

PDS4 Data Dictionary - Abridged - V.0.4.1.1.f

PDS4 Data Design Working Group

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Generated from the PDS4 Information Model Version 0.4.1.1.f

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1. **Introduction**

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

2. **Audience**

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

3. **Acknowledgements**

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

4. **Scope**

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

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

5. Related Documents

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

6. Terminology

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

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

- An *attribute* is a property or characteristic that provides a unit of information 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 *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 *unique identifier* is a special type of identifier used to provide a reference number which is unique in a context.
 - *Local* indicates a local scope where scope is an enclosing context where values and expressions are associated.
 - *Logical* as used in the definition of logical identifier indicates that the identifier logically groups a set of objects.
 - A *physical object* is an object 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.
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7. PDS4 Class Definitions - Sat Aug 27 06:57:16 PDT 2011

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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 Origin_Offset_Vector

- **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 Origin_Rotation_Quaternion
 - End Az_el_coordinate_system
-

- **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_sphercl_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 Coordinate_System

- **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 Axis_Vector

- **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 Center_Vector

- **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 Horizontal_Vector

- **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 Vertical_Vector**

- **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 Vector**

- **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 Coefficients_Array**

- **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 Coefficients_Array**

- **End CAHVORE**

- **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_sphercl_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 Coordinate_System

- **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 Axis_Vector

- **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 Center_Vector

- **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 Horizontal_Vector

- **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 Vertical_Vector

- **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 Vector

- **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 Coefficients_Array

- End CAHVOR
-

- 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_sphercl_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 Coordinate_System**

- **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 Axis_Vector**

- **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 Center_Vector**

- **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 Horizontal_Vector**

- **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 Vertical_Vector**

- **End CAHV**

- **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 Camera_Parameters
-

- **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 Coefficients_Array
-

- **Collection_Browse**

description: **A Browse collection is a product that has a table of references to one or more browse products.**
 role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
 role: **Concrete**
 attribute: **dd_version_id** value: **value**
 attribute: **std_ref_version_id** value: **value**

- End Data_Standards

- **Identification_Area_Collection Occurs 1 Times**

description: **The collection identification area consists of attributes that identify and name a collection.**
 role: **Concrete**
 attribute: **logical_identifier** value: **value**
 attribute: **version_id** value: **value**
 attribute: **product_class** value: **value**
 attribute: **title** value: **value**
 attribute: **alternate_title** value: **value** Optional
 attribute: **alternate_id** value: **value** Optional
 attribute: **contains_primary_member** value: **value**
 attribute: **last_modification_date_time** value: **value** Optional
 attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

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

attribute: **instrument_host_name** value: **value** Optional
attribute: **keywords** value: **value** Optional
attribute: **full_name** value: **value** Optional
attribute: **investigation_name** value: **value** Optional
attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

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

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

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

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

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Collection**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

role: **Concrete**

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

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

role: **Concrete**

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

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

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

- **Observing_System_Component - Occurs 1 to * Times**

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

role: **Concrete**

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

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

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Collection - Occurs 0 to * Times**

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

role: **Concrete**

attribute: **lid_reference** value: **value** Optional
attribute: **lidvid_reference** value: **value** Optional
attribute: **reference_association_type** value: **has_associated_collection**, **has_investigation_collection**, **has_node_collection**, **has_publication_collection**, **has_target_collection**, **has_update_collection**

- End Reference_Entry_Collection

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

attribute: **name** value: **value** Optional
attribute: **description** value: **value** Optional
attribute: **doi** value: **value** Optional
attribute: **reference_text** value: **value** Optional
attribute: **url** value: **value** Optional

- End Bibliographic_Reference
- End Cross_Reference_Area_Collection

- **File_Area_Inventory_LIDVID_Primary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Primary class describes a file and an inventory with references to primary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional
attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**
attribute: **file_size** value: **value** Optional
attribute: **maximum_record_bytes** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **records** value: **value** Optional

- End File

- **Inventory_LIDVID_Primary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Primary class defines the inventory for primary members of a collection.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: **2**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**
attribute: **reference_association_type** value: **has_member_LIDVID_Primary**

