
attribute: **last_modification_date_time** value: **value** Optional
attribute: **product_subclass** value: **value** Optional

- **Subject_Area Occurs 1 Times**

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

phrases, or classification codes.
role: **Concrete**
attribute: **target_name** value: *value* ^{Optional}
attribute: **instrument_name** value: *value* ^{Optional}
attribute: **instrument_host_name** value: *value* ^{Optional}
attribute: **full_name** value: *value* ^{Optional}
attribute: **investigation_name** value: *value* ^{Optional}
attribute: **observing_system_name** value: *value* ^{Optional}

- **Name_Resolution - Occurs 0 to * Times**

  description: **The Name_Resolution class provides both primary and alternate names of an object.**
  role: **Concrete**
  attribute: **class_name** value: *value*
  attribute: **lidvid_reference** value: *value* ^{Optional}
  attribute: **name** value: *value*
  attribute: **primary_name** value: *value*
  attribute: **role** value: **ALTERNATE, PRIMARY**

- **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Misc - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: *value*
    attribute: **description** value: *value* ^{Optional}
    attribute: **doi** value: *value* ^{Optional}
    attribute: **reference_text** value: *value*
    attribute: **url** value: *value* ^{Optional}

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: *value* ^{Optional}
    attribute: **description** value: *value* ^{Optional}
    attribute: **title** value: *value*

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

        description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
        role: **Concrete**
        attribute: **lid_reference** value: *value* ^{Optional}

attribute: **lidvid_reference** value: ***value*** ^{Optional}
attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

- **End_Class**
- **End_Class**
- **End_Class**

- **Reference_Entry - Occurs 0 to * Times**

  description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** ^{Optional}
  attribute: **lidvid_reference** value: ***value*** ^{Optional}
  attribute: **reference_association_type** value: **has_association**

- **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

  - **End_Class**
- **End_Class**

- **Data_Area_Encoded_Image - Occurs 0 to * Times**

  description: **The Encoded Image Data Area requires one encoded byte stream data object description called Encoded Image.**
  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**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **encoding_type** value: **BINARY**
      attribute: **external_standard_id** value: **GIF, JPEG, TIFF**
    - **End_Class**
  - **End_Class**
- **End_Class**

- **Product_Bundle**

  description: **Product Bundle is a cluster product and has a table of references to one or more collections.**
  role: **Concrete**

  - **Identification_Area_Bundle Occurs 1 Times**

    description: **The bundle identification area consists of attributes involved in the role of identifying and naming a bundle.**
    role: **Concrete**
    attribute: **logical_identifier** value: ***value***
    attribute: **version_id** value: ***value***
    attribute: **product_class** value: ***value***
    attribute: **title** value: ***value***
    attribute: **alternate_title** value: ***value*** Optional
    attribute: **alternate_id** value: ***value*** Optional
    attribute: **last_modification_date_time** value: ***value*** Optional
    attribute: **product_subclass** value: ***value*** Optional

    - **Subject_Area - Occurs 0 to 1 Times**

      description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
      role: **Concrete**
      attribute: **target_name** value: ***value*** Optional
      attribute: **instrument_name** value: ***value*** Optional
      attribute: **instrument_host_name** value: ***value*** Optional
      attribute: **full_name** value: ***value*** Optional
      attribute: **investigation_name** value: ***value*** Optional
      attribute: **observing_system_name** value: ***value*** Optional

      - **Name_Resolution - Occurs 0 to * Times**

        description: **The Name_Resolution class provides both primary and alternate names of an object.**
        role: **Concrete**
        attribute: **class_name** value: ***value***
        attribute: **lidvid_reference** value: ***value*** Optional
        attribute: **name** value: ***value***
        attribute: **primary_name** value: ***value***
        attribute: **role** value: **ALTERNATE, PRIMARY**

      - **End_Class**
    - **End_Class**
  - **End_Class**

  - **Cross_Reference_Area_Bundle - Occurs 0 to 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

      description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
      role: **Concrete**
      attribute: **local_identifier** value: ***value***
      attribute: **description** value: ***value*** Optional
      attribute: **doi** value: ***value*** Optional
      attribute: **reference_text** value: ***value***
      attribute: **url** value: ***value*** Optional

    - **End_Class**

    - **Reference_Entry - Occurs 0 to * Times**

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

reference is to a product.
role: **Concrete**
attribute: **lid_reference** value: ***value*** ^{Optional}
attribute: **lidvid_reference** value: ***value*** ^{Optional}
attribute: **reference_association_type** value: **has_association**

- **End_Class**
- **End_Class**

- **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***
  attribute: **reference_association_type** value: **has_browse_collection, has_calibration_collection, has_context_collection, has_data_collection, has_document_collection, has_geometry_collection, has_member_collection, has_miscellaneous_collection, has_spice_collection, has_xml_schema_collection**

  - **End_Class**
- **End_Class**

- **Product_Citation**

  description: **A Citation product provides reference information about a document.**
  role: **Concrete**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes involved in the role of identifying and naming an object.**
    role: **Concrete**
    attribute: **logical_identifier** value: ***value***
    attribute: **version_id** value: ***value***
    attribute: **product_class** value: ***value***
    attribute: **title** value: ***value***
    attribute: **alternate_title** value: ***value*** ^{Optional}
    attribute: **alternate_id** value: ***value*** ^{Optional}
    attribute: **last_modification_date_time** value: ***value*** ^{Optional}
    attribute: **product_subclass** value: ***value*** ^{Optional}

    - **Subject_Area - Occurs 0 to 1 Times**

      description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
      role: **Concrete**
      attribute: **target_name** value: ***value*** ^{Optional}
      attribute: **instrument_name** value: ***value*** ^{Optional}
      attribute: **instrument_host_name** value: ***value*** ^{Optional}
      attribute: **full_name** value: ***value*** ^{Optional}
      attribute: **investigation_name** value: ***value*** ^{Optional}
      attribute: **observing_system_name** value: ***value*** ^{Optional}

      - **Name_Resolution - Occurs 0 to * Times**

        description: **The Name_Resolution class provides both primary and alternate names of an object.**
        role: **Concrete**
        attribute: **class_name** value: ***value***
        attribute: **lidvid_reference** value: ***value*** ^{Optional}
        attribute: **name** value: ***value***
        attribute: **primary_name** value: ***value***
        attribute: **role** value: **ALTERNATE, PRIMARY**

        - **End_Class**
      - **End_Class**
    - **End_Class**

- **Cross_Reference_Area_Context - Occurs 0 to 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

        description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
        role: **Concrete**
        attribute: **local_identifier** value: **value**
        attribute: **description** value: **value** Optional
        attribute: **doi** value: **value** Optional
        attribute: **reference_text** value: **value**
        attribute: **url** value: **value** Optional

    - **End_Class**

    - **Context_Reference_Entry - Occurs 0 to * Times**

        description: **The Context Reference Entry class implements associations between context products. For example, an instrument is associated with an instriument_host which in turn is associated with an investigation.**
        role: **Concrete**
        attribute: **lid_reference** value: **value** Optional
        attribute: **lidvid_reference** value: **value** Optional
        attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host, has_investigation , has_node, has_personnel, has_publication, has_resource, has_target**

    - **End_Class**
- **End_Class**

- **Citation Occurs 1 Times**

    description: **The Citation class provides text to be used for quoting an artifact as an authoritative source.**
    role: **Concrete**
    attribute: **local_identifier** value: **value**
    attribute: **description** value: **value** Optional
    attribute: **citation_text** value: **value**

- **End_Class**
- **End_Class**

- **Product_Data_Set**

    description: **The Data Set product describes a PDS Data Set.**
    role: **Concrete**

    - **Identification_Area_Product Occurs 1 Times**

        description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
        role: **Concrete**
        attribute: **logical_identifier** value: **value**
        attribute: **version_id** value: **value**
        attribute: **product_class** value: **value**
        attribute: **title** value: **value**
        attribute: **alternate_title** value: **value** Optional
        attribute: **alternate_id** value: **value** Optional
        attribute: **last_modification_date_time** value: **value** Optional
        attribute: **product_subclass** value: **value** Optional

        - **Subject_Area Occurs 1 Times**

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

role: **Concrete**
attribute: **target_name** value: *value* ^{Optional}
attribute: **instrument_name** value: *value* ^{Optional}
attribute: **instrument_host_name** value: *value* ^{Optional}
attribute: **full_name** value: *value* ^{Optional}
attribute: **investigation_name** value: *value* ^{Optional}
attribute: **observing_system_name** value: *value* ^{Optional}

- **Name_Resolution - Occurs 0 to * Times**

    description: **The Name_Resolution class provides both primary and alternate names of an object.**
    role: **Concrete**
    attribute: **class_name** value: *value*
    attribute: **lidvid_reference** value: *value* ^{Optional}
    attribute: **name** value: *value*
    attribute: **primary_name** value: *value*
    attribute: **role** value: **ALTERNATE, PRIMARY**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Context Occurs 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

      description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
      role: **Concrete**
      attribute: **local_identifier** value: *value*
      attribute: **description** value: *value* ^{Optional}
      attribute: **doi** value: *value* ^{Optional}
      attribute: **reference_text** value: *value*
      attribute: **url** value: *value* ^{Optional}

    - **End_Class**

    - **Context_Reference_Entry - Occurs 0 to * Times**

      description: **The Context Reference Entry class implements associations between context products. For example, an instrument is associated with an instriument_host which in turn is associated with an investigation.**
      role: **Concrete**
      attribute: **lid_reference** value: *value* ^{Optional}
      attribute: **lidvid_reference** value: *value* ^{Optional}
      attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host, has_investigation , has_node, has_personnel, has_publication, has_resource, has_target**

    - **End_Class**
- **End_Class**

- **Data_Set Occurs 1 Times**

  description: **The Data Set class provides a description of a set of collection of observational products and associated ancillary collections and products.**
  role: **Concrete**
  attribute: **data_set_id** value: *value*
  attribute: **description** value: *value* ^{Optional}
  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: **ACCUMULATING, 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, SAVED, SUPERSEDED** Optional

- **End_Class**

- **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***
  attribute: **reference_association_type** value: **has_browse_collection, has_calibration_collection, has_context_collection, has_data_collection, has_document_collection, has_geometry_collection, has_member_collection, has_miscellaneous_collection, has_spice_collection, has_xml_schema_collection**

  - **End_Class**
- **End_Class**

- **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_Document Occurs 1 Times**

    description: **The document identification area consists of attributes involved in the role of identifying and naming a document product.**
    role: **Concrete**
    attribute: **logical_identifier** value: ***value***
    attribute: **version_id** value: ***value***
    attribute: **product_class** value: ***value***
    attribute: **title** value: ***value***
    attribute: **alternate_title** value: ***value*** Optional
    attribute: **alternate_id** value: ***value*** Optional
    attribute: **last_modification_date_time** value: ***value*** Optional
    attribute: **product_subclass** value: **AAREADME, ERRATA, Programmers_Manual, SIS, Users_Manual**

    - **Subject_Area Occurs 1 Times**

      description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
      role: **Concrete**
      attribute: **target_name** value: ***value*** Optional
      attribute: **instrument_name** value: ***value*** Optional
      attribute: **instrument_host_name** value: ***value*** Optional
      attribute: **full_name** value: ***value*** Optional
      attribute: **investigation_name** value: ***value*** Optional
      attribute: **observing_system_name** value: ***value*** Optional

      - **Name_Resolution - Occurs 0 to * Times**

        description: **The Name_Resolution class provides both primary and alternate names of an object.**
        role: **Concrete**
        attribute: **class_name** value: ***value***
        attribute: **lidvid_reference** value: ***value*** Optional
        attribute: **name** value: ***value***
        attribute: **primary_name** value: ***value***
        attribute: **role** value: **ALTERNATE, PRIMARY**

      - **End_Class**

- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Document - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: **_value_**
    attribute: **description** value: **_value_** ^{Optional}
    attribute: **doi** value: **_value_** ^{Optional}
    attribute: **reference_text** value: **_value_**
    attribute: **url** value: **_value_** ^{Optional}

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: **_value_** ^{Optional}
    attribute: **description** value: **_value_** ^{Optional}
    attribute: **title** value: **_value_**

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

        description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
        role: **Concrete**
        attribute: **lid_reference** value: **_value_** ^{Optional}
        attribute: **lidvid_reference** value: **_value_** ^{Optional}
        attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

      - **End_Class**
    - **End_Class**
  - **End_Class**

  - **Reference_Entry - Occurs 0 to * Times**

    description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**
    role: **Concrete**
    attribute: **lid_reference** value: **_value_** ^{Optional}
    attribute: **lidvid_reference** value: **_value_** ^{Optional}
    attribute: **reference_association_type** value: **has_association**

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**

role: **Concrete**

- **File - Occurs 1 to * Times**

  description: **The File class consists of attributes involved in the role of describing a file in a data store.**
  role: **Concrete**
  attribute: **local_identifier** value: ***value***
  attribute: **comment** value: ***value*** Optional
  attribute: **creation_date_time** value: ***value*** Optional
  attribute: **file_name** value: ***value***
  attribute: **file_size** value: ***value*** Optional
  attribute: **max_record_bytes** value: ***value*** Optional
  attribute: **md5_checksum** value: ***value*** Optional
  attribute: **records** value: ***value*** Optional

  - **End_Class**
- **End_Class**

- **Document_Format_Set - Occurs 1 to * Times**

  description: **The Document Format Set class is a set consisting of a document format and associated files.**
  role: **Concrete**

  - **Document_File - Occurs 1 to * Times**

    description: **The Document File class describes a file which is a part of a document.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **creation_date_time** value: ***value*** Optional
    attribute: **directory_path_name** value: ***value*** Optional
    attribute: **encoding_type** value: **BINARY, CHARACTER**
    attribute: **external_standard_id** value: **ENCAPSULATED_POSTSCRIPT, GIF, HTML, JPG, LaTEX, MICROSOFT_WORD, PDF, PDF-A, PNG, POSTSCRIPT, RICH_TEXT, TEXT, TIFF**
    attribute: **file_name** value: ***value***
    attribute: **file_size** value: ***value*** Optional
    attribute: **max_record_bytes** value: ***value*** Optional
    attribute: **md5_checksum** value: ***value*** Optional
    attribute: **records** value: ***value*** Optional

  - **End_Class**

  - **Document_Format Occurs 1 Times**

    description: **The Document Format provides a description of a variant of a logical document that is stored in a specific format. For example the PDS Standards Reference has HTML and PDF formatted versions.**
    role: **Concrete**
    attribute: **description** value: ***value*** Optional
    attribute: **format_type** value: **HTML, PDF-A, TEXT**
    attribute: **starting_point_identifier** value: ***value*** Optional

  - **End_Class**
- **End_Class**

- **Document_Desc Occurs 1 Times**

  description: **The Document_Desc class describes a document.**
  role: **Concrete**
  attribute: **description** value: ***value*** Optional
  attribute: **acknowledgement_text** value: ***value*** Optional
  attribute: **author_list** value: ***value*** Optional
  attribute: **copyright** value: ***value*** Optional
  attribute: **document_title** value: ***value*** Optional
  attribute: **doi** value: ***value*** Optional
  attribute: **editor_list** value: ***value*** Optional
  attribute: **publication_date** value: ***value***
  attribute: **revision_id** value: ***value*** Optional

- **End_Class**
- **End_Class**

- **Product_Element_Definition**

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

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes involved in the role of identifying and naming an object.**
    role: **Concrete**
    attribute: **logical_identifier** value: **value**
    attribute: **version_id** value: **value**
    attribute: **product_class** value: **value**
    attribute: **title** value: **value**
    attribute: **alternate_title** value: **value** Optional
    attribute: **alternate_id** value: **value** Optional
    attribute: **last_modification_date_time** value: **value** Optional
    attribute: **product_subclass** value: **value** Optional

    - **Subject_Area - Occurs 0 to 1 Times**

      description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
      role: **Concrete**
      attribute: **target_name** value: **value** Optional
      attribute: **instrument_name** value: **value** Optional
      attribute: **instrument_host_name** value: **value** Optional
      attribute: **full_name** value: **value** Optional
      attribute: **investigation_name** value: **value** Optional
      attribute: **observing_system_name** value: **value** Optional

      - **Name_Resolution - Occurs 0 to * Times**

        description: **The Name_Resolution class provides both primary and alternate names of an object.**
        role: **Concrete**
        attribute: **class_name** value: **value**
        attribute: **lidvid_reference** value: **value** Optional
        attribute: **name** value: **value**
        attribute: **primary_name** value: **value**
        attribute: **role** value: **ALTERNATE, PRIMARY**

      - **End_Class**
    - **End_Class**
  - **End_Class**

  - **Cross_Reference_Area - Occurs 0 to 1 Times**

    description: **The cross reference area provides references for associated products.**
    role: **Concrete**

    - **Bibliographic_Reference - Occurs 0 to * Times**

      description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
      role: **Concrete**
      attribute: **local_identifier** value: **value**
      attribute: **description** value: **value** Optional
      attribute: **doi** value: **value** Optional
      attribute: **reference_text** value: **value**
      attribute: **url** value: **value** Optional

    - **End_Class**

- **Reference_Entry_Generic - Occurs 0 to * Times**

  description: **The Reference Entry Generic class provides a reference and type information about the reference. The reference is to a product.**
  role: **Abstract**
  attribute: **lid_reference** value: **value** Optional
  attribute: **lidvid_reference** value: **value** Optional
  attribute: **reference_association_type** value: **value**

  - **End_Class**
- **End_Class**

- **Element_Definition Occurs 1 Times**

  description: **The Element_Definition class defines an attribute in the data dictioonary.**
  role: **Concrete**
  attribute: **local_identifier** value: **value**
  attribute: **description** value: **value** Optional
  attribute: **identifier** value: **value**
  attribute: **version_id** value: **value**
  attribute: **title** value: **value**
  attribute: **is_enumerated_flag** value: **F, T**
  attribute: **class_name** value: **value**
  attribute: **registration_authority_id** value: **value**
  attribute: **steward_id** value: **value**
  attribute: **name_space_id** value: **value**
  attribute: **registered_by** value: **value**
  attribute: **submitter_id** value: **value**
  attribute: **data_element_concept** value: **value**

  - **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: **designation** value: **value**
    attribute: **definition** value: **value**
    attribute: **language** value: **English**

  - **End_Class**

  - **Value_Domain - Occurs 0 to 1 Times**

    description: **The value_domain class defines the permissible values allowed. These may be enumerated or non-enumerated values.**
    role: **Concrete**
    attribute: **default_unit_id** value: **value** Optional
    attribute: **data_type** value: **..., ascii_complex, ascii_integer, ascii_real, binary_coded_decimal, bit_string, boolean, character, complex, date, ebcdic_character, float, ibm_complex, ibm_integer, ibm_real, ibm_unsigned_integer, ieee_complex, ieee_real, integer, lsb_bit_string, lsb_integer, lsb_unsigned_integer, mac_complex, mac_integer, mac_real, mac_unsigned_integer**
    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_name** value: **value** Optional

    - **Permissible_Value - Occurs 0 to 1 Times**

      description: **The permissible_value class lists the permissible values allowed and optionally their meanings.**
      role: **Concrete**
      attribute: **value** value: **value**
      attribute: **value_meaning** value: **value** Optional
      attribute: **begin_date** value: **value**
      attribute: **end_date** value: **value**

- **End_Class**
  - **End_Class**
    - **End_Class**
      - **End_Class**

- **Product_Generic**

  description: **The Product Generic class defines a template for all data products.**
  role: **Concrete**

  - **Identification_Area_Product Occurs 1 Times**

    description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
    role: **Concrete**
    attribute: **logical_identifier** value: **value**
    attribute: **version_id** value: **value**
    attribute: **product_class** value: **value**
    attribute: **title** value: **value**
    attribute: **alternate_title** value: **value** Optional
    attribute: **alternate_id** value: **value** Optional
    attribute: **last_modification_date_time** value: **value** Optional
    attribute: **product_subclass** value: **value** Optional

    - **Subject_Area Occurs 1 Times**

      description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
      role: **Concrete**
      attribute: **target_name** value: **value** Optional
      attribute: **instrument_name** value: **value** Optional
      attribute: **instrument_host_name** value: **value** Optional
      attribute: **full_name** value: **value** Optional
      attribute: **investigation_name** value: **value** Optional
      attribute: **observing_system_name** value: **value** Optional

      - **Name_Resolution - Occurs 0 to * Times**

        description: **The Name_Resolution class provides both primary and alternate names of an object.**
        role: **Concrete**
        attribute: **class_name** value: **value**
        attribute: **lidvid_reference** value: **value** Optional
        attribute: **name** value: **value**
        attribute: **primary_name** value: **value**
        attribute: **role** value: **ALTERNATE, PRIMARY**

      - **End_Class**
    - **End_Class**
  - **End_Class**

  - **Cross_Reference_Area_Product Occurs 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

      description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
      role: **Concrete**
      attribute: **local_identifier** value: **value**
      attribute: **description** value: **value** Optional
      attribute: **doi** value: **value** Optional
      attribute: **reference_text** value: **value**
      attribute: **url** value: **value** Optional

- **End_Class**

- **Observing_System - Occurs 1 to * Times**

  description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
  role: **Concrete**
  attribute: **local_identifier** value: ***value*** ^{Optional}
  attribute: **description** value: ***value*** ^{Optional}
  attribute: **title** value: ***value***

  - **Observing_System_Component - Occurs 1 to 2 Times**

    description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
    role: **Concrete**
    attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

    - **Observing_System_Reference_Entry - Occurs 1 to * Times**

      description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
      role: **Concrete**
      attribute: **lid_reference** value: ***value*** ^{Optional}
      attribute: **lidvid_reference** value: ***value*** ^{Optional}
      attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

      - **End_Class**
    - **End_Class**
  - **End_Class**

- **Product_Reference_Entry - Occurs 0 to * Times**

  description: **The Product Reference Entry class provides a product specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** ^{Optional}
  attribute: **lidvid_reference** value: ***value*** ^{Optional}
  attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

  - **End_Class**
- **End_Class**

- **Observation_Area Occurs 1 Times**

  description: **The observation area consists of attributes in the role of providing information about the circumstances under which the data were collected.**
  role: **Concrete**

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

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

  - **End_Class**

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

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

  - **End_Class**

attribute: **comment** value: *value* ^{Optional}
attribute: **start_date_time** value: *value*
attribute: **stop_date_time** value: *value*
attribute: **spacecraft_clock_start_count** value: *value* ^{Optional}
attribute: **spacecraft_clock_stop_count** value: *value* ^{Optional}

- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

    - **End_Class**
- **End_Class**

- **Data_Area_Alternate - Occurs 0 to * Times**

  description: **The Data Area Alternate allows the inclusion of any Data Object Description.**
  role: **Concrete**

  - **Tagged_Digital_Object - Occurs 0 to * Times**

    description: **The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.**
    role: **Abstract**

  - **End_Class**
- **End_Class**

- **Data_Area_Generic Occurs 1 Times**

  description: **The Data Area Generic requires at least one digital object.**
  role: **Concrete**

  - **Image_Grayscale - Occurs 0 to * Times - Base_Class:Array_Base**

    description: **The Image Grayscale class is an extension of array_base and defines a two dimensional grayscale image.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: *value*
      attribute: **offset** value: *value*

    - **End_Class**
      attribute: **local_identifier** value: *value*
      attribute: **comment** value: *value* ^{Optional}
      attribute: **axes** value: **2**
      attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
      attribute: **encoding_type** value: **BINARY**

- **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: **elements** value: *value*
  attribute: **name** value: *value*
  attribute: **sequence_number** value: *value*
  attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** ^{Optional}

- **End_Class**

- **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: **scaling_factor** value: *value* ^{Optional}
  attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** ^{Optional}
  attribute: **value_offset** value: *value* ^{Optional}
  attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte**

- **End_Class**

- **Image_2D_Display - Occurs 0 to 1 Times**

  description: **The Image_2D_Display class provides attributes to enable the display of a 2D image.**
  role: **Concrete**
  attribute: **first_line** value: *value*
  attribute: **first_line_sample** value: *value*
  attribute: **line_display_direction** value: **DOWN, LEFT, RIGHT, UP**
  attribute: **sample_display_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End_Class**

- **Object_Statistics - Occurs 0 to 1 Times**

  description: **The Object Statistics class provides a set of values that provide metrics about the object.**
  role: **Concrete**
  attribute: **local_identifier** value: *value*
  attribute: **description** value: *value* ^{Optional}
  attribute: **maximum** value: *value* ^{Optional}
  attribute: **md5_checksum** value: *value* ^{Optional}
  attribute: **mean** value: *value* ^{Optional}
  attribute: **median** value: *value* ^{Optional}
  attribute: **minimum** value: *value* ^{Optional}
  attribute: **sample_bit_mask** value: *value* ^{Optional}
  attribute: **standard_deviation** value: *value* ^{Optional}

- **End_Class**

- **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_Class**
- **End_Class**

- **SPICE_Kernel_Binary - Occurs 0 to * Times**

  description: **The SPICE Kernel class describes a SPICE file.**
  role: **Concrete**

  - **Data_Location Occurs 1 Times**

    description: **The Data Location class provides the location of a digital object.**
    role: **Concrete**
    attribute: **file_local_identifier** value: ***value***
    attribute: **offset** value: ***value***

  - **End_Class**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** ^{Optional}
    attribute: **encoding_type** value: **BINARY**
    attribute: **external_standard_id** value: **SPICE**
    attribute: **kernel_type** value: **CK, DBK, DSK, EK, PCK, SPK**
- **End_Class**

- **SPICE_Kernel_Text - Occurs 0 to * Times**

  description: **The SPICE Kernel class describes a SPICE file.**
  role: **Concrete**

  - **Data_Location Occurs 1 Times**

    description: **The Data Location class provides the location of a digital object.**
    role: **Concrete**
    attribute: **file_local_identifier** value: ***value***
    attribute: **offset** value: ***value***

  - **End_Class**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** ^{Optional}
    attribute: **encoding_type** value: **CHARACTER**
    attribute: **external_standard_id** value: ***value***
    attribute: **kernel_type** value: **EK, FK, IK, LSK, MK, PCK, SCLK**
- **End_Class**

- **Spectrum_3D - Occurs 0 to * Times - Base_Class:Array_Base**

  description: **The Spectrum 3D class is an extension of array_base and defines a three dimensional spectrum.**
  role: **Concrete**

  - **Data_Location Occurs 1 Times**

    description: **The Data Location class provides the location of a digital object.**
    role: **Concrete**
    attribute: **file_local_identifier** value: ***value***
    attribute: **offset** value: ***value***

  - **End_Class**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** ^{Optional}
    attribute: **axes** value: **3**
    attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
    attribute: **encoding_type** value: **BINARY**

    - **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: **elements** value: *value*
attribute: **name** value: *value*
attribute: **sequence_number** value: *value*
attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional

- **End_Class**

- **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: **scaling_factor** value: *value* Optional
    attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
    attribute: **value_offset** value: *value* Optional
    attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte**

  - **End_Class**
- **End_Class**

- **Stream_Delimited - Occurs 0 to * Times**

  description: **The Stream Delimited class defines a simple spreadsheet.**
  role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: *value*
      attribute: **offset** value: *value*

    - **End_Class**
      attribute: **local_identifier** value: *value*
      attribute: **comment** value: *value* Optional
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **external_standard_id** value: **CSV**
      attribute: **field_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**
      attribute: **fields** value: *value*
      attribute: **maximum_record_length** value: *value*
      attribute: **record_delimiter** value: **0xOA, 0xOD, 0xOD_0xOA**
      attribute: **records** value: *value*

    - **Stream_Delimited_Record - Occurs 1 to * Times**

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

        - **Stream_Delimited_Grouped_Sequence - Occurs 1 to * Times**

          description: **The Stream Delimited Grouped Sequence class is a component of the grouped stream delimited (spreadsheet) class. It defines a set of fields.**
          role: **Concrete**
          attribute: **repetitions** value: *value* Optional

            - **Stream_Delimited_Field_Sequence - Occurs 1 to * Times**

              description: **The Stream Delimited Field Sequence class is a component of the grouped**

stream delimited (spreadsheet) class. It defines a set of fields or a nested set of fields.
role: **Concrete**

- **Stream_Delimited_Field - Occurs 0 to * Times**

  description: **The Stream Delimited Field class is a component of the stream delimited (spreadsheet) record class and defines a field of the record.**
  role: **Concrete**
  attribute: **field_name** value: *value*
  attribute: **field_number** value: *value* Optional
  attribute: **field_data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_Integer, ASCII_Integer_Binary, ASCII_Integer_Hex, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
  attribute: **field_format** value: *value* Optional
  attribute: **minimum_scaled_value** value: *value* Optional
  attribute: **maximum_scaled_value** value: *value* Optional
  attribute: **field_min_logical** value: *value* Optional
  attribute: **field_max_logical** value: *value* Optional
  attribute: **field_scaling_factor** value: *value* Optional
  attribute: **field_value_offset** value: *value* Optional
  attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
  attribute: **field_description** value: *value* Optional
  attribute: **field_bytes** value: *value*

  - **Object_Statistics - Occurs 0 to 1 Times**

    description: **The Object Statistics class provides a set of values that provide metrics about the object.**
    role: **Concrete**
    attribute: **local_identifier** value: *value*
    attribute: **description** value: *value* Optional
    attribute: **maximum** value: *value* Optional
    attribute: **md5_checksum** value: *value* Optional
    attribute: **mean** value: *value* Optional
    attribute: **median** value: *value* Optional
    attribute: **minimum** value: *value* Optional
    attribute: **sample_bit_mask** value: *value* Optional
    attribute: **standard_deviation** value: *value* Optional

  - **End_Class**

  - **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_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

  description: **The Table Binary class is an extension of table base and defines a simple binary table.**
  role: **Concrete**

  - **Data_Location Occurs 1 Times**

    description: **The Data Location class provides the location of a digital object.**
    role: **Concrete**
    attribute: **file_local_identifier** value: ***value***
    attribute: **offset** value: ***value***

  - **End_Class**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **encoding_type** value: **BINARY**
    attribute: **fields** value: ***value***
    attribute: **record_bytes** value: ***value***
    attribute: **records** value: ***value***

  - **Table_Record_Binary - Occurs 1 to * Times**

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

    - **Table_Binary_Field - Occurs 1 to * Times**

      description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**
      role: **Concrete**
      attribute: **field_name** value: ***value***
      attribute: **field_number** value: ***value*** Optional
      attribute: **field_data_type** value: **Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedMSB2, UnsignedMSB4**
      attribute: **field_location** value: ***value***
      attribute: **field_length** value: ***value***
      attribute: **field_format** value: ***value*** Optional
      attribute: **minimum_scaled_value** value: ***value*** Optional
      attribute: **maximum_scaled_value** value: ***value*** Optional
      attribute: **field_min_logical** value: ***value*** Optional
      attribute: **field_max_logical** value: ***value*** Optional
      attribute: **field_scaling_factor** value: ***value*** Optional
      attribute: **field_value_offset** value: ***value*** Optional
      attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional

      attribute: **field_description** value: ***value*** Optional

      - **Object_Statistics - Occurs 0 to 1 Times**

        description: **The Object Statistics class provides a set of values that provide metrics about the object.**
        role: **Concrete**
        attribute: **local_identifier** value: ***value***
        attribute: **description** value: ***value*** Optional
        attribute: **maximum** value: ***value*** Optional
        attribute: **md5_checksum** value: ***value*** Optional
        attribute: **mean** value: ***value*** Optional
        attribute: **median** value: ***value*** Optional
        attribute: **minimum** value: ***value*** Optional
        attribute: **sample_bit_mask** value: ***value*** Optional
        attribute: **standard_deviation** value: ***value*** Optional

- **End_Class**

- **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_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Table_Character - Occurs 0 to * Times - Base_Class:Table_Base**

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

  - **Data_Location Occurs 1 Times**

    description: **The Data Location class provides the location of a digital object.**
    role: **Concrete**
    attribute: **file_local_identifier** value: ***value***
    attribute: **offset** value: ***value***

  - **End_Class**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** ^{Optional}
    attribute: **encoding_type** value: **CHARACTER**
    attribute: **fields** value: ***value***
    attribute: **record_bytes** value: ***value***
    attribute: **records** value: ***value***

  - **Table_Record_Character - Occurs 1 to * Times**

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

    - **Table_Character_Field - Occurs 1 to * Times**

      description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**
      role: **Concrete**
      attribute: **field_name** value: ***value***
      attribute: **field_number** value: ***value*** ^{Optional}
      attribute: **field_data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_Integer, ASCII_Integer_Binary, ASCII_Integer_Hex, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
      attribute: **field_location** value: ***value***
      attribute: **field_length** value: ***value***
      attribute: **field_format** value: ***value*** ^{Optional}
      attribute: **minimum_scaled_value** value: ***value*** ^{Optional}
      attribute: **maximum_scaled_value** value: ***value*** ^{Optional}
      attribute: **field_min_logical** value: ***value*** ^{Optional}
      attribute: **field_max_logical** value: ***value*** ^{Optional}
      attribute: **field_scaling_factor** value: ***value*** ^{Optional}
      attribute: **field_value_offset** value: ***value*** ^{Optional}
      attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec,**

bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr
Optional

attribute: **field_description** value: **_value_** Optional

- **Object_Statistics - Occurs 0 to 1 Times**

  description: **The Object Statistics class provides a set of values that provide metrics about the object.**
  role: **Concrete**
  attribute: **local_identifier** value: **_value_**
  attribute: **description** value: **_value_** Optional
  attribute: **maximum** value: **_value_** Optional
  attribute: **md5_checksum** value: **_value_** Optional
  attribute: **mean** value: **_value_** Optional
  attribute: **median** value: **_value_** Optional
  attribute: **minimum** value: **_value_** Optional
  attribute: **sample_bit_mask** value: **_value_** Optional
  attribute: **standard_deviation** value: **_value_** Optional

- **End_Class**

- **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_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Product_Image_3D**

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

- **Identification_Area_Product Occurs 1 Times**

  description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
  role: **Concrete**
  attribute: **logical_identifier** value: **_value_**
  attribute: **version_id** value: **_value_**
  attribute: **product_class** value: **_value_**
  attribute: **title** value: **_value_**
  attribute: **alternate_title** value: **_value_** Optional
  attribute: **alternate_id** value: **_value_** Optional
  attribute: **last_modification_date_time** value: **_value_** Optional
  attribute: **product_subclass** value: **_value_** Optional

  - **Subject_Area Occurs 1 Times**

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

phrases, or classification codes.
role: **Concrete**
attribute: **target_name** value: ***value*** ^{Optional}
attribute: **instrument_name** value: ***value*** ^{Optional}
attribute: **instrument_host_name** value: ***value*** ^{Optional}
attribute: **full_name** value: ***value*** ^{Optional}
attribute: **investigation_name** value: ***value*** ^{Optional}
attribute: **observing_system_name** value: ***value*** ^{Optional}

- **Name_Resolution - Occurs 0 to * Times**

  description: **The Name_Resolution class provides both primary and alternate names of an object.**
  role: **Concrete**
  attribute: **class_name** value: ***value***
  attribute: **lidvid_reference** value: ***value*** ^{Optional}
  attribute: **name** value: ***value***
  attribute: **primary_name** value: ***value***
  attribute: **role** value: **ALTERNATE, PRIMARY**

- **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Product Occurs 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **doi** value: ***value*** ^{Optional}
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** ^{Optional}

  - **End_Class**

  - **Observing_System - Occurs 1 to * Times**

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value*** ^{Optional}
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **title** value: ***value***

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

        description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
        role: **Concrete**
        attribute: **lid_reference** value: ***value*** ^{Optional}

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

attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

- **End_Class**
- **End_Class**
- **End_Class**

- **Product_Reference_Entry - Occurs 0 to * Times**

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

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

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

  attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

  - **End_Class**
- **End_Class**

- **Observation_Area Occurs 1 Times**

  description: **The observation area consists of attributes in the role of providing information about the circumstances under which the data were collected.**
  role: **Concrete**