- **Table_Record_Inventory_LIDVID_Primary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Primary class defines the inventory record for a primary member.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

attribute: **name** value: **LIDVID**
attribute: **description** value: **value** Optional
attribute: **field_number** value: **1**
attribute: **data_type** value: **ASCII_LIDVID**
attribute: **field_location** value: **1**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** Optional

- **End Table_Field_LIDVID**

- **Table_Field_File_Specification_Name Occurs 1 Times**

description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**
role: **Concrete**

attribute: **name** value: **file_specification_name**
attribute: **description** value: **value** Optional
attribute: **field_number** value: **2** Optional
attribute: **data_type** value: **ASCII_File_Specification_Name**
attribute: **field_location** value: **value**
attribute: **field_length** value: **value**
attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional

- **End Table_Field_File_Specification_Name**
- **End Table_Record_Inventory_LIDVID_Primary**
- **End Inventory_LIDVID_Primary**
- **End File_Area_Inventory_LIDVID_Primary**

- **File_Area_Inventory_LIDVID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDVIDs.**
role: **Concrete**

- **File Occurs 1 Times**

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

attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional
attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**
attribute: **file_size** value: **value** Optional
attribute: **maximum_record_bytes** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **records** value: **value** Optional

- **End File**

- **Inventory_LIDVID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Secondary class defines the inventory for secondary members of a collection. The references are LIDVIDs.**

role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: **1**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**
attribute: **reference_association_type** value: **has_member_LIDVID_Secondary**

- **Table_Record_Inventory_LIDVID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Secondary class defines the inventory record for a secondary member. The reference is a LIDVID.**
role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1**

attribute: **data_type** value: **ASCII_LIDVID**

attribute: **field_location** value: **1**

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

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

- **End Table_Field_LIDVID**

- **End Table_Record_Inventory_LIDVID_Secondary**

- **End Inventory_LIDVID_Secondary**

- **End File_Area_Inventory_LIDVID_Secondary**

- **File_Area_Inventory_LID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- **End File**

- **Inventory_LID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LID Secondary class defines the inventory for secondary members of a collection. The references are LIDs.**

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

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

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

attribute: **reference_association_type** value: **has_member_LID_Secondary**

- **Table_Record_Inventory_LID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LID Secondary class defines the inventory record for a secondary member. The reference is a LID.**

role: **Concrete**

- **Table_Field_LID Occurs 1 Times**

description: **The Table_Field_LID class defines a table field that provides the logical identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1** Optional

attribute: **data_type** value: **ASCII_LID**
attribute: **field_location** value: **1**
attribute: **field_length** value: **value**
attribute: **field_format** value: **urn:nasa:pds:xxxx** Optional

- End Table_Field_LID
 - End Table_Record_Inventory_LID_Secondary
 - End Inventory_LID_Secondary
 - End File_Area_Inventory_LID_Secondary
 - End Collection_Browse
-

• Collection_Calibration

description: **A Calibration collection is a product that has a table of references to one or more calibration products.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

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

role: **Concrete**

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

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

- End Data_Standards

- **Identification_Area_Collection Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

attribute: **last_modification_date_time** value: **value** Optional

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

- **Subject_Area - Occurs 0 to 1 Times**

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

role: **Concrete**

attribute: **target_name** value: **value** Optional

attribute: **instrument_name** value: **value** Optional

attribute: **instrument_host_name** value: **value** Optional

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

attribute: **full_name** value: **value** Optional

attribute: **investigation_name** value: **value** Optional

attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

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

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

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

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

attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution

- End Subject_Area

- End Identification_Area_Collection

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

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

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

role: **Concrete**

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

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

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

- **Observing_System_Component - Occurs 1 to * Times**

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

role: **Concrete**

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

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

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Collection - Occurs 0 to * Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **has_associated_collection, has_investigation_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