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

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

    - **End_Class**

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

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

    - **End_Class**
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **start_date_time** value: ***value***
      attribute: **stop_date_time** value: ***value***
      attribute: **spacecraft_clock_start_count** value: ***value*** ^{Optional}
      attribute: **spacecraft_clock_stop_count** value: ***value*** ^{Optional}
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

  - **End_Class**

- **End_Class**

- **Data_Area_Image_3D Occurs 1 Times**

  description: **The Image 3D Data Area requires at least one 3D Image digital object.**
  role: **Concrete**

  - **Image_3D Occurs 1 Times - Base_Class:Array_Base**

    description: **The Image 3D class is an extension of array_base and defines a three dimensional image.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: **value**
      attribute: **offset** value: **value**

    - **End_Class**
      attribute: **local_identifier** value: **value**
      attribute: **comment** value: **value** Optional
      attribute: **axes** value: **3**
      attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
      attribute: **encoding_type** value: **BINARY**

    - **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: **elements** value: **value**
      attribute: **name** value: **value**
      attribute: **sequence_number** value: **value**
      attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional

    - **End_Class**

    - **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: **scaling_factor** value: **value** Optional
      attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
      attribute: **value_offset** value: **value** Optional
      attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Data_Area_Alternate - Occurs 0 to * Times**

  description: **The Data Area Alternate allows the inclusion of any Data Object Description.**
  role: **Concrete**

  - **Tagged_Digital_Object - Occurs 0 to * Times**

    description: **The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.**
    role: **Abstract**

- **End_Class**
- **End_Class**
- **End_Class**

- **Product_Image_Grayscale**

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

  - **Identification_Area_Product Occurs 1 Times**

    description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
    role: **Concrete**
    attribute: **logical_identifier** value: ***value***
    attribute: **version_id** value: ***value***
    attribute: **product_class** value: ***value***
    attribute: **title** value: ***value***
    attribute: **alternate_title** value: ***value*** Optional
    attribute: **alternate_id** value: ***value*** Optional
    attribute: **last_modification_date_time** value: ***value*** Optional
    attribute: **product_subclass** value: ***value*** Optional

    - **Subject_Area Occurs 1 Times**

      description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
      role: **Concrete**
      attribute: **target_name** value: ***value*** Optional
      attribute: **instrument_name** value: ***value*** Optional
      attribute: **instrument_host_name** value: ***value*** Optional
      attribute: **full_name** value: ***value*** Optional
      attribute: **investigation_name** value: ***value*** Optional
      attribute: **observing_system_name** value: ***value*** Optional

      - **Name_Resolution - Occurs 0 to * Times**

        description: **The Name_Resolution class provides both primary and alternate names of an object.**
        role: **Concrete**
        attribute: **class_name** value: ***value***
        attribute: **lidvid_reference** value: ***value*** Optional
        attribute: **name** value: ***value***
        attribute: **primary_name** value: ***value***
        attribute: **role** value: **ALTERNATE, PRIMARY**

      - **End_Class**
    - **End_Class**
  - **End_Class**

  - **Cross_Reference_Area_Product Occurs 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

      description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
      role: **Concrete**
      attribute: **local_identifier** value: ***value***
      attribute: **description** value: ***value*** Optional

attribute: **doi** value: **_value_** ^{Optional}
attribute: **reference_text** value: **_value_**
attribute: **url** value: **_value_** ^{Optional}

- **End_Class**

- **Observing_System - Occurs 1 to * Times**

  description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
  role: **Concrete**
  attribute: **local_identifier** value: **_value_** ^{Optional}
  attribute: **description** value: **_value_** ^{Optional}
  attribute: **title** value: **_value_**

  - **Observing_System_Component - Occurs 1 to 2 Times**

    description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
    role: **Concrete**
    attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

    - **Observing_System_Reference_Entry - Occurs 1 to * Times**

      description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
      role: **Concrete**
      attribute: **lid_reference** value: **_value_** ^{Optional}
      attribute: **lidvid_reference** value: **_value_** ^{Optional}
      attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

      - **End_Class**
    - **End_Class**
- **End_Class**

- **Product_Reference_Entry - Occurs 0 to * Times**

  description: **The Product Reference Entry class provides a product specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: **_value_** ^{Optional}
  attribute: **lidvid_reference** value: **_value_** ^{Optional}
  attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

  - **End_Class**
- **End_Class**

- **Observation_Area Occurs 1 Times**

  description: **The observation area consists of attributes in the role of providing information about the circumstances under which the data were collected.**
  role: **Concrete**

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

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

    - **End_Class**

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

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

- **End_Class**
  attribute: **comment** value: ***value*** ^{Optional}
  attribute: **start_date_time** value: ***value***
  attribute: **stop_date_time** value: ***value***
  attribute: **spacecraft_clock_start_count** value: ***value*** ^{Optional}
  attribute: **spacecraft_clock_stop_count** value: ***value*** ^{Optional}
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

    - **End_Class**
- **End_Class**

- **Data_Area_Image_Grayscale Occurs 1 Times**

  description: **The Image Grayscale Data Area requires at least one image grayscale digital object.**
  role: **Concrete**

  - **Image_Grayscale Occurs 1 Times - Base_Class:Array_Base**

    description: **The Image Grayscale class is an extension of array_base and defines a two dimensional grayscale image.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **axes** value: **2**
      attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
      attribute: **encoding_type** value: **BINARY**

    - **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: **elements** value: ***value***
      attribute: **name** value: ***value***
      attribute: **sequence_number** value: ***value***
      attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm,**

cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr ^{Optional}

- **End_Class**

- **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: **scaling_factor** value: *value* ^{Optional}
  attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** ^{Optional}
  attribute: **value_offset** value: *value* ^{Optional}
  attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte**

- **End_Class**

- **Image_2D_Display - Occurs 0 to 1 Times**

  description: **The Image_2D_Display class provides attributes to enable the display of a 2D image.**
  role: **Concrete**
  attribute: **first_line** value: *value*
  attribute: **first_line_sample** value: *value*
  attribute: **line_display_direction** value: **DOWN, LEFT, RIGHT, UP**
  attribute: **sample_display_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End_Class**

- **Object_Statistics - Occurs 0 to 1 Times**

  description: **The Object Statistics class provides a set of values that provide metrics about the object.**
  role: **Concrete**
  attribute: **local_identifier** value: *value*
  attribute: **description** value: *value* ^{Optional}
  attribute: **maximum** value: *value* ^{Optional}
  attribute: **md5_checksum** value: *value* ^{Optional}
  attribute: **mean** value: *value* ^{Optional}
  attribute: **median** value: *value* ^{Optional}
  attribute: **minimum** value: *value* ^{Optional}
  attribute: **sample_bit_mask** value: *value* ^{Optional}
  attribute: **standard_deviation** value: *value* ^{Optional}

- **End_Class**

- **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_Class**
  - **End_Class**
- **End_Class**

- **Data_Area_Alternate - Occurs 0 to * Times**

description: **The Data Area Alternate allows the inclusion of any Data Object Description.**
role: **Concrete**

- **Tagged_Digital_Object - Occurs 0 to * Times**

  description: **The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.**
  role: **Abstract**

- **End_Class**
- **End_Class**
- **End_Class**

- **Product_Instrument**

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

- **Identification_Area_Product Occurs 1 Times**

  description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
  role: **Concrete**
  attribute: **logical_identifier** value: *value*
  attribute: **version_id** value: *value*
  attribute: **product_class** value: *value*
  attribute: **title** value: *value*
  attribute: **alternate_title** value: *value* Optional
  attribute: **alternate_id** value: *value* Optional
  attribute: **last_modification_date_time** value: *value* Optional
  attribute: **product_subclass** value: *value* Optional

  - **Subject_Area Occurs 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: *value* Optional
    attribute: **instrument_name** value: *value* Optional
    attribute: **instrument_host_name** value: *value* Optional
    attribute: **full_name** value: *value* Optional
    attribute: **investigation_name** value: *value* Optional
    attribute: **observing_system_name** value: *value* Optional

    - **Name_Resolution - Occurs 0 to * Times**

      description: **The Name_Resolution class provides both primary and alternate names of an object.**
      role: **Concrete**
      attribute: **class_name** value: *value*
      attribute: **lidvid_reference** value: *value* Optional
      attribute: **name** value: *value*
      attribute: **primary_name** value: *value*
      attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
    - **End_Class**
  - **End_Class**

- **Cross_Reference_Area_Context Occurs 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
role: **Concrete**
attribute: **local_identifier** value: ***value***
attribute: **description** value: ***value*** ^{Optional}
attribute: **doi** value: ***value*** ^{Optional}
attribute: **reference_text** value: ***value***
attribute: **url** value: ***value*** ^{Optional}

- **End_Class**

- **Context_Reference_Entry - Occurs 0 to * Times**

  description: **The Context Reference Entry class implements associations between context products. For example, an instrument is associated with an instriument_host which in turn is associated with an investigation.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** ^{Optional}
  attribute: **lidvid_reference** value: ***value*** ^{Optional}
  attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host, has_investigation , has_node, has_personnel, has_publication, has_resource, has_target**

  - **End_Class**
- **End_Class**

- **Instrument Occurs 1 Times**

  description: **The Instrument class provides a description of a phyiscal object that collects data.**
  role: **Concrete**
  attribute: **description** value: ***value*** ^{Optional}

  - **End_Class**
- **End_Class**

- **Product_Instrument_Host**

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

- **Identification_Area_Product Occurs 1 Times**

  description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
  role: **Concrete**
  attribute: **logical_identifier** value: ***value***
  attribute: **version_id** value: ***value***
  attribute: **product_class** value: ***value***
  attribute: **title** value: ***value***
  attribute: **alternate_title** value: ***value*** ^{Optional}
  attribute: **alternate_id** value: ***value*** ^{Optional}
  attribute: **last_modification_date_time** value: ***value*** ^{Optional}
  attribute: **product_subclass** value: ***value*** ^{Optional}

  - **Subject_Area Occurs 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: ***value*** ^{Optional}
    attribute: **instrument_name** value: ***value*** ^{Optional}
    attribute: **instrument_host_name** value: ***value*** ^{Optional}
    attribute: **full_name** value: ***value*** ^{Optional}
    attribute: **investigation_name** value: ***value*** ^{Optional}
    attribute: **observing_system_name** value: ***value*** ^{Optional}

- **Name_Resolution - Occurs 0 to * Times**

  description: **The Name_Resolution class provides both primary and alternate names of an object.**
  role: **Concrete**
  attribute: **class_name** value: **_value_**
  attribute: **lidvid_reference** value: **_value_** ^{Optional}
  attribute: **name** value: **_value_**
  attribute: **primary_name** value: **_value_**
  attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Context Occurs 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

      description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
      role: **Concrete**
      attribute: **local_identifier** value: **_value_**
      attribute: **description** value: **_value_** ^{Optional}
      attribute: **doi** value: **_value_** ^{Optional}
      attribute: **reference_text** value: **_value_**
      attribute: **url** value: **_value_** ^{Optional}

      - **End_Class**

    - **Context_Reference_Entry - Occurs 0 to * Times**

      description: **The Context Reference Entry class implements associations between context products. For example, an instrument is associated with an instriument_host which in turn is associated with an investigation.**
      role: **Concrete**
      attribute: **lid_reference** value: **_value_** ^{Optional}
      attribute: **lidvid_reference** value: **_value_** ^{Optional}
      attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host, has_investigation , has_node, has_personnel, has_publication, has_resource, has_target**

      - **End_Class**
  - **End_Class**

- **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: **description** value: **_value_** ^{Optional}

    - **End_Class**
- **End_Class**

- **Product_Investigation**

  description: **The Investigation product describes an investigation.**
  role: **Concrete**

    - **Identification_Area_Product Occurs 1 Times**

      description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
      role: **Concrete**

attribute: **logical_identifier** value: ***value***
attribute: **version_id** value: ***value***
attribute: **product_class** value: ***value***
attribute: **title** value: ***value***
attribute: **alternate_title** value: ***value*** Optional
attribute: **alternate_id** value: ***value*** Optional
attribute: **last_modification_date_time** value: ***value*** Optional
attribute: **product_subclass** value: ***value*** Optional

- **Subject_Area Occurs 1 Times**

  description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
  role: **Concrete**
  attribute: **target_name** value: ***value*** Optional
  attribute: **instrument_name** value: ***value*** Optional
  attribute: **instrument_host_name** value: ***value*** Optional
  attribute: **full_name** value: ***value*** Optional
  attribute: **investigation_name** value: ***value*** Optional
  attribute: **observing_system_name** value: ***value*** Optional

  - **Name_Resolution - Occurs 0 to * Times**

    description: **The Name_Resolution class provides both primary and alternate names of an object.**
    role: **Concrete**
    attribute: **class_name** value: ***value***
    attribute: **lidvid_reference** value: ***value*** Optional
    attribute: **name** value: ***value***
    attribute: **primary_name** value: ***value***
    attribute: **role** value: **ALTERNATE, PRIMARY**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Context Occurs 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** Optional
    attribute: **doi** value: ***value*** Optional
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** Optional

  - **End_Class**

  - **Context_Reference_Entry - Occurs 0 to * Times**

    description: **The Context Reference Entry class implements associations between context products. For example, an instrument is associated with an instriument_host which in turn is associated with an investigation.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** Optional
    attribute: **lidvid_reference** value: ***value*** Optional
    attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host, has_investigation , has_node, has_personnel, has_publication, has_resource, has_target**

  - **End_Class**
- **End_Class**

- **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: **description** value: **value**
  attribute: **objectives_summary** value: **value**
  attribute: **start_date** value: **value**
  attribute: **stop_date** value: **value**

  - **End_Class**
- **End_Class**

- **Product_Mission**

  description: **An Mission product describes a mission.**
  role: **Concrete**

  - **Identification_Area_Product Occurs 1 Times**

    description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
    role: **Concrete**
    attribute: **logical_identifier** value: **value**
    attribute: **version_id** value: **value**
    attribute: **product_class** value: **value**
    attribute: **title** value: **value**
    attribute: **alternate_title** value: **value** Optional
    attribute: **alternate_id** value: **value** Optional
    attribute: **last_modification_date_time** value: **value** Optional
    attribute: **product_subclass** value: **value** Optional

    - **Subject_Area Occurs 1 Times**

      description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
      role: **Concrete**
      attribute: **target_name** value: **value** Optional
      attribute: **instrument_name** value: **value** Optional
      attribute: **instrument_host_name** value: **value** Optional
      attribute: **full_name** value: **value** Optional
      attribute: **investigation_name** value: **value** Optional
      attribute: **observing_system_name** value: **value** Optional

      - **Name_Resolution - Occurs 0 to * Times**

        description: **The Name_Resolution class provides both primary and alternate names of an object.**
        role: **Concrete**
        attribute: **class_name** value: **value**
        attribute: **lidvid_reference** value: **value** Optional
        attribute: **name** value: **value**
        attribute: **primary_name** value: **value**
        attribute: **role** value: **ALTERNATE, PRIMARY**

      - **End_Class**
    - **End_Class**
  - **End_Class**

  - **Cross_Reference_Area_Context Occurs 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**
attribute: **local_identifier** value: *value*
attribute: **description** value: *value* ^{Optional}
attribute: **doi** value: *value* ^{Optional}
attribute: **reference_text** value: *value*
attribute: **url** value: *value* ^{Optional}

- **End_Class**

- **Context_Reference_Entry - Occurs 0 to * Times**

  description: **The Context Reference Entry class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**
  role: **Concrete**
  attribute: **lid_reference** value: *value* ^{Optional}
  attribute: **lidvid_reference** value: *value* ^{Optional}
  attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host, has_investigation , has_node, has_personnel, has_publication, has_resource, has_target**

  - **End_Class**
- **End_Class**

- **Mission Occurs 1 Times**

  description: **The Mission class describes an activity involved in the collection of data.**
  role: **Concrete**
  attribute: **description** value: *value*
  attribute: **objectives_summary** value: *value*
  attribute: **start_date** value: *value*
  attribute: **stop_date** value: *value*

  - **End_Class**
- **End_Class**

- **Product_Movie**

description: **The Product Movie class defines a product consisting of at least one movie and other associated data objects and metadata.**
role: **Concrete**

  - **Identification_Area_Product Occurs 1 Times**

  description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
  role: **Concrete**
  attribute: **logical_identifier** value: *value*
  attribute: **version_id** value: *value*
  attribute: **product_class** value: *value*
  attribute: **title** value: *value*
  attribute: **alternate_title** value: *value* ^{Optional}
  attribute: **alternate_id** value: *value* ^{Optional}
  attribute: **last_modification_date_time** value: *value* ^{Optional}
  attribute: **product_subclass** value: *value* ^{Optional}

    - **Subject_Area Occurs 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: *value* ^{Optional}
    attribute: **instrument_name** value: *value* ^{Optional}
    attribute: **instrument_host_name** value: *value* ^{Optional}
    attribute: **full_name** value: *value* ^{Optional}
    attribute: **investigation_name** value: *value* ^{Optional}
    attribute: **observing_system_name** value: *value* ^{Optional}

- **Name_Resolution - Occurs 0 to * Times**

    description: **The Name_Resolution class provides both primary and alternate names of an object.**
    role: **Concrete**
    attribute: **class_name** value: **value**
    attribute: **lidvid_reference** value: **value** Optional
    attribute: **name** value: **value**
    attribute: **primary_name** value: **value**
    attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Product Occurs 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

      description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
      role: **Concrete**
      attribute: **local_identifier** value: **value**
      attribute: **description** value: **value** Optional
      attribute: **doi** value: **value** Optional
      attribute: **reference_text** value: **value**
      attribute: **url** value: **value** Optional

    - **End_Class**

    - **Observing_System - Occurs 1 to * Times**

      description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
      role: **Concrete**
      attribute: **local_identifier** value: **value** Optional
      attribute: **description** value: **value** Optional
      attribute: **title** value: **value**