- **End Reference_Entry_Collection**

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

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

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Collection**

- **File_Area_Inventory_LIDVID_Primary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Primary class describes a file and an inventory with references to primary members. The references are product LIDVIDs.**
role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- **End File**

- **Inventory_LIDVID_Primary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Primary class defines the inventory for primary members of a collection.**

role: **Concrete**

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

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

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

attribute: **fields** value: **2**

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

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

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

attribute: **reference_association_type** value: **has_member_LIDVID_Primary**

- **Table_Record_Inventory_LIDVID_Primary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Primary class defines the inventory record for a primary member.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1**

attribute: **data_type** value: **ASCII_LIDVID**

attribute: **field_location** value: **1**

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

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

- **End Table_Field_LIDVID**

- **Table_Field_File_Specification_Name Occurs 1 Times**

description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**

role: **Concrete**

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

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

attribute: **field_number** value: **2** Optional

attribute: **data_type** value: **ASCII_File_Specification_Name**

attribute: **field_location** value: **value**
attribute: **field_length** value: **value**
attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional

- **End Table_Field_File_Specification_Name**
- **End Table_Record_Inventory_LIDVID_Primary**
- **End Inventory_LIDVID_Primary**
- **End File_Area_Inventory_LIDVID_Primary**
- **File_Area_Inventory_LIDVID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDVIDs.**
role: **Concrete**

- **File Occurs 1 Times**

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

attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional
attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**
attribute: **file_size** value: **value** Optional
attribute: **maximum_record_bytes** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **records** value: **value** Optional

- **End File**

- **Inventory_LIDVID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Secondary class defines the inventory for secondary members of a collection. The references are LIDVIDs.**
role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: **1**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**
attribute: **reference_association_type** value: **has_member_LIDVID_Secondary**

- **Table_Record_Inventory_LIDVID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Secondary class defines the inventory record for a secondary member. The reference is a LIDVID.**
role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**
attribute: **name** value: **LIDVID**
attribute: **description** value: **value** Optional
attribute: **field_number** value: **1**
attribute: **data_type** value: **ASCII_LIDVID**
attribute: **field_location** value: **1**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** Optional

- **End Table_Field_LIDVID**
- **End Table_Record_Inventory_LIDVID_Secondary**
- **End Inventory_LIDVID_Secondary**
- **End File_Area_Inventory_LIDVID_Secondary**

- **File_Area_Inventory_LID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDs.**
role: **Concrete**

- **File Occurs 1 Times**

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

attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional
attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**
attribute: **file_size** value: **value** Optional
attribute: **maximum_record_bytes** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **records** value: **value** Optional

- **End File**

- **Inventory_LID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LID Secondary class defines the inventory for secondary members of a collection. The references are LIDs.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: **1**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**
attribute: **reference_association_type** value: **has_member_LID_Secondary**

- **Table_Record_Inventory_LID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LID Secondary class defines the inventory record for a secondary member. The reference is a LID.**

role: **Concrete**

- **Table_Field_LID Occurs 1 Times**

description: **The Table_Field_LID class defines a table field that provides the logical identifier for a product.**

role: **Concrete**

attribute: **name** value: **LID**
attribute: **description** value: **value** Optional
attribute: **field_number** value: **1** Optional
attribute: **data_type** value: **ASCII_LID**
attribute: **field_location** value: **1**
attribute: **field_length** value: **value**
attribute: **field_format** value: **urn:nasa:pds:xxxx** Optional

- **End Table_Field_LID**

- **End Table_Record_Inventory_LID_Secondary**

- **End Inventory_LID_Secondary**

- **End File_Area_Inventory_LID_Secondary**

- **End Collection_Calibration**

- **Collection_Context**

description: **A Context collection is a product that has a table of references to one or more context products.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: *value*
attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area_Collection Occurs 1 Times**

description: **The collection identification area consists of attributes that identify and name a collection.**
role: **Concrete**
attribute: **logical_identifier** value: *value*
attribute: **version_id** value: *value*
attribute: **product_class** value: *value*
attribute: **title** value: *value*
attribute: **alternate_title** value: *value* Optional
attribute: **alternate_id** value: *value* Optional
attribute: **contains_primary_member** value: *value*
attribute: **last_modification_date_time** value: *value* Optional
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

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

role: **Concrete**

attribute: **target_name** value: *value* Optional
attribute: **instrument_name** value: *value* Optional
attribute: **instrument_host_name** value: *value* Optional
attribute: **keywords** value: *value* Optional
attribute: **full_name** value: *value* Optional
attribute: **investigation_name** value: *value* Optional
attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*
attribute: **name** value: *value*
attribute: **lidvid_reference** value: *value* Optional
attribute: **primary_name** value: *value*
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Collection**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

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

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

role: **Concrete**

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

- **Observing_System_Component - Occurs 1 to * Times**

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

each type) otherwise it only occurs once.

role: **Concrete**

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

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

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Collection - Occurs 0 to * Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **has_associated_collection, has_investigation_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

- **End Reference_Entry_Collection**

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

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

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Collection**

- **File_Area_Inventory_LIDVID_Primary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Primary class describes a file and an inventory with references to primary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- End File

- **Inventory_LIDVID_Primary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Primary class defines the inventory for primary members of a collection.**

role: **Concrete**

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

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

attribute: **encoding_type** value: CHARACTER

attribute: **fields** value: 2

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

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

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

attribute: **reference_association_type** value: has_member_LIDVID_Primary

- **Table_Record_Inventory_LIDVID_Primary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Primary class defines the inventory record for a primary member.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

attribute: **name** value: LIDVID

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

attribute: **field_number** value: 1

attribute: **data_type** value: ASCII_LIDVID

attribute: **field_location** value: 1

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

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

- End Table_Field_LIDVID

- **Table_Field_File_Specification_Name Occurs 1 Times**

description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**

role: **Concrete**

attribute: **name** value: file_specification_name

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

attribute: **field_number** value: 2 ^{Optional}

attribute: **data_type** value: ASCII_File_Specification_Name

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

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

attribute: **field_format** value: dir1/dir2/file_name.file_extension ^{Optional}

- End Table_Field_File_Specification_Name

- End Table_Record_Inventory_LIDVID_Primary

- End Inventory_LIDVID_Primary

- End File_Area_Inventory_LIDVID_Primary

- **File_Area_Inventory_LIDVID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**
attribute: **file_size** value: **value** Optional
attribute: **maximum_record_bytes** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **records** value: **value** Optional

- **End File**

- **Inventory_LIDVID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Secondary class defines the inventory for secondary members of a collection. The references are LIDVIDs.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: **1**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**
attribute: **reference_association_type** value: **has_member_LIDVID_Secondary**

- **Table_Record_Inventory_LIDVID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Secondary class defines the inventory record for a secondary member. The reference is a LIDVID.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

attribute: **name** value: **LIDVID**
attribute: **description** value: **value** Optional
attribute: **field_number** value: **1**
attribute: **data_type** value: **ASCII_LIDVID**
attribute: **field_location** value: **1**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** Optional

- **End Table_Field_LIDVID**

- **End Table_Record_Inventory_LIDVID_Secondary**

- **End Inventory_LIDVID_Secondary**

- **End File_Area_Inventory_LIDVID_Secondary**

- **File_Area_Inventory_LID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional
attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**
attribute: **file_size** value: **value** Optional
attribute: **maximum_record_bytes** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **records** value: **value** Optional

- **End File**

- **Inventory_LID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LID Secondary class defines the inventory for secondary members of a collection. The references are LIDs.**

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

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

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

attribute: **reference_association_type** value: **has_member_LID_Secondary**

- **Table_Record_Inventory_LID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LID Secondary class defines the inventory record for a secondary member. The reference is a LID.**

role: **Concrete**

- **Table_Field_LID Occurs 1 Times**

description: **The Table_Field_LID class defines a table field that provides the logical identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1** ^{Optional}

attribute: **data_type** value: **ASCII_LID**

attribute: **field_location** value: **1**

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

attribute: **field_format** value: **urn:nasa:pds:xxxx