        - **Observing_System_Component - Occurs 1 to 2 Times**

          description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
          role: **Concrete**
          attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

            - **Observing_System_Reference_Entry - Occurs 1 to * Times**

              description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
              role: **Concrete**
              attribute: **lid_reference** value: **value** Optional
              attribute: **lidvid_reference** value: **value** Optional
              attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

            - **End_Class**
        - **End_Class**
    - **End_Class**

    - **Product_Reference_Entry - Occurs 0 to * Times**

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

the reference. The reference is to a product.
role: **Concrete**
attribute: **lid_reference** value: ***value*** ^{Optional}
attribute: **lidvid_reference** value: ***value*** ^{Optional}
attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- **End_Class**
- **End_Class**

- **Observation_Area Occurs 1 Times**

  description: **The observation area consists of attributes in the role of providing information about the circumstances under which the data were collected.**
  role: **Concrete**

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

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

    - **End_Class**

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

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

    - **End_Class**
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **start_date_time** value: ***value***
      attribute: **stop_date_time** value: ***value***
      attribute: **spacecraft_clock_start_count** value: ***value*** ^{Optional}
      attribute: **spacecraft_clock_stop_count** value: ***value*** ^{Optional}
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

    - **File - Occurs 1 to * Times**

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

    - **End_Class**
- **End_Class**

- **Data_Area_Alternate - Occurs 0 to * Times**

  description: **The Data Area Alternate allows the inclusion of any Data Object Description.**
  role: **Concrete**

    - **Tagged_Digital_Object - Occurs 0 to * Times**

      description: **The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.**

role: **Abstract**

- **End_Class**
- **End_Class**

- **Data_Area_Movie Occurs 1 Times**

    description: **The Movie Data Area requires at least one movie digital object.**
    role: **Concrete**

    - **Movie Occurs 1 Times - Base_Class:Array_Base**

        description: **The Movie class is an extension of array_base and defines a move as a set of two dimensional images in a time series.**
        role: **Concrete**

        - **Data_Location Occurs 1 Times**

            description: **The Data Location class provides the location of a digital object.**
            role: **Concrete**
            attribute: **file_local_identifier** value: ***value***
            attribute: **offset** value: ***value***

        - **End_Class**
            attribute: **local_identifier** value: ***value***
            attribute: **comment** value: ***value*** Optional
            attribute: **axes** value: **3**
            attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
            attribute: **encoding_type** value: **BINARY**

        - **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: **elements** value: ***value***
            attribute: **name** value: ***value***
            attribute: **sequence_number** value: ***value***
            attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional

        - **End_Class**

        - **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: **scaling_factor** value: ***value*** Optional
            attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
            attribute: **value_offset** value: ***value*** Optional
            attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte**

        - **End_Class**
        - **End_Class**
    - **End_Class**
- **End_Class**

- **Product_Node**

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

role: **Concrete**

- **Identification_Area Occurs 1 Times**

  description: **The identification area consists of attributes involved in the role of identifying and naming an object.**
  role: **Concrete**
  attribute: **logical_identifier** value: *value*
  attribute: **version_id** value: *value*
  attribute: **product_class** value: *value*
  attribute: **title** value: *value*
  attribute: **alternate_title** value: *value* Optional
  attribute: **alternate_id** value: *value* Optional
  attribute: **last_modification_date_time** value: *value* Optional
  attribute: **product_subclass** value: *value* Optional

  - **Subject_Area - Occurs 0 to 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: *value* Optional
    attribute: **instrument_name** value: *value* Optional
    attribute: **instrument_host_name** value: *value* Optional
    attribute: **full_name** value: *value* Optional
    attribute: **investigation_name** value: *value* Optional
    attribute: **observing_system_name** value: *value* Optional

    - **Name_Resolution - Occurs 0 to * Times**

      description: **The Name_Resolution class provides both primary and alternate names of an object.**
      role: **Concrete**
      attribute: **class_name** value: *value*
      attribute: **lidvid_reference** value: *value* Optional
      attribute: **name** value: *value*
      attribute: **primary_name** value: *value*
      attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Context - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: *value*
    attribute: **description** value: *value* Optional
    attribute: **doi** value: *value* Optional
    attribute: **reference_text** value: *value*
    attribute: **url** value: *value* Optional

  - **End_Class**

  - **Context_Reference_Entry - Occurs 0 to * Times**

    description: **The Context Reference Entry class implements associations between context products. For example, an instrument is associated with an instriument_host which in turn is associated with an investigation.**
    role: **Concrete**
    attribute: **lid_reference** value: *value* Optional
    attribute: **lidvid_reference** value: *value* Optional

- attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host, has_investigation , has_node, has_personnel, has_publication, has_resource, has_target**
  - **End_Class**
- **End_Class**

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

  - **End_Class**
- **End_Class**

- **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 involved in the role of identifying and naming an object.**
    role: **Concrete**
    attribute: **logical_identifier** value: **value**
    attribute: **version_id** value: **value**
    attribute: **product_class** value: **value**
    attribute: **title** value: **value**
    attribute: **alternate_title** value: **value** Optional
    attribute: **alternate_id** value: **value** Optional
    attribute: **last_modification_date_time** value: **value** Optional
    attribute: **product_subclass** value: **value** Optional

    - **Subject_Area - Occurs 0 to 1 Times**

      description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
      role: **Concrete**
      attribute: **target_name** value: **value** Optional
      attribute: **instrument_name** value: **value** Optional
      attribute: **instrument_host_name** value: **value** Optional
      attribute: **full_name** value: **value** Optional
      attribute: **investigation_name** value: **value** Optional
      attribute: **observing_system_name** value: **value** Optional

      - **Name_Resolution - Occurs 0 to * Times**

        description: **The Name_Resolution class provides both primary and alternate names of an object.**
        role: **Concrete**
        attribute: **class_name** value: **value**
        attribute: **lidvid_reference** value: **value** Optional
        attribute: **name** value: **value**
        attribute: **primary_name** value: **value**
        attribute: **role** value: **ALTERNATE, PRIMARY**

        - **End_Class**
      - **End_Class**
    - **End_Class**

  - **Cross_Reference_Area_Context Occurs 1 Times**

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

role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

  description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
  role: **Concrete**
  attribute: **local_identifier** value: *value*
  attribute: **description** value: *value* Optional
  attribute: **doi** value: *value* Optional
  attribute: **reference_text** value: *value*
  attribute: **url** value: *value* Optional

  - **End_Class**

- **Context_Reference_Entry - Occurs 0 to * Times**

  description: **The Context Reference Entry class implements associations between context products. For example, an instrument is associated with an instriument_host which in turn is associated with an investigation.**
  role: **Concrete**
  attribute: **lid_reference** value: *value* Optional
  attribute: **lidvid_reference** value: *value* Optional
  attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host, has_investigation , has_node, has_personnel, has_publication, has_resource, has_target**

  - **End_Class**
- **End_Class**

- **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: **description** value: *value* Optional
  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: **affiliation_type** value: **Affiliate, Data_Provider, Manager, Technical_Staff**
  attribute: **alternate_telephone_number** value: **+cc ddd ddd dddd**
  attribute: **electronic_mail_address** value: *value* Optional
  attribute: **institution_name** value: *value*
  attribute: **postal_address_text** value: *value*
  attribute: **registration_date** value: *value*
  attribute: **sort_name** value: *value*
  attribute: **telephone_number** value: **+cc ddd ddd dddd**

  - **End_Class**
- **End_Class**

- **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 involved in the role of identifying and naming an object.**
  role: **Concrete**
  attribute: **logical_identifier** value: *value*
  attribute: **version_id** value: *value*
  attribute: **product_class** value: *value*
  attribute: **title** value: *value*
  attribute: **alternate_title** value: *value* Optional

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

- **Subject_Area - Occurs 0 to 1 Times**

  description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
  role: **Concrete**
  attribute: **target_name** value: ***value*** ^{Optional}
  attribute: **instrument_name** value: ***value*** ^{Optional}
  attribute: **instrument_host_name** value: ***value*** ^{Optional}
  attribute: **full_name** value: ***value*** ^{Optional}
  attribute: **investigation_name** value: ***value*** ^{Optional}
  attribute: **observing_system_name** value: ***value*** ^{Optional}

  - **Name_Resolution - Occurs 0 to * Times**

    description: **The Name_Resolution class provides both primary and alternate names of an object.**
    role: **Concrete**
    attribute: **class_name** value: ***value***
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **name** value: ***value***
    attribute: **primary_name** value: ***value***
    attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Context Occurs 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **doi** value: ***value*** ^{Optional}
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** ^{Optional}

    - **End_Class**

  - **Context_Reference_Entry - Occurs 0 to * Times**

    description: **The Context Reference Entry class implements associations between context products. For example, an instrument is associated with an instriument_host which in turn is associated with an investigation.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** ^{Optional}
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host, has_investigation , has_node, has_personnel, has_publication, has_resource, has_target**

    - **End_Class**
- **End_Class**

- **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: **description** value: *value* ^{Optional}
attribute: **affiliation_type** value: **Affiliate, Data_Provider, Manager, Technical_Staff**
attribute: **registration_date** value: *value*
attribute: **sort_name** value: *value*

- **End_Class**
- **End_Class**

- **Product_Resource**

  description: **A resource product describes a web resource.**
  role: **Concrete**

  - **Identification_Area Occurs 1 Times**

    description: **The identification area consists of attributes involved in the role of identifying and naming an object.**
    role: **Concrete**
    attribute: **logical_identifier** value: *value*
    attribute: **version_id** value: *value*
    attribute: **product_class** value: *value*
    attribute: **title** value: *value*
    attribute: **alternate_title** value: *value* ^{Optional}
    attribute: **alternate_id** value: *value* ^{Optional}
    attribute: **last_modification_date_time** value: *value* ^{Optional}
    attribute: **product_subclass** value: *value* ^{Optional}

    - **Subject_Area - Occurs 0 to 1 Times**

      description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
      role: **Concrete**
      attribute: **target_name** value: *value* ^{Optional}
      attribute: **instrument_name** value: *value* ^{Optional}
      attribute: **instrument_host_name** value: *value* ^{Optional}
      attribute: **full_name** value: *value* ^{Optional}
      attribute: **investigation_name** value: *value* ^{Optional}
      attribute: **observing_system_name** value: *value* ^{Optional}

      - **Name_Resolution - Occurs 0 to * Times**

        description: **The Name_Resolution class provides both primary and alternate names of an object.**
        role: **Concrete**
        attribute: **class_name** value: *value*
        attribute: **lidvid_reference** value: *value* ^{Optional}
        attribute: **name** value: *value*
        attribute: **primary_name** value: *value*
        attribute: **role** value: **ALTERNATE, PRIMARY**

      - **End_Class**
    - **End_Class**
  - **End_Class**

  - **Cross_Reference_Area_Context Occurs 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

      description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
      role: **Concrete**
      attribute: **local_identifier** value: *value*
      attribute: **description** value: *value* ^{Optional}
      attribute: **doi** value: *value* ^{Optional}

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

- **End_Class**

- **Context_Reference_Entry - Occurs 0 to * Times**

  description: **The Context Reference Entry class implements associations between context products. For example, an instrument is associated with an instriument_host which in turn is associated with an investigation.**
  role: **Concrete**
  attribute: **lid_reference** value: *value* Optional
  attribute: **lidvid_reference** value: *value* Optional
  attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host, has_investigation , has_node, has_personnel, has_publication, has_resource, has_target**

  - **End_Class**
- **End_Class**

- **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: **description** value: *value*
  attribute: **url** value: *value*

  - **End_Class**
- **End_Class**

- **Product_Spectrum_3D**

description: **The Product Spectrum 3D class defines a product consisting of at least one 3D spectrum and other associated data objects and metadata..**
role: **Concrete**

- **Identification_Area_Product Occurs 1 Times**

  description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
  role: **Concrete**
  attribute: **logical_identifier** value: *value*
  attribute: **version_id** value: *value*
  attribute: **product_class** value: *value*
  attribute: **title** value: *value*
  attribute: **alternate_title** value: *value* Optional
  attribute: **alternate_id** value: *value* Optional
  attribute: **last_modification_date_time** value: *value* Optional
  attribute: **product_subclass** value: *value* Optional

  - **Subject_Area Occurs 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: *value* Optional
    attribute: **instrument_name** value: *value* Optional
    attribute: **instrument_host_name** value: *value* Optional
    attribute: **full_name** value: *value* Optional
    attribute: **investigation_name** value: *value* Optional
    attribute: **observing_system_name** value: *value* Optional

    - **Name_Resolution - Occurs 0 to * Times**

      description: **The Name_Resolution class provides both primary and alternate names of an object.**
      role: **Concrete**

attribute: **class_name** value: ***value***
attribute: **lidvid_reference** value: ***value*** ^{Optional}
attribute: **name** value: ***value***
attribute: **primary_name** value: ***value***
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Product Occurs 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

      description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
      role: **Concrete**
      attribute: **local_identifier** value: ***value***
      attribute: **description** value: ***value*** ^{Optional}
      attribute: **doi** value: ***value*** ^{Optional}
      attribute: **reference_text** value: ***value***
      attribute: **url** value: ***value*** ^{Optional}

    - **End_Class**

    - **Observing_System - Occurs 1 to * Times**

      description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
      role: **Concrete**
      attribute: **local_identifier** value: ***value*** ^{Optional}
      attribute: **description** value: ***value*** ^{Optional}
      attribute: **title** value: ***value***

        - **Observing_System_Component - Occurs 1 to 2 Times**

          description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
          role: **Concrete**
          attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

            - **Observing_System_Reference_Entry - Occurs 1 to * Times**

              description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
              role: **Concrete**
              attribute: **lid_reference** value: ***value*** ^{Optional}
              attribute: **lidvid_reference** value: ***value*** ^{Optional}
              attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

            - **End_Class**
        - **End_Class**
    - **End_Class**

    - **Product_Reference_Entry - Occurs 0 to * Times**

      description: **The Product Reference Entry class provides a product specific reference and type information about the reference. The reference is to a product.**
      role: **Concrete**
      attribute: **lid_reference** value: ***value*** ^{Optional}
      attribute: **lidvid_reference** value: ***value*** ^{Optional}
      attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration,**

has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail

- **End_Class**
- **End_Class**

- **Observation_Area Occurs 1 Times**

  description: **The observation area consists of attributes in the role of providing information about the circumstances under which the data were collected.**
  role: **Concrete**

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

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

  - **End_Class**

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

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

  - **End_Class**
    attribute: **comment** value: *value* Optional
    attribute: **start_date_time** value: *value*
    attribute: **stop_date_time** value: *value*
    attribute: **spacecraft_clock_start_count** value: *value* Optional
    attribute: **spacecraft_clock_stop_count** value: *value* Optional
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

    description: **The File class consists of attributes involved in the role of describing a file in a data store.**
    role: **Concrete**
    attribute: **local_identifier** value: *value*
    attribute: **comment** value: *value* Optional
    attribute: **creation_date_time** value: *value* Optional
    attribute: **file_name** value: *value*
    attribute: **file_size** value: *value* Optional
    attribute: **max_record_bytes** value: *value* Optional
    attribute: **md5_checksum** value: *value* Optional
    attribute: **records** value: *value* Optional

  - **End_Class**
- **End_Class**

- **Data_Area_Spectrum_3D Occurs 1 Times**

  description: **The Spectrum 3D Data Area requires at least one 3D Spectrum digital object.**
  role: **Concrete**

  - **Spectrum_3D Occurs 1 Times - Base_Class:Array_Base**

    description: **The Spectrum 3D class is an extension of array_base and defines a three dimensional spectrum.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**

role: **Concrete**
attribute: **file_local_identifier** value: ***value***
attribute: **offset** value: ***value***

- **End_Class**
  attribute: **local_identifier** value: ***value***
  attribute: **comment** value: ***value*** ^{Optional}
  attribute: **axes** value: **3**
  attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
  attribute: **encoding_type** value: **BINARY**

  - **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: **elements** value: ***value***
    attribute: **name** value: ***value***
    attribute: **sequence_number** value: ***value***
    attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** ^{Optional}

  - **End_Class**

  - **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: **scaling_factor** value: ***value*** ^{Optional}
    attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** ^{Optional}
    attribute: **value_offset** value: ***value*** ^{Optional}
    attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Data_Area_Alternate - Occurs 0 to * Times**

  description: **The Data Area Alternate allows the inclusion of any Data Object Description.**
  role: **Concrete**

  - **Tagged_Digital_Object - Occurs 0 to * Times**

    description: **The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.**
    role: **Abstract**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Product_SPICE_Kernel_Binary**

  description: **The Product SPICE Kernel Text class defines a binary SPICE product.**
  role: **Concrete**

  - **Identification_Area_Product Occurs 1 Times**

    description: **The product identification area consists of attributes involved in the role of identifying and naming a data**

product.
role: **Concrete**
attribute: **logical_identifier** value: **value**
attribute: **version_id** value: **value**
attribute: **product_class** value: **value**
attribute: **title** value: **value**
attribute: **alternate_title** value: **value** ^{Optional}
attribute: **alternate_id** value: **value** ^{Optional}
attribute: **last_modification_date_time** value: **value** ^{Optional}
attribute: **product_subclass** value: **value** ^{Optional}

- **Subject_Area Occurs 1 Times**

  description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
  role: **Concrete**
  attribute: **target_name** value: **value** ^{Optional}
  attribute: **instrument_name** value: **value** ^{Optional}
  attribute: **instrument_host_name** value: **value** ^{Optional}
  attribute: **full_name** value: **value** ^{Optional}
  attribute: **investigation_name** value: **value** ^{Optional}
  attribute: **observing_system_name** value: **value** ^{Optional}

  - **Name_Resolution - Occurs 0 to * Times**

    description: **The Name_Resolution class provides both primary and alternate names of an object.**
    role: **Concrete**
    attribute: **class_name** value: **value**
    attribute: **lidvid_reference** value: **value** ^{Optional}
    attribute: **name** value: **value**
    attribute: **primary_name** value: **value**
    attribute: **role** value: **ALTERNATE, PRIMARY**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Product Occurs 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: **value**
    attribute: **description** value: **value** ^{Optional}
    attribute: **doi** value: **value** ^{Optional}
    attribute: **reference_text** value: **value**
    attribute: **url** value: **value** ^{Optional}

  - **End_Class**

  - **Observing_System - Occurs 1 to * Times**

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: **value** ^{Optional}
    attribute: **description** value: **value** ^{Optional}
    attribute: **title** value: **value**

    - **Observing_System_Component - Occurs 1 to 2 Times**

description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
role: **Concrete**
attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

- **Observing_System_Reference_Entry - Occurs 1 to * Times**

  description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Product_Reference_Entry - Occurs 0 to * Times**

  description: **The Product Reference Entry class provides a product specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

  - **End_Class**
- **End_Class**

- **Observation_Area Occurs 1 Times**

  description: **The observation area consists of attributes in the role of providing information about the circumstances under which the data were collected.**
  role: **Concrete**

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

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

  - **End_Class**

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

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

  - **End_Class**
    attribute: **comment** value: ***value*** Optional
    attribute: **start_date_time** value: ***value***
    attribute: **stop_date_time** value: ***value***
    attribute: **spacecraft_clock_start_count** value: ***value*** Optional
    attribute: **spacecraft_clock_stop_count** value: ***value*** Optional
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

description: **The File class consists of attributes involved in the role of describing a file in a data store.**
role: **Concrete**
attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* Optional
attribute: **creation_date_time** value: *value* Optional
attribute: **file_name** value: *value*
attribute: **file_size** value: *value* Optional
attribute: **max_record_bytes** value: *value* Optional
attribute: **md5_checksum** value: *value* Optional
attribute: **records** value: *value* Optional

- **End_Class**
- **End_Class**

- **Data_Area_SPICE_Kernel_Binary Occurs 1 Times**

  description: **The SPICE Kernel Binary Data Area requires at least one SPICE Kernel Binary digital object.**
  role: **Concrete**

  - **SPICE_Kernel_Binary Occurs 1 Times**

    description: **The SPICE Kernel class describes a SPICE file.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: *value*
      attribute: **offset** value: *value*

    - **End_Class**
      attribute: **local_identifier** value: *value*
      attribute: **comment** value: *value* Optional
      attribute: **encoding_type** value: **BINARY**
      attribute: **external_standard_id** value: **SPICE**
      attribute: **kernel_type** value: **CK, DBK, DSK, EK, PCK, SPK**
    - **End_Class**
  - **End_Class**

- **Data_Area_Alternate - Occurs 0 to * Times**

  description: **The Data Area Alternate allows the inclusion of any Data Object Description.**
  role: **Concrete**

  - **Tagged_Digital_Object - Occurs 0 to * Times**

    description: **The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.**
    role: **Abstract**

  - **End_Class**
  - **End_Class**
- **End_Class**

- **Product_SPICE_Kernel_Text**

  description: **The Product SPICE Kernel Text class defines a text SPICE product.**
  role: **Concrete**

  - **Identification_Area_Product Occurs 1 Times**

    description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
    role: **Concrete**
    attribute: **logical_identifier** value: *value*

attribute: **version_id** value: ***value***
attribute: **product_class** value: ***value***
attribute: **title** value: ***value***
attribute: **alternate_title** value: ***value*** ^{Optional}
attribute: **alternate_id** value: ***value*** ^{Optional}
attribute: **last_modification_date_time** value: ***value*** ^{Optional}
attribute: **product_subclass** value: ***value*** ^{Optional}

- **Subject_Area Occurs 1 Times**

  description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
  role: **Concrete**
  attribute: **target_name** value: ***value*** ^{Optional}
  attribute: **instrument_name** value: ***value*** ^{Optional}
  attribute: **instrument_host_name** value: ***value*** ^{Optional}
  attribute: **full_name** value: ***value*** ^{Optional}
  attribute: **investigation_name** value: ***value*** ^{Optional}
  attribute: **observing_system_name** value: ***value*** ^{Optional}

    - **Name_Resolution - Occurs 0 to * Times**

      description: **The Name_Resolution class provides both primary and alternate names of an object.**
      role: **Concrete**
      attribute: **class_name** value: ***value***
      attribute: **lidvid_reference** value: ***value*** ^{Optional}
      attribute: **name** value: ***value***
      attribute: **primary_name** value: ***value***
      attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Product Occurs 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

      description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
      role: **Concrete**
      attribute: **local_identifier** value: ***value***
      attribute: **description** value: ***value*** ^{Optional}
      attribute: **doi** value: ***value*** ^{Optional}
      attribute: **reference_text** value: ***value***
      attribute: **url** value: ***value*** ^{Optional}

    - **End_Class**

    - **Observing_System - Occurs 1 to * Times**

      description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
      role: **Concrete**
      attribute: **local_identifier** value: ***value*** ^{Optional}
      attribute: **description** value: ***value*** ^{Optional}
      attribute: **title** value: ***value***

        - **Observing_System_Component - Occurs 1 to 2 Times**

          description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
          role: **Concrete**

attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

- **Observing_System_Reference_Entry - Occurs 1 to * Times**

  description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
  role: **Concrete**
  attribute: **lid_reference** value: **_value_** Optional
  attribute: **lidvid_reference** value: **_value_** Optional
  attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Product_Reference_Entry - Occurs 0 to * Times**

  description: **The Product Reference Entry class provides a product specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: **_value_** Optional
  attribute: **lidvid_reference** value: **_value_** Optional
  attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

  - **End_Class**
- **End_Class**

- **Observation_Area Occurs 1 Times**

  description: **The observation area consists of attributes in the role of providing information about the circumstances under which the data were collected.**
  role: **Concrete**

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

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

    - **End_Class**

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

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

    - **End_Class**
      attribute: **comment** value: **_value_** Optional
      attribute: **start_date_time** value: **_value_**
      attribute: **stop_date_time** value: **_value_**
      attribute: **spacecraft_clock_start_count** value: **_value_** Optional
      attribute: **spacecraft_clock_stop_count** value: **_value_** Optional
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

    description: **The File class consists of attributes involved in the role of describing a file in a data store.**
    role: **Concrete**
    attribute: **local_identifier** value: **_value_**

attribute: **comment** value: ***value*** ^{Optional}
attribute: **creation_date_time** value: ***value*** ^{Optional}
attribute: **file_name** value: ***value***
attribute: **file_size** value: ***value*** ^{Optional}
attribute: **max_record_bytes** value: ***value*** ^{Optional}
attribute: **md5_checksum** value: ***value*** ^{Optional}
attribute: **records** value: ***value*** ^{Optional}

- **End_Class**
- **End_Class**

- **Data_Area_SPICE_Kernel_Text Occurs 1 Times**

  description: **The SPICE Kernel Text Data Area requires at least one SPICE Kernel Text digital object.**
  role: **Concrete**

  - **SPICE_Kernel_Text Occurs 1 Times**

    description: **The SPICE Kernel class describes a SPICE file.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **external_standard_id** value: ***value***
      attribute: **kernel_type** value: **EK, FK, IK, LSK, MK, PCK, SCLK**
    - **End_Class**
  - **End_Class**

- **Data_Area_Alternate - Occurs 0 to * Times**

  description: **The Data Area Alternate allows the inclusion of any Data Object Description.**
  role: **Concrete**

  - **Tagged_Digital_Object - Occurs 0 to * Times**

    description: **The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.**
    role: **Abstract**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Product_Stream_Delimited**

  description: **The Product Stream Delimited class defines a product consisting of at least one Stream Delimited file (Spreadsheet) and other associated data objects and metadata.**
  role: **Concrete**

  - **Identification_Area_Product Occurs 1 Times**

    description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
    role: **Concrete**
    attribute: **logical_identifier** value: ***value***
    attribute: **version_id** value: ***value***
    attribute: **product_class** value: ***value***

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

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

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

attribute: **last_modification_date_time** value: ***value*** Optional

attribute: **product_subclass** value: ***value*** Optional

- **Subject_Area Occurs 1 Times**

  description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
  role: **Concrete**
  attribute: **target_name** value: ***value*** Optional
  attribute: **instrument_name** value: ***value*** Optional
  attribute: **instrument_host_name** value: ***value*** Optional
  attribute: **full_name** value: ***value*** Optional
  attribute: **investigation_name** value: ***value*** Optional
  attribute: **observing_system_name** value: ***value*** Optional

  - **Name_Resolution - Occurs 0 to * Times**

    description: **The Name_Resolution class provides both primary and alternate names of an object.**
    role: **Concrete**
    attribute: **class_name** value: ***value***
    attribute: **lidvid_reference** value: ***value*** Optional
    attribute: **name** value: ***value***
    attribute: **primary_name** value: ***value***
    attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Product Occurs 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** Optional
    attribute: **doi** value: ***value*** Optional
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** Optional

  - **End_Class**

  - **Observing_System - Occurs 1 to * Times**

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value*** Optional
    attribute: **description** value: ***value*** Optional
    attribute: **title** value: ***value***

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

- **Observing_System_Reference_Entry - Occurs 1 to * Times**

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

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

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

  attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Product_Reference_Entry - Occurs 0 to * Times**

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

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

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

  attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

  - **End_Class**
- **End_Class**

- **Observation_Area Occurs 1 Times**

  description: **The observation area consists of attributes in the role of providing information about the circumstances under which the data were collected.**
  role: **Concrete**

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

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

    - **End_Class**

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

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

    - **End_Class**
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **start_date_time** value: ***value***
      attribute: **stop_date_time** value: ***value***
      attribute: **spacecraft_clock_start_count** value: ***value*** ^{Optional}
      attribute: **spacecraft_clock_stop_count** value: ***value*** ^{Optional}
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

    - **File - Occurs 1 to * Times**

      description: **The File class consists of attributes involved in the role of describing a file in a data store.**
      role: **Concrete**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **creation_date_time** value: ***value*** ^{Optional}

attribute: **file_name** value: *value*
attribute: **file_size** value: *value* ^{Optional}
attribute: **max_record_bytes** value: *value* ^{Optional}
attribute: **md5_checksum** value: *value* ^{Optional}
attribute: **records** value: *value* ^{Optional}

- **End_Class**
- **End_Class**

- **Data_Area_Stream_Delimited Occurs 1 Times**

  description: **The Stream Delimited Data Area requires at least one stream delimited digital object.**
  role: **Concrete**

  - **Stream_Delimited Occurs 1 Times**

    description: **The Stream Delimited class defines a simple spreadsheet.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: *value*
      attribute: **offset** value: *value*

    - **End_Class**
      attribute: **local_identifier** value: *value*
      attribute: **comment** value: *value* ^{Optional}
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **external_standard_id** value: **CSV**
      attribute: **field_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**
      attribute: **fields** value: *value*
      attribute: **maximum_record_length** value: *value*
      attribute: **record_delimiter** value: **0xOA, 0xOD, 0xOD_0xOA**
      attribute: **records** value: *value*

    - **Stream_Delimited_Record - Occurs 1 to * Times**

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

      - **Stream_Delimited_Grouped_Sequence - Occurs 1 to * Times**

        description: **The Stream Delimited Grouped Sequence class is a component of the grouped stream delimited (spreadsheet) class. It defines a set of fields.**
        role: **Concrete**
        attribute: **repetitions** value: *value* ^{Optional}

        - **Stream_Delimited_Field_Sequence - Occurs 1 to * Times**

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

          - **Stream_Delimited_Field - Occurs 0 to * Times**

            description: **The Stream Delimited Field class is a component of the stream delimited (spreadsheet) record class and defines a field of the record.**
            role: **Concrete**
            attribute: **field_name** value: *value*
            attribute: **field_number** value: *value* ^{Optional}
            attribute: **field_data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_Integer, ASCII_Integer_Binary, ASCII_Integer_Hex, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Real, ASCII_Short_String_Collapsed,**

ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID
attribute: **field_format** value: *value* ^{Optional}
attribute: **minimum_scaled_value** value: *value* ^{Optional}
attribute: **maximum_scaled_value** value: *value* ^{Optional}
attribute: **field_min_logical** value: *value* ^{Optional}
attribute: **field_max_logical** value: *value* ^{Optional}
attribute: **field_scaling_factor** value: *value* ^{Optional}
attribute: **field_value_offset** value: *value* ^{Optional}
attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** ^{Optional}
attribute: **field_description** value: *value* ^{Optional}
attribute: **field_bytes** value: *value*

- **Object_Statistics - Occurs 0 to 1 Times**

  description: **The Object Statistics class provides a set of values that provide metrics about the object.**
  role: **Concrete**
  attribute: **local_identifier** value: *value*
  attribute: **description** value: *value* ^{Optional}
  attribute: **maximum** value: *value* ^{Optional}
  attribute: **md5_checksum** value: *value* ^{Optional}
  attribute: **mean** value: *value* ^{Optional}
  attribute: **median** value: *value* ^{Optional}
  attribute: **minimum** value: *value* ^{Optional}
  attribute: **sample_bit_mask** value: *value* ^{Optional}
  attribute: **standard_deviation** value: *value* ^{Optional}

- **End_Class**

- **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_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Data_Area_Alternate - Occurs 0 to * Times**

  description: **The Data Area Alternate allows the inclusion of any Data Object Description.**
  role: **Concrete**

  - **Tagged_Digital_Object - Occurs 0 to * Times**

    description: **The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.**
    role: **Abstract**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Product_Table_Binary**

  description: **The Product Table Binary class defines a product consisting of at least one Binary table and other associated data objects and metadata.**
  role: **Concrete**

  - **Identification_Area_Product Occurs 1 Times**

    description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
    role: **Concrete**
    attribute: **logical_identifier** value: *value*
    attribute: **version_id** value: *value*
    attribute: **product_class** value: *value*
    attribute: **title** value: *value*
    attribute: **alternate_title** value: *value* Optional
    attribute: **alternate_id** value: *value* Optional
    attribute: **last_modification_date_time** value: *value* Optional
    attribute: **product_subclass** value: *value* Optional

    - **Subject_Area Occurs 1 Times**

      description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
      role: **Concrete**
      attribute: **target_name** value: *value* Optional
      attribute: **instrument_name** value: *value* Optional
      attribute: **instrument_host_name** value: *value* Optional
      attribute: **full_name** value: *value* Optional
      attribute: **investigation_name** value: *value* Optional
      attribute: **observing_system_name** value: *value* Optional

      - **Name_Resolution - Occurs 0 to * Times**

        description: **The Name_Resolution class provides both primary and alternate names of an object.**
        role: **Concrete**
        attribute: **class_name** value: *value*
        attribute: **lidvid_reference** value: *value* Optional
        attribute: **name** value: *value*
        attribute: **primary_name** value: *value*
        attribute: **role** value: **ALTERNATE, PRIMARY**

      - **End_Class**
    - **End_Class**
  - **End_Class**

  - **Cross_Reference_Area_Product Occurs 1 Times**

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

    - **Bibliographic_Reference - Occurs 0 to * Times**

      description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
      role: **Concrete**
      attribute: **local_identifier** value: *value*
      attribute: **description** value: *value* Optional
      attribute: **doi** value: *value* Optional
      attribute: **reference_text** value: *value*
      attribute: **url** value: *value* Optional

    - **End_Class**

- **Observing_System - Occurs 1 to * Times**

  description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
  role: **Concrete**

  attribute: **local_identifier** value: **_value_** Optional
  attribute: **description** value: **_value_** Optional
  attribute: **title** value: **_value_**

  - **Observing_System_Component - Occurs 1 to 2 Times**

    description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
    role: **Concrete**
    attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

    - **Observing_System_Reference_Entry - Occurs 1 to * Times**

      description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
      role: **Concrete**
      attribute: **lid_reference** value: **_value_** Optional
      attribute: **lidvid_reference** value: **_value_** Optional
      attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

      - **End_Class**
    - **End_Class**
- **End_Class**

- **Product_Reference_Entry - Occurs 0 to * Times**

  description: **The Product Reference Entry class provides a product specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: **_value_** Optional
  attribute: **lidvid_reference** value: **_value_** Optional
  attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

  - **End_Class**
- **End_Class**

- **Observation_Area Occurs 1 Times**

  description: **The observation area consists of attributes in the role of providing information about the circumstances under which the data were collected.**
  role: **Concrete**

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

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

  - **End_Class**

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

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

  - **End_Class**
    attribute: **comment** value: **_value_** Optional
    attribute: **start_date_time** value: **_value_**
    attribute: **stop_date_time** value: **_value_**

- attribute: **spacecraft_clock_start_count** value: ***value*** ^{Optional}
- attribute: **spacecraft_clock_stop_count** value: ***value*** ^{Optional}
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

    - **End_Class**
- **End_Class**

- **Data_Area_Table_Binary Occurs 1 Times**

  description: **The Table Binary Data Area requires at least one table binary digital object.**
  role: **Concrete**

  - **Table_Binary Occurs 1 Times - Base_Class:Table_Base**

    description: **The Table Binary class is an extension of table base and defines a simple binary table.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **encoding_type** value: **BINARY**
      attribute: **fields** value: ***value***
      attribute: **record_bytes** value: ***value***
      attribute: **records** value: ***value***

    - **Table_Record_Binary - Occurs 1 to * Times**

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

      - **Table_Binary_Field - Occurs 1 to * Times**

        description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**
        role: **Concrete**
        attribute: **field_name** value: ***value***
        attribute: **field_number** value: ***value*** ^{Optional}
        attribute: **field_data_type** value: **Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedMSB2, UnsignedMSB4**
        attribute: **field_location** value: ***value***
        attribute: **field_length** value: ***value***

attribute: **field_format** value: *value* Optional
attribute: **minimum_scaled_value** value: *value* Optional
attribute: **maximum_scaled_value** value: *value* Optional
attribute: **field_min_logical** value: *value* Optional
attribute: **field_max_logical** value: *value* Optional
attribute: **field_scaling_factor** value: *value* Optional
attribute: **field_value_offset** value: *value* Optional
attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
attribute: **field_description** value: *value* Optional

- **Object_Statistics - Occurs 0 to 1 Times**

  description: **The Object Statistics class provides a set of values that provide metrics about the object.**
  role: **Concrete**
  attribute: **local_identifier** value: *value*
  attribute: **description** value: *value* Optional
  attribute: **maximum** value: *value* Optional
  attribute: **md5_checksum** value: *value* Optional
  attribute: **mean** value: *value* Optional
  attribute: **median** value: *value* Optional
  attribute: **minimum** value: *value* Optional
  attribute: **sample_bit_mask** value: *value* Optional
  attribute: **standard_deviation** value: *value* Optional

- **End_Class**

- **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_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Data_Area_Alternate - Occurs 0 to * Times**

  description: **The Data Area Alternate allows the inclusion of any Data Object Description.**
  role: **Concrete**

  - **Tagged_Digital_Object - Occurs 0 to * Times**

    description: **The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.**
    role: **Abstract**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Product_Table_Binary_Grouped**

description: **The Product Table Binary Grouped class defines a product consisting of at least one Binary table with groups of repeating fields and other associated data objects and metadata.**
role: **Concrete**

- **Identification_Area_Product Occurs 1 Times**

  description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
  role: **Concrete**
  attribute: **logical_identifier** value: **value**
  attribute: **version_id** value: **value**
  attribute: **product_class** value: **value**
  attribute: **title** value: **value**
  attribute: **alternate_title** value: **value** Optional
  attribute: **alternate_id** value: **value** Optional
  attribute: **last_modification_date_time** value: **value** Optional
  attribute: **product_subclass** value: **value** Optional

  - **Subject_Area Occurs 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: **value** Optional
    attribute: **instrument_name** value: **value** Optional
    attribute: **instrument_host_name** value: **value** Optional
    attribute: **full_name** value: **value** Optional
    attribute: **investigation_name** value: **value** Optional
    attribute: **observing_system_name** value: **value** Optional

    - **Name_Resolution - Occurs 0 to * Times**

      description: **The Name_Resolution class provides both primary and alternate names of an object.**
      role: **Concrete**
      attribute: **class_name** value: **value**
      attribute: **lidvid_reference** value: **value** Optional
      attribute: **name** value: **value**
      attribute: **primary_name** value: **value**
      attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Product Occurs 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: **value**
    attribute: **description** value: **value** Optional
    attribute: **doi** value: **value** Optional
    attribute: **reference_text** value: **value**
    attribute: **url** value: **value** Optional

  - **End_Class**

  - **Observing_System - Occurs 1 to * Times**

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into**

components, for example a sensor or a source.
role: **Concrete**
attribute: **local_identifier** value: ***value*** ^{Optional}
attribute: **description** value: ***value*** ^{Optional}
attribute: **title** value: ***value***

- **Observing_System_Component - Occurs 1 to 2 Times**

  description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
  role: **Concrete**
  attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

  - **Observing_System_Reference_Entry - Occurs 1 to * Times**

    description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** ^{Optional}
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Product_Reference_Entry - Occurs 0 to * Times**

  description: **The Product Reference Entry class provides a product specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** ^{Optional}
  attribute: **lidvid_reference** value: ***value*** ^{Optional}
  attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

  - **End_Class**
- **End_Class**

- **Observation_Area Occurs 1 Times**

  description: **The observation area consists of attributes in the role of providing information about the circumstances under which the data were collected.**
  role: **Concrete**

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

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

    - **End_Class**

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

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

    - **End_Class**
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **start_date_time** value: ***value***
      attribute: **stop_date_time** value: ***value***
      attribute: **spacecraft_clock_start_count** value: ***value*** ^{Optional}
      attribute: **spacecraft_clock_stop_count** value: ***value*** ^{Optional}
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

    description: **The File class consists of attributes involved in the role of describing a file in a data store.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **creation_date_time** value: ***value*** Optional
    attribute: **file_name** value: ***value***
    attribute: **file_size** value: ***value*** Optional
    attribute: **max_record_bytes** value: ***value*** Optional
    attribute: **md5_checksum** value: ***value*** Optional
    attribute: **records** value: ***value*** Optional

  - **End_Class**
- **End_Class**

- **Data_Area_Table_Binary_Grouped Occurs 1 Times**

  description: **The Table Binary Grouped Data Area requires at least one table binary grouped digital object.**
  role: **Concrete**

  - **Table_Binary_Grouped Occurs 1 Times - Base_Class:Table_Base**

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

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** Optional
      attribute: **encoding_type** value: **BINARY**
      attribute: **fields** value: ***value***
      attribute: **record_bytes** value: ***value***
      attribute: **records** value: ***value***

    - **Table_Record_Binary_Grouped - Occurs 1 to * Times**

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

      - **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

        description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**
        role: **Concrete**
        attribute: **repetitions** value: ***value*** Optional

        - **Table_Binary_Field_Sequence - Occurs 1 to * Times**

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

          - **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**
role: **Concrete**
attribute: **field_name** value: **value**
attribute: **field_number** value: **value** Optional
attribute: **field_data_type** value: **Bit**
attribute: **field_location** value: **value**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** Optional
attribute: **minimum_scaled_value** value: **value** Optional
attribute: **maximum_scaled_value** value: **value** Optional
attribute: **field_min_logical** value: **value** Optional
attribute: **field_max_logical** value: **value** Optional
attribute: **field_scaling_factor** value: **value** Optional
attribute: **field_value_offset** value: **value** Optional
attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
attribute: **field_description** value: **value** Optional
attribute: **bit_mask** value: **value** Optional
attribute: **bits** value: **value**
attribute: **start_bit** value: **value**

- **End_Class**

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**
role: **Concrete**
attribute: **field_name** value: **value**
attribute: **field_number** value: **value** Optional
attribute: **field_data_type** value: **Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedMSB2, UnsignedMSB4**
attribute: **field_location** value: **value**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** Optional
attribute: **minimum_scaled_value** value: **value** Optional
attribute: **maximum_scaled_value** value: **value** Optional
attribute: **field_min_logical** value: **value** Optional
attribute: **field_max_logical** value: **value** Optional
attribute: **field_scaling_factor** value: **value** Optional
attribute: **field_value_offset** value: **value** Optional
attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
attribute: **field_description** value: **value** Optional

- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Data_Area_Alternate - Occurs 0 to * Times**

description: **The Data Area Alternate allows the inclusion of any Data Object Description.**
role: **Concrete**

- **Tagged_Digital_Object - Occurs 0 to * Times**

  description: **The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.**
  role: **Abstract**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Product_Table_Character**

description: **The Product Table Character class defines a product consisting of at least one character table and other associated data objects and metadata.**
role: **Concrete**

  - **Identification_Area_Product Occurs 1 Times**

    description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
    role: **Concrete**
    attribute: **logical_identifier** value: **value**
    attribute: **version_id** value: **value**
    attribute: **product_class** value: **value**
    attribute: **title** value: **value**
    attribute: **alternate_title** value: **value** Optional
    attribute: **alternate_id** value: **value** Optional
    attribute: **last_modification_date_time** value: **value** Optional
    attribute: **product_subclass** value: **value** Optional

      - **Subject_Area Occurs 1 Times**

        description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
        role: **Concrete**
        attribute: **target_name** value: **value** Optional
        attribute: **instrument_name** value: **value** Optional
        attribute: **instrument_host_name** value: **value** Optional
        attribute: **full_name** value: **value** Optional
        attribute: **investigation_name** value: **value** Optional
        attribute: **observing_system_name** value: **value** Optional

          - **Name_Resolution - Occurs 0 to * Times**

            description: **The Name_Resolution class provides both primary and alternate names of an object.**
            role: **Concrete**
            attribute: **class_name** value: **value**
            attribute: **lidvid_reference** value: **value** Optional
            attribute: **name** value: **value**
            attribute: **primary_name** value: **value**
            attribute: **role** value: **ALTERNATE, PRIMARY**

          - **End_Class**
      - **End_Class**
  - **End_Class**

  - **Cross_Reference_Area_Product Occurs 1 Times**

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

      - **Bibliographic_Reference - Occurs 0 to * Times**

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

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

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

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

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

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

- **End_Class**

- **Observing_System - Occurs 1 to * Times**

description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
role: **Concrete**

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

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

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

   - **Observing_System_Component - Occurs 1 to 2 Times**

   description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
   role: **Concrete**
   attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

      description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
      role: **Concrete**
      attribute: **lid_reference** value: ***value*** ^{Optional}
      attribute: **lidvid_reference** value: ***value*** ^{Optional}
      attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

         - **End_Class**
      - **End_Class**
   - **End_Class**

- **Product_Reference_Entry - Occurs 0 to * Times**

description: **The Product Reference Entry class provides a product specific reference and type information about the reference. The reference is to a product.**
role: **Concrete**
attribute: **lid_reference** value: ***value*** ^{Optional}
attribute: **lidvid_reference** value: ***value*** ^{Optional}
attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- **End_Class**
- **End_Class**

- **Observation_Area Occurs 1 Times**

description: **The observation area consists of attributes in the role of providing information about the circumstances under which the data were collected.**
role: **Concrete**

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

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

- **End_Class**

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

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

- **End_Class**
  attribute: **comment** value: ***value*** ^{Optional}
  attribute: **start_date_time** value: ***value***
  attribute: **stop_date_time** value: ***value***
  attribute: **spacecraft_clock_start_count** value: ***value*** ^{Optional}
  attribute: **spacecraft_clock_stop_count** value: ***value*** ^{Optional}
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

  - **End_Class**
- **End_Class**

- **Data_Area_Table_Character Occurs 1 Times**

  description: **The Table Character Data Area requires at least one table character digital object.**
  role: **Concrete**

  - **Table_Character Occurs 1 Times - Base_Class:Table_Base**

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

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **fields** value: ***value***
      attribute: **record_bytes** value: ***value***
      attribute: **records** value: ***value***

    - **Table_Record_Character - Occurs 1 to * Times**

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

      - **Table_Character_Field - Occurs 1 to * Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**
role: **Concrete**
attribute: **field_name** value: ***value***
attribute: **field_number** value: ***value*** ^{Optional}
attribute: **field_data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_Integer, ASCII_Integer_Binary, ASCII_Integer_Hex, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
attribute: **field_location** value: ***value***
attribute: **field_length** value: ***value***
attribute: **field_format** value: ***value*** ^{Optional}
attribute: **minimum_scaled_value** value: ***value*** ^{Optional}
attribute: **maximum_scaled_value** value: ***value*** ^{Optional}
attribute: **field_min_logical** value: ***value*** ^{Optional}
attribute: **field_max_logical** value: ***value*** ^{Optional}
attribute: **field_scaling_factor** value: ***value*** ^{Optional}
attribute: **field_value_offset** value: ***value*** ^{Optional}
attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** ^{Optional}
attribute: **field_description** value: ***value*** ^{Optional}

- **Object_Statistics - Occurs 0 to 1 Times**

  description: **The Object Statistics class provides a set of values that provide metrics about the object.**
  role: **Concrete**
  attribute: **local_identifier** value: ***value***
  attribute: **description** value: ***value*** ^{Optional}
  attribute: **maximum** value: ***value*** ^{Optional}
  attribute: **md5_checksum** value: ***value*** ^{Optional}
  attribute: **mean** value: ***value*** ^{Optional}
  attribute: **median** value: ***value*** ^{Optional}
  attribute: **minimum** value: ***value*** ^{Optional}
  attribute: **sample_bit_mask** value: ***value*** ^{Optional}
  attribute: **standard_deviation** value: ***value*** ^{Optional}

- **End_Class**

- **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_Class**

- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Data_Area_Alternate - Occurs 0 to * Times**

description: **The Data Area Alternate allows the inclusion of any Data Object Description.**
role: **Concrete**

- **Tagged_Digital_Object - Occurs 0 to * Times**

  description: **The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.**
  role: **Abstract**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Product_Table_Character_Grouped**

description: **The Product Table Character Grouped class defines a product consisting of at least one Character table with groups of repeating fields and other associated data objects and metadata.**
role: **Concrete**

- **Identification_Area_Product Occurs 1 Times**

  description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
  role: **Concrete**
  attribute: **logical_identifier** value: **value**
  attribute: **version_id** value: **value**
  attribute: **product_class** value: **value**
  attribute: **title** value: **value**
  attribute: **alternate_title** value: **value** Optional
  attribute: **alternate_id** value: **value** Optional
  attribute: **last_modification_date_time** value: **value** Optional
  attribute: **product_subclass** value: **value** Optional

  - **Subject_Area Occurs 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: **value** Optional
    attribute: **instrument_name** value: **value** Optional
    attribute: **instrument_host_name** value: **value** Optional
    attribute: **full_name** value: **value** Optional
    attribute: **investigation_name** value: **value** Optional
    attribute: **observing_system_name** value: **value** Optional

    - **Name_Resolution - Occurs 0 to * Times**

      description: **The Name_Resolution class provides both primary and alternate names of an object.**
      role: **Concrete**
      attribute: **class_name** value: **value**
      attribute: **lidvid_reference** value: **value** Optional
      attribute: **name** value: **value**
      attribute: **primary_name** value: **value**
      attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Product Occurs 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

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

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

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

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

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

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

- **End_Class**

- **Observing_System - Occurs 1 to * Times**

  description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
  role: **Concrete**

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

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

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

  - **Observing_System_Component - Occurs 1 to 2 Times**

    description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
    role: **Concrete**
    attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

    - **Observing_System_Reference_Entry - Occurs 1 to * Times**

      description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
      role: **Concrete**
      attribute: **lid_reference** value: ***value*** ^{Optional}

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

      attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

      - **End_Class**
    - **End_Class**
- **End_Class**

- **Product_Reference_Entry - Occurs 0 to * Times**

  description: **The Product Reference Entry class provides a product specific reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** ^{Optional}

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

  attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

  - **End_Class**
- **End_Class**

- **Observation_Area Occurs 1 Times**

  description: **The observation area consists of attributes in the role of providing information about the circumstances under which the data were collected.**
  role: **Concrete**

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

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

  - **End_Class**

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

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

- **End_Class**
  attribute: **comment** value: ***value*** ^{Optional}
  attribute: **start_date_time** value: ***value***
  attribute: **stop_date_time** value: ***value***
  attribute: **spacecraft_clock_start_count** value: ***value*** ^{Optional}
  attribute: **spacecraft_clock_stop_count** value: ***value*** ^{Optional}
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

  - **End_Class**
- **End_Class**

- **Data_Area_Table_Character_Grouped Occurs 1 Times**

  description: **The Table Character Grouped Data Area requires at least one table character grouped digital object.**
  role: **Concrete**

  - **Table_Character_Grouped Occurs 1 Times - Base_Class:Table_Base**

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

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **fields** value: ***value***
      attribute: **record_bytes** value: ***value***
      attribute: **records** value: ***value***

    - **Table_Record_Character_Grouped - Occurs 1 to * Times**

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

      - **Table_Character_Grouped_Sequence - Occurs 1 to * Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**
role: **Concrete**
attribute: **repetitions** value: ***value*** Optional

- **Table_Character_Field_Sequence - Occurs 1 to * Times**

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

  - **Table_Character_Grouped_Field - Occurs 0 to * Times**

    description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**
    role: **Concrete**
    attribute: **field_name** value: ***value***
    attribute: **field_number** value: ***value*** Optional
    attribute: **field_data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_Integer, ASCII_Integer_Binary, ASCII_Integer_Hex, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
    attribute: **field_location** value: ***value***
    attribute: **field_length** value: ***value***
    attribute: **field_format** value: ***value*** Optional
    attribute: **minimum_scaled_value** value: ***value*** Optional
    attribute: **maximum_scaled_value** value: ***value*** Optional
    attribute: **field_min_logical** value: ***value*** Optional
    attribute: **field_max_logical** value: ***value*** Optional
    attribute: **field_scaling_factor** value: ***value*** Optional
    attribute: **field_value_offset** value: ***value*** Optional
    attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
    attribute: **field_description** value: ***value*** Optional

    - **End_Class**
  - **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Data_Area_Alternate - Occurs 0 to * Times**

  description: **The Data Area Alternate allows the inclusion of any Data Object Description.**
  role: **Concrete**

  - **Tagged_Digital_Object - Occurs 0 to * Times**

    description: **The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.**
    role: **Abstract**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Product_Target**

  description: **A target product describes a target.**

role: **Concrete**

- **Identification_Area_Product Occurs 1 Times**

  description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
  role: **Concrete**
  attribute: **logical_identifier** value: ***value***
  attribute: **version_id** value: ***value***
  attribute: **product_class** value: ***value***
  attribute: **title** value: ***value***
  attribute: **alternate_title** value: ***value*** Optional
  attribute: **alternate_id** value: ***value*** Optional
  attribute: **last_modification_date_time** value: ***value*** Optional
  attribute: **product_subclass** value: ***value*** Optional

  - **Subject_Area Occurs 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: ***value*** Optional
    attribute: **instrument_name** value: ***value*** Optional
    attribute: **instrument_host_name** value: ***value*** Optional
    attribute: **full_name** value: ***value*** Optional
    attribute: **investigation_name** value: ***value*** Optional
    attribute: **observing_system_name** value: ***value*** Optional

    - **Name_Resolution - Occurs 0 to * Times**

      description: **The Name_Resolution class provides both primary and alternate names of an object.**
      role: **Concrete**
      attribute: **class_name** value: ***value***
      attribute: **lidvid_reference** value: ***value*** Optional
      attribute: **name** value: ***value***
      attribute: **primary_name** value: ***value***
      attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Context Occurs 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** Optional
    attribute: **doi** value: ***value*** Optional
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** Optional

  - **End_Class**

  - **Context_Reference_Entry - Occurs 0 to * Times**

    description: **The Context Reference Entry class implements associations between context products. For example, an instrument is associated with an instriument_host which in turn is associated with an investigation.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** Optional

attribute: **lidvid_reference** value: ***value*** ^{Optional}
attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host, has_investigation , has_node, has_personnel, has_publication, has_resource, has_target**

- **End_Class**
- **End_Class**

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

  - **End_Class**
- **End_Class**

- **Product_Text_File**

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

- **Identification_Area_Product Occurs 1 Times**

  description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
  role: **Concrete**
  attribute: **logical_identifier** value: ***value***
  attribute: **version_id** value: ***value***
  attribute: **product_class** value: ***value***
  attribute: **title** value: ***value***
  attribute: **alternate_title** value: ***value*** ^{Optional}
  attribute: **alternate_id** value: ***value*** ^{Optional}
  attribute: **last_modification_date_time** value: ***value*** ^{Optional}
  attribute: **product_subclass** value: ***value*** ^{Optional}

  - **Subject_Area Occurs 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: ***value*** ^{Optional}
    attribute: **instrument_name** value: ***value*** ^{Optional}
    attribute: **instrument_host_name** value: ***value*** ^{Optional}
    attribute: **full_name** value: ***value*** ^{Optional}
    attribute: **investigation_name** value: ***value*** ^{Optional}
    attribute: **observing_system_name** value: ***value*** ^{Optional}

    - **Name_Resolution - Occurs 0 to * Times**

      description: **The Name_Resolution class provides both primary and alternate names of an object.**
      role: **Concrete**
      attribute: **class_name** value: ***value***
      attribute: **lidvid_reference** value: ***value*** ^{Optional}
      attribute: **name** value: ***value***
      attribute: **primary_name** value: ***value***
      attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Misc - Occurs 0 to 1 Times**

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

- **Bibliographic_Reference - Occurs 0 to * Times**

  description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
  role: **Concrete**
  attribute: **local_identifier** value: ***value***
  attribute: **description** value: ***value*** Optional
  attribute: **doi** value: ***value*** Optional
  attribute: **reference_text** value: ***value***
  attribute: **url** value: ***value*** Optional

- **End_Class**

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

  description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
  role: **Concrete**
  attribute: **local_identifier** value: ***value*** Optional
  attribute: **description** value: ***value*** Optional
  attribute: **title** value: ***value***

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

        - **Observing_System_Reference_Entry - Occurs 1 to * Times**

          description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
          role: **Concrete**
          attribute: **lid_reference** value: ***value*** Optional
          attribute: **lidvid_reference** value: ***value*** Optional
          attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

        - **End_Class**
    - **End_Class**
- **End_Class**

- **Reference_Entry - Occurs 0 to * Times**

  description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: ***value*** Optional
  attribute: **lidvid_reference** value: ***value*** Optional
  attribute: **reference_association_type** value: **has_association**

- **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

    - **File - Occurs 1 to * Times**

      description: **The File class consists of attributes involved in the role of describing a file in a data store.**
      role: **Concrete**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** Optional

- attribute: **creation_date_time** value: ***value*** ^{Optional}
- attribute: **file_name** value: ***value***
- attribute: **file_size** value: ***value*** ^{Optional}
- attribute: **max_record_bytes** value: ***value*** ^{Optional}
- attribute: **md5_checksum** value: ***value*** ^{Optional}
- attribute: **records** value: ***value*** ^{Optional}

- **End_Class**
- **End_Class**

- **Data_Area_Text_File - Occurs 0 to * Times**

  description: **The Text File Data Area allows one stream text data object.**
  role: **Concrete**

  - **Stream_Text Occurs 1 Times**

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

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** ^{Optional}
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **external_standard_id** value: ***value***
    - **End_Class**
  - **End_Class**
- **End_Class**

- **Product_Thumbnail**

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

  - **Identification_Area_Product Occurs 1 Times**

    description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
    role: **Concrete**
    attribute: **logical_identifier** value: ***value***
    attribute: **version_id** value: ***value***
    attribute: **product_class** value: ***value***
    attribute: **title** value: ***value***
    attribute: **alternate_title** value: ***value*** ^{Optional}
    attribute: **alternate_id** value: ***value*** ^{Optional}
    attribute: **last_modification_date_time** value: ***value*** ^{Optional}
    attribute: **product_subclass** value: ***value*** ^{Optional}

    - **Subject_Area Occurs 1 Times**

      description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
      role: **Concrete**
      attribute: **target_name** value: ***value*** ^{Optional}
      attribute: **instrument_name** value: ***value*** ^{Optional}
      attribute: **instrument_host_name** value: ***value*** ^{Optional}

attribute: **full_name** value: ***value*** ^{Optional}
attribute: **investigation_name** value: ***value*** ^{Optional}
attribute: **observing_system_name** value: ***value*** ^{Optional}

- **Name_Resolution - Occurs 0 to * Times**

  description: **The Name_Resolution class provides both primary and alternate names of an object.**
  role: **Concrete**
  attribute: **class_name** value: ***value***
  attribute: **lidvid_reference** value: ***value*** ^{Optional}
  attribute: **name** value: ***value***
  attribute: **primary_name** value: ***value***
  attribute: **role** value: **ALTERNATE, PRIMARY**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Misc - Occurs 0 to 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **doi** value: ***value*** ^{Optional}
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** ^{Optional}

  - **End_Class**

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

    description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value*** ^{Optional}
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **title** value: ***value***

    - **Observing_System_Component - Occurs 1 to 2 Times**

      description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
      role: **Concrete**
      attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

      - **Observing_System_Reference_Entry - Occurs 1 to * Times**

        description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
        role: **Concrete**
        attribute: **lid_reference** value: ***value*** ^{Optional}
        attribute: **lidvid_reference** value: ***value*** ^{Optional}
        attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

        - **End_Class**
      - **End_Class**
    - **End_Class**

- **Reference_Entry - Occurs 0 to * Times**

  description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**
  role: **Concrete**
  attribute: **lid_reference** value: **_value_** ^{Optional}
  attribute: **lidvid_reference** value: **_value_** ^{Optional}
  attribute: **reference_association_type** value: **has_association**

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

    description: **The File class consists of attributes involved in the role of describing a file in a data store.**
    role: **Concrete**
    attribute: **local_identifier** value: **_value_**
    attribute: **comment** value: **_value_** ^{Optional}
    attribute: **creation_date_time** value: **_value_** ^{Optional}
    attribute: **file_name** value: **_value_**
    attribute: **file_size** value: **_value_** ^{Optional}
    attribute: **max_record_bytes** value: **_value_** ^{Optional}
    attribute: **md5_checksum** value: **_value_** ^{Optional}
    attribute: **records** value: **_value_** ^{Optional}

    - **End_Class**
- **End_Class**

- **Data_Area_Encoded_Image - Occurs 0 to * Times**

  description: **The Encoded Image Data Area requires one encoded byte stream data object description called Encoded Image.**
  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**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: **_value_**
      attribute: **offset** value: **_value_**

      - **End_Class**
        attribute: **local_identifier** value: **_value_**
        attribute: **comment** value: **_value_** ^{Optional}
        attribute: **encoding_type** value: **BINARY**
        attribute: **external_standard_id** value: **GIF, JPEG, TIFF**
      - **End_Class**
    - **End_Class**
- **End_Class**

- **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 involved in the role of identifying and naming an object.**
  role: **Concrete**
  attribute: **logical_identifier** value: ***value***
  attribute: **version_id** value: ***value***
  attribute: **product_class** value: ***value***
  attribute: **title** value: ***value***
  attribute: **alternate_title** value: ***value*** ^{Optional}
  attribute: **alternate_id** value: ***value*** ^{Optional}
  attribute: **last_modification_date_time** value: ***value*** ^{Optional}
  attribute: **product_subclass** value: ***value*** ^{Optional}

  - **Subject_Area - Occurs 0 to 1 Times**

    description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
    role: **Concrete**
    attribute: **target_name** value: ***value*** ^{Optional}
    attribute: **instrument_name** value: ***value*** ^{Optional}
    attribute: **instrument_host_name** value: ***value*** ^{Optional}
    attribute: **full_name** value: ***value*** ^{Optional}
    attribute: **investigation_name** value: ***value*** ^{Optional}
    attribute: **observing_system_name** value: ***value*** ^{Optional}

    - **Name_Resolution - Occurs 0 to * Times**

      description: **The Name_Resolution class provides both primary and alternate names of an object.**
      role: **Concrete**
      attribute: **class_name** value: ***value***
      attribute: **lidvid_reference** value: ***value*** ^{Optional}
      attribute: **name** value: ***value***
      attribute: **primary_name** value: ***value***
      attribute: **role** value: **ALTERNATE, PRIMARY**

    - **End_Class**
  - **End_Class**
- **End_Class**

- **Cross_Reference_Area_Context Occurs 1 Times**

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

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **doi** value: ***value*** ^{Optional}
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** ^{Optional}

  - **End_Class**

  - **Context_Reference_Entry - Occurs 0 to * Times**

    description: **The Context Reference Entry class implements associations between context products. For example, an instrument is associated with an instriument_host which in turn is associated with an investigation.**
    role: **Concrete**
    attribute: **lid_reference** value: ***value*** ^{Optional}
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host, has_investigation , has_node, has_personnel, has_publication, has_resource, has_target**

- **End_Class**
- **End_Class**

- **Update Occurs 1 Times**

  description: **The Update class consists of update information.**
  role: **Concrete**
  attribute: **local_identifier** value: *value*
  attribute: **description** value: *value* Optional

  - **Update_Entry - Occurs 0 to * Times**

    description: **The Update Entry class provides the date and description of an update.**
    role: **Concrete**
    attribute: **description** value: *value*
    attribute: **actor_name** value: *value*
    attribute: **date_time** value: *value*

    - **Reference_Entry_Generic - Occurs 0 to 1 Times**

      description: **The Reference Entry Generic class provides a reference and type information about the reference. The reference is to a product.**
      role: **Abstract**
      attribute: **lid_reference** value: *value* Optional
      attribute: **lidvid_reference** value: *value* Optional
      attribute: **reference_association_type** value: *value*

      - **End_Class**
    - **End_Class**
  - **End_Class**
- **End_Class**

- **Product_XML_Schema**

  description: **The Product XML Schema consists of a single text file in XML Schema encoding.**
  role: **Concrete**

  - **Identification_Area_Product Occurs 1 Times**

    description: **The product identification area consists of attributes involved in the role of identifying and naming a data product.**
    role: **Concrete**
    attribute: **logical_identifier** value: *value*
    attribute: **version_id** value: *value*
    attribute: **product_class** value: *value*
    attribute: **title** value: *value*
    attribute: **alternate_title** value: *value* Optional
    attribute: **alternate_id** value: *value* Optional
    attribute: **last_modification_date_time** value: *value* Optional
    attribute: **product_subclass** value: *value* Optional

    - **Subject_Area Occurs 1 Times**

      description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
      role: **Concrete**
      attribute: **target_name** value: *value* Optional
      attribute: **instrument_name** value: *value* Optional
      attribute: **instrument_host_name** value: *value* Optional
      attribute: **full_name** value: *value* Optional
      attribute: **investigation_name** value: *value* Optional
      attribute: **observing_system_name** value: *value* Optional

      - **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**
role: **Concrete**
attribute: **class_name** value: *value*
attribute: **lidvid_reference** value: *value* ^{Optional}
attribute: **name** value: *value*
attribute: **primary_name** value: *value*
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area_Misc - Occurs 0 to 1 Times**

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

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
role: **Concrete**
attribute: **local_identifier** value: *value*
attribute: **description** value: *value* ^{Optional}
attribute: **doi** value: *value* ^{Optional}
attribute: **reference_text** value: *value*
attribute: **url** value: *value* ^{Optional}

- **End_Class**

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

description: **The Observing_System class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. The subsystems are grouped into components, for example a sensor or a source.**
role: **Concrete**
attribute: **local_identifier** value: *value* ^{Optional}
attribute: **description** value: *value* ^{Optional}
attribute: **title** value: *value*

- **Observing_System_Component - Occurs 1 to 2 Times**

description: **The Observing System Component class references one or more subsystems that function as a sensor. A subsystem can be an instrument_host, instrument, or any other similar product.**
role: **Concrete**
attribute: **observing_system_component_type** value: **SENSOR, SOURCE**

- **Observing_System_Reference_Entry - Occurs 1 to * Times**

description: **The Observing System Reference Entry class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
role: **Concrete**
attribute: **lid_reference** value: *value* ^{Optional}
attribute: **lidvid_reference** value: *value* ^{Optional}
attribute: **reference_association_type** value: **has_association, has_instrument, has_instrument_host**

- **End_Class**
- **End_Class**
- **End_Class**

- **Reference_Entry - Occurs 0 to * Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**
role: **Concrete**
attribute: **lid_reference** value: *value* ^{Optional}

- attribute: **lidvid_reference** value: *value* ^{Optional}
- attribute: **reference_association_type** value: **has_association**

- **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

  - **File - Occurs 1 to * Times**

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

  - **End_Class**
- **End_Class**

- **Data_Area_XML_Schema - Occurs 0 to * Times**

  description: **The XML Schema Data Area requires one stream text data object description named XML Schema.**
  role: **Concrete**

  - **XML_Schema Occurs 1 Times**

    description: **The XML Schema class defines a text stream file containing XML Schema.**
    role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: *value*
      attribute: **offset** value: *value*

    - **End_Class**
      attribute: **local_identifier** value: *value*
      attribute: **comment** value: *value* ^{Optional}
      attribute: **encoding_type** value: **CHARACTER**
      attribute: **external_standard_id** value: **XML_Schema**
  - **End_Class**
  - **End_Class**
- **End_Class**

- **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 involved in the role of identifying and naming an object.**
    role: **Concrete**
    attribute: **logical_identifier** value: *value*
    attribute: **version_id** value: *value*
    attribute: **product_class** value: *value*

attribute: **title** value: ***value***
attribute: **alternate_title** value: ***value*** ^{Optional}
attribute: **alternate_id** value: ***value*** ^{Optional}
attribute: **last_modification_date_time** value: ***value*** ^{Optional}
attribute: **product_subclass** value: ***value*** ^{Optional}

- **Subject_Area - Occurs 0 to 1 Times**

  description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
  role: **Concrete**
  attribute: **target_name** value: ***value*** ^{Optional}
  attribute: **instrument_name** value: ***value*** ^{Optional}
  attribute: **instrument_host_name** value: ***value*** ^{Optional}
  attribute: **full_name** value: ***value*** ^{Optional}
  attribute: **investigation_name** value: ***value*** ^{Optional}
  attribute: **observing_system_name** value: ***value*** ^{Optional}

  - **Name_Resolution - Occurs 0 to * Times**

    description: **The Name_Resolution class provides both primary and alternate names of an object.**
    role: **Concrete**
    attribute: **class_name** value: ***value***
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **name** value: ***value***
    attribute: **primary_name** value: ***value***
    attribute: **role** value: **ALTERNATE, PRIMARY**

  - **End_Class**
- **End_Class**
- **End_Class**

- **Cross_Reference_Area - Occurs 0 to 1 Times**

  description: **The cross reference area provides references for associated products.**
  role: **Concrete**

  - **Bibliographic_Reference - Occurs 0 to * Times**

    description: **The Bibliographic Reference class provides references to documents that are not regisered with the PDS.**
    role: **Concrete**
    attribute: **local_identifier** value: ***value***
    attribute: **description** value: ***value*** ^{Optional}
    attribute: **doi** value: ***value*** ^{Optional}
    attribute: **reference_text** value: ***value***
    attribute: **url** value: ***value*** ^{Optional}

  - **End_Class**

  - **Reference_Entry_Generic - Occurs 0 to * Times**

    description: **The Reference Entry Generic class provides a reference and type information about the reference. The reference is to a product.**
    role: **Abstract**
    attribute: **lid_reference** value: ***value*** ^{Optional}
    attribute: **lidvid_reference** value: ***value*** ^{Optional}
    attribute: **reference_association_type** value: ***value***

  - **End_Class**
- **End_Class**

- **File_Area Occurs 1 Times**

  description: **The file area allows the inclusion into a product label of descriptive information about associated files.**
  role: **Concrete**

- **File - Occurs 1 to * Times**

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

    - **End_Class**
- **End_Class**
  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: **md5_checksum** value: *value*
  attribute: **reference_association_type** value: **contained_product, manifest_product**

  - **End_Class**
- **End_Class**

- **Property_Map**

  description: **The Property Map class defines a table consisting of a set of data elements and their values. The data elements in this table are considered to be locally defined and not subject to standards except for nomenclature rules.**
  role: **Concrete**
  attribute: **name_space_id** value: *value* ^{Optional}

    - **Property_Map_Entry - Occurs 1 to * Times**

      description: **The property map entry consists of one property map.**
      role: **Concrete**
      attribute: **property_name** value: *value*
      attribute: **property_value** value: *value*

    - **End_Class**
- **End_Class**

- **Rings_Prod_Info**

  description: **This class identifies the set of elements pertinent to Rings products.**
  role: **Concrete**
  attribute: **node_name** value: **Planetary_Rings**
  attribute: **incidence_angle** value: *value*
  attribute: **maximum_ring_radius** value: *value*
  attribute: **minimum_ring_radius** value: *value*
  attribute: **node_id** value: **RINGS**
  attribute: **occultation_type** value: **STELLAR**
  attribute: **planetary_occultation_flag** value: **n, y**
  attribute: **radial_resolution** value: *value*
  attribute: **ring_event_start_time** value: *value*
  attribute: **ring_event_stop_time** value: *value*
  attribute: **ring_occultation_direction** value: **both, egress, ingress, multiple**
  attribute: **star_name** value: *value*

- **End_Class**

- **Spectrum_2D - Base_Class:Array_Base**

  description: **The Spectrum 2D class is an extension of array_base and defines a two dimensional spectrum.**
  role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** Optional
      attribute: **axes** value: **2**
      attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
      attribute: **encoding_type** value: **BINARY**

    - **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: **elements** value: ***value***
      attribute: **name** value: ***value***
      attribute: **sequence_number** value: ***value***
      attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional

    - **End_Class**

    - **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: **scaling_factor** value: ***value*** Optional
      attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
      attribute: **value_offset** value: ***value*** Optional
      attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte**

    - **End_Class**
- **End_Class**

- **Spectrum_3D - Base_Class:Array_Base**

  description: **The Spectrum 3D class is an extension of array_base and defines a three dimensional spectrum.**
  role: **Concrete**

    - **Data_Location Occurs 1 Times**

      description: **The Data Location class provides the location of a digital object.**
      role: **Concrete**
      attribute: **file_local_identifier** value: ***value***
      attribute: **offset** value: ***value***

    - **End_Class**
      attribute: **local_identifier** value: ***value***
      attribute: **comment** value: ***value*** Optional
      attribute: **axes** value: **3**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**

- **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: **elements** value: ***value***
  attribute: **name** value: ***value***
  attribute: **sequence_number** value: ***value***
  attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional

- **End_Class**

- **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: **scaling_factor** value: ***value*** Optional
  attribute: **unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
  attribute: **value_offset** value: ***value*** Optional
  attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte**

  - **End_Class**
- **End_Class**

- **SPICE_Kernel_Binary**

  description: **The SPICE Kernel class describes a SPICE file.**
  role: **Concrete**

  - **Data_Location Occurs 1 Times**

    description: **The Data Location class provides the location of a digital object.**
    role: **Concrete**
    attribute: **file_local_identifier** value: ***value***
    attribute: **offset** value: ***value***

  - **End_Class**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **encoding_type** value: **BINARY**
    attribute: **external_standard_id** value: **SPICE**
    attribute: **kernel_type** value: **CK, DBK, DSK, EK, PCK, SPK**
- **End_Class**

- **SPICE_Kernel_Text**

  description: **The SPICE Kernel class describes a SPICE file.**
  role: **Concrete**

  - **Data_Location Occurs 1 Times**

    description: **The Data Location class provides the location of a digital object.**
    role: **Concrete**
    attribute: **file_local_identifier** value: ***value***
    attribute: **offset** value: ***value***

- **End_Class**
  attribute: **local_identifier** value: ***value***
  attribute: **comment** value: ***value*** Optional
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **external_standard_id** value: ***value***
  attribute: **kernel_type** value: **EK, FK, IK, LSK, MK, PCK, SCLK**
- **End_Class**

- **Stream_Delimited**

  description: **The Stream Delimited class defines a simple spreadsheet.**
  role: **Concrete**

  - **Data_Location Occurs 1 Times**

    description: **The Data Location class provides the location of a digital object.**
    role: **Concrete**
    attribute: **file_local_identifier** value: ***value***
    attribute: **offset** value: ***value***

  - **End_Class**
    attribute: **local_identifier** value: ***value***
    attribute: **comment** value: ***value*** Optional
    attribute: **encoding_type** value: **CHARACTER**
    attribute: **external_standard_id** value: **CSV**
    attribute: **field_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**
    attribute: **fields** value: ***value***
    attribute: **maximum_record_length** value: ***value***
    attribute: **record_delimiter** value: **0xOA, 0xOD, 0xOD_0xOA**
    attribute: **records** value: ***value***

  - **Stream_Delimited_Record - Occurs 1 to * Times**

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

    - **Stream_Delimited_Grouped_Sequence - Occurs 1 to * Times**

      description: **The Stream Delimited Grouped Sequence class is a component of the grouped stream delimited (spreadsheet) class. It defines a set of fields.**
      role: **Concrete**
      attribute: **repetitions** value: ***value*** Optional

      - **Stream_Delimited_Field_Sequence - Occurs 1 to * Times**

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

        - **Stream_Delimited_Field - Occurs 0 to * Times**

          description: **The Stream Delimited Field class is a component of the stream delimited (spreadsheet) record class and defines a field of the record.**
          role: **Concrete**
          attribute: **field_name** value: ***value***
          attribute: **field_number** value: ***value*** Optional
          attribute: **field_data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_Integer, ASCII_Integer_Binary, ASCII_Integer_Hex, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
          attribute: **field_format** value: ***value*** Optional
          attribute: **minimum_scaled_value** value: ***value*** Optional
          attribute: **maximum_scaled_value** value: ***value*** Optional

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

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

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

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

attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** ^{Optional}

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

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

- **Object_Statistics - Occurs 0 to 1 Times**

  description: **The Object Statistics class provides a set of values that provide metrics about the object.**
  role: **Concrete**
  attribute: **local_identifier** value: ***value***
  attribute: **description** value: ***value*** ^{Optional}
  attribute: **maximum** value: ***value*** ^{Optional}
  attribute: **md5_checksum** value: ***value*** ^{Optional}
  attribute: **mean** value: ***value*** ^{Optional}
  attribute: **median** value: ***value*** ^{Optional}
  attribute: **minimum** value: ***value*** ^{Optional}
  attribute: **sample_bit_mask** value: ***value*** ^{Optional}
  attribute: **standard_deviation** value: ***value*** ^{Optional}

- **End_Class**

- **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_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**
- **End_Class**

- **Table_Binary - Base_Class:Table_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**
role: **Concrete**

- **Data_Location Occurs 1 Times**

  description: **The Data Location class provides the location of a digital object.**
  role: **Concrete**
  attribute: **file_local_identifier** value: ***value***
  attribute: **offset** value: ***value***

- **End_Class**
  attribute: **local_identifier** value: ***value***
  attribute: **comment** value: ***value*** ^{Optional}
  attribute: **encoding_type** value: **BINARY**
  attribute: **fields** value: ***value***

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

- **Table_Record_Binary - Occurs 1 to * Times**

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

  - **Table_Binary_Field - Occurs 1 to * Times**

    description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**
    role: **Concrete**
    attribute: **field_name** value: *value*
    attribute: **field_number** value: *value* Optional
    attribute: **field_data_type** value: **Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedMSB2, UnsignedMSB4**
    attribute: **field_location** value: *value*
    attribute: **field_length** value: *value*
    attribute: **field_format** value: *value* Optional
    attribute: **minimum_scaled_value** value: *value* Optional
    attribute: **maximum_scaled_value** value: *value* Optional
    attribute: **field_min_logical** value: *value* Optional
    attribute: **field_max_logical** value: *value* Optional
    attribute: **field_scaling_factor** value: *value* Optional
    attribute: **field_value_offset** value: *value* Optional
    attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
    attribute: **field_description** value: *value* Optional

    - **Object_Statistics - Occurs 0 to 1 Times**

      description: **The Object Statistics class provides a set of values that provide metrics about the object.**
      role: **Concrete**
      attribute: **local_identifier** value: *value*
      attribute: **description** value: *value* Optional
      attribute: **maximum** value: *value* Optional
      attribute: **md5_checksum** value: *value* Optional
      attribute: **mean** value: *value* Optional
      attribute: **median** value: *value* Optional
      attribute: **minimum** value: *value* Optional
      attribute: **sample_bit_mask** value: *value* Optional
      attribute: **standard_deviation** value: *value* Optional

    - **End_Class**

    - **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_Class**
  - **End_Class**
- **End_Class**
- **End_Class**

- **Table_Character - Base_Class:Table_Base**

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

- **Data_Location Occurs 1 Times**

  description: **The Data Location class provides the location of a digital object.**
  role: **Concrete**
  attribute: **file_local_identifier** value: **value**
  attribute: **offset** value: **value**

- **End_Class**
  attribute: **local_identifier** value: **value**
  attribute: **comment** value: **value** Optional
  attribute: **encoding_type** value: **CHARACTER**
  attribute: **fields** value: **value**
  attribute: **record_bytes** value: **value**
  attribute: **records** value: **value**

- **Table_Record_Character - Occurs 1 to * Times**

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

  - **Table_Character_Field - Occurs 1 to * Times**

    description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**
    role: **Concrete**
    attribute: **field_name** value: **value**
    attribute: **field_number** value: **value** Optional
    attribute: **field_data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_Integer, ASCII_Integer_Binary, ASCII_Integer_Hex, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
    attribute: **field_location** value: **value**
    attribute: **field_length** value: **value**
    attribute: **field_format** value: **value** Optional
    attribute: **minimum_scaled_value** value: **value** Optional
    attribute: **maximum_scaled_value** value: **value** Optional
    attribute: **field_min_logical** value: **value** Optional
    attribute: **field_max_logical** value: **value** Optional
    attribute: **field_scaling_factor** value: **value** Optional
    attribute: **field_value_offset** value: **value** Optional
    attribute: **field_unit** value: **AU, Angstrom, DN, K, L, Pa, V, W*m-2*sr-1, airmass, arcmin, arcsec, bar, byte, cm, cm/s, counts/bin, day, deg, deg/day, deg/s, degC, electron/DN, g, hPa, hr, hr, hz, kg, kilobits/s, km, km/pixel, km/s, m, m2, m3, m/pixel, m/s, mV, mbar, micrometer, microseconds, min, mm, mm/pixel, mol, mrad, ms, nm, none, pixel, pixel/deg, rad, rad/s, s, sr, yr** Optional
    attribute: **field_description** value: **value** Optional

    - **Object_Statistics - Occurs 0 to 1 Times**

      description: **The Object Statistics class provides a set of values that provide metrics about the object.**
      role: **Concrete**
      attribute: **local_identifier** value: **value**
      attribute: **description** value: **value** Optional
      attribute: **maximum** value: **value** Optional
      attribute: **md5_checksum** value: **value** Optional
      attribute: **mean** value: **value** Optional
      attribute: **median** value: **value** Optional

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

- **End_Class**

- **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_Class**
  - **End_Class**
- **End_Class**
- **End_Class**

- **Telemetry_Parameters**

description: **Descriptive elements related to the flow of data from a spacecraft to the ground for reconstruction into a data product.**
role: **Concrete**
attribute: **local_identifier** value: ***value***
attribute: **comment** value: ***value*** ^{Optional}
attribute: **application_process_id** value: ***value*** ^{Optional}
attribute: **application_process_name** value: **APXS, DESCENT IMAGER, HAZCAM LEFT FRONT, HAZCAM LEFT REAR, HAZCAM RIGHT FRONT, HAZCAM RIGHT REAR, MB, MI, MINITES, NAVCAM LEFT, NAVCAM RIGHT, PANCAM LEFT, PANCAM RIGHT, RAT** ^{Optional}
attribute: **application_process_subtype_id** value: ***value*** ^{Optional}
attribute: **earth_received_start_time** value: ***value*** ^{Optional}
attribute: **earth_received_stop_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_provider_id** value: **ssw_mer_dp, ttacs** ^{Optional}
attribute: **telemetry_source_name** value: ***value*** ^{Optional}
attribute: **telemetry_source_type** value: **data_product, sfdu** ^{Optional}

- **End_Class**

PDS4 Data Type Definitions Mon Dec 13 20:27:43 PST 2010

Generated from the PDS4 Information Model Version 0.2.0.0.d

- **Data Type:ASCII_AnyURI**

  description: **The ASCII AnyURI class indicates a URI or its subclasses URN and URL.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  maximum_characters: **255**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:anyURI**
  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.**
  character_constraint: **ASCII**
  enumerated_flag: **T**
  maximum_characters: **1**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  character_encoding: **UTF-8**

- **Data Type:ASCII_DOI**

  description: **The ASCII DOI class indicates a digital object identifier (DOI).**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: **nn.nnnn/nnn**
  maximum_characters: **255**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Date_DOY**

  description: **The ASCII_Date_DOY class indicates a date in DOY format constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: **yyyy-doy**
  maximum_characters: **8**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  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 constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: **yyyy-mm-ddThh:mm:ss.sss/yyyy-doyThh:mm:ss.sss**
  maximum_characters: **30**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  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 constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: **yyyy-doyThh:mm:ss.sss**
  maximum_characters: **30**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  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 constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: **yyyy-mm-ddThh:mm:ss.sssZ**
  maximum_characters: **30**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  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 constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: **yyyy-mm-ddThh:mm:ss.sss**
  maximum_characters: **30**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Date_YMD**

  description: **The ASCII_Date_YMD class indicates a date in YMD format constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: **yyyy-mm-dd**
  maximum_characters: **10**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Directory_Path_Name**

  description: **The ASCII Directory Path Name class indicates a system directory path constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: **dir1/dir2/**
  maximum_characters: **255**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:token**
  character_encoding: **UTF-8**

- **Data Type:ASCII_File_Name**

  description: **The ASCII File Name class indicates a system file name constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: **file_name.file_extension**
  maximum_characters: **255**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:token**
  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 constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: **dir1/dir2/file_name.file_extension**
  maximum_characters: **255**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:token**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Identifier**

  description: **The ASCII_Identifier class indicates a identifier constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  maximum_characters: **100**

minimum_characters: **1**
xml_schema_base_type: **xsd:string**
character_encoding: **UTF-8**

- **Data Type:ASCII_Integer**

  description: **The ASCII_Integer class indicates an integer constrained to the ASCII encoding.**
  enumerated_flag: **F**
  maximum_value: **2147483647**
  minimum_value: **-2147483648**
  xml_schema_base_type: **xsd:integer**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Integer_Binary**

  description: **The ASCII_Integer_Binary class indicates a binary integer constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  xml_schema_base_type: **xsd:string**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Integer_Hex**

  description: **The ASCII_Integer_Hex class indicates a hexadecimal integer constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  xml_schema_base_type: **xsd:string**
  character_encoding: **UTF-8**

- **Data Type:ASCII_LID**

  description: **The ASCII_LID class indicates a logical identifier constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: * URN:NASA:PDS:xxxx *
  maximum_characters: **255**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  character_encoding: **UTF-8**

- **Data Type:ASCII_LIDVID**

  description: **The ASCII_LIDVID class indicates a logical identifier and version identifier constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: * URN:NASA:PDS:xxxx:::M.n*
  maximum_characters: **255**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  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).**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: **0123456789abcdef**
  maximum_characters: **32**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  character_encoding: **UTF-8**

- **Data Type:ASCII_NonNegative_Integer**

description: **The ASCII_NonNegative_Integer class indicates a non-negative integer constrained to the ASCII encoding.**
character_constraint: **ASCII**
enumerated_flag: **F**
maximum_value: **2147483647**
minimum_value: **0**
xml_schema_base_type: **xsd:integer**
character_encoding: **UTF-8**

- **Data Type:ASCII_Real**

  description: **The ASCII_Real class indicates a real constrained to the ASCII encoding.**
  enumerated_flag: **F**
  maximum_value: **INF**
  minimum_value: **-INF**
  xml_schema_base_type: **xsd:float**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Short_String_Collapsed**

  description: **The ASCII_Short_String_Collapsed class indicates a limited length, whitespace-collapsed string constrained to the ASCII character encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  maximum_characters: **255**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:token**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Short_String_Preserved**

  description: **The ASCII_Short_String_Preserved class indicates a limited length, whitespace-preserved string constrained to the ASCII character encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  maximum_characters: **255**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Text_Preserved**

  description: **The ASCII_Text_Preserved class indicates an unlimited length, whitespace-preserved text string constrained to the ASCII character encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  maximum_characters: **2147483647**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  character_encoding: **UTF-8**

- **Data Type:ASCII_Time**

  description: **The ASCII_Time class indicates a time value constrained to the ASCII encoding.**
  character_constraint: **ASCII**
  enumerated_flag: **F**
  formation_rule: *hh:mm:ss.sss *
  maximum_characters: **20**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  character_encoding: **UTF-8**

- **Data Type:ASCII_VID**

description: **The ASCII_VID class indicates a version identifier constrained to the ASCII encoding.**
character_constraint: **ASCII**
enumerated_flag: **F**
formation_rule: **M.m**
maximum_characters: **100**
minimum_characters: **1**
xml_schema_base_type: **xsd:string**
character_encoding: **UTF-8**

- **Data Type:Bit**

  description: **A single binary digit.**
  enumerated_flag: **TRUE**

- **Data Type:ComplexB16**

  description: **Complex number consisting of two 8 byte decimal reals.**
  enumerated_flag: **FALSE**

- **Data Type:ComplexB8**

  description: **Complex number consisting of two 4 byte decimal reals.**
  enumerated_flag: **FALSE**

- **Data Type:IEEE754Double**

  description: **IEEE 754 double precision floating point**
  enumerated_flag: **FALSE**

- **Data Type:IEEE754Single**

  description: **IEEE 754 single precision floating point**
  enumerated_flag: **FALSE**

- **Data Type:SignedLSB2**

  description: **Signed 2's-complement LSB 2-byte integers**
  enumerated_flag: **FALSE**

- **Data Type:SignedLSB4**

  description: **Signed 2's-complement LSB 4-byte integers**
  enumerated_flag: **FALSE**

- **Data Type:SignedLSB8**

  description: **Signed 2's-complement LSB 8-byte integers**
  enumerated_flag: **FALSE**

- **Data Type:SignedMSB2**

  description: **Signed 2's-complement MSB 2-byte integers**
  enumerated_flag: **FALSE**

- **Data Type:SignedMSB4**

  description: **Signed 2's-complement MSB 4-byte integers**
  enumerated_flag: **FALSE**

- **Data Type:SignedMSB8**

  description: **Signed 2's-complement MSB 8-byte integers**
  enumerated_flag: **FALSE**

- **Data Type:UTF8_Short_String_Collapsed**

  description: **The UTF8_Short_String_Collapsed class indicates a limited length, whitespace-collapsed string constrained to the UTF-8 character encoding.**
  enumerated_flag: **F**
  maximum_characters: **255**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:token**
  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.**
  enumerated_flag: **F**
  maximum_characters: **255**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  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.**
  enumerated_flag: **F**
  maximum_characters: **2147483647**
  minimum_characters: **1**
  xml_schema_base_type: **xsd:string**
  character_encoding: **UTF-8**

- **Data Type:UnsignedByte**

  description: **Unsigned 8-bit MSb bytes.**
  enumerated_flag: **FALSE**

- **Data Type:UnsignedLSB2**

  description: **Unsigned 2's-complement LSB 2-byte integers**
  enumerated_flag: **FALSE**

- **Data Type:UnsignedLSB4**

  description: **Unsigned 2's-complement LSB 4-byte integers**
  enumerated_flag: **FALSE**

- **Data Type:UnsignedMSB2**

  description: **Unsigned 2's-complement MSB 2-byte integers**
  enumerated_flag: **FALSE**

- **Data Type:UnsignedMSB4**

  description: **Unsigned 2's-complement MSB 4-byte integers**
  enumerated_flag: **FALSE**

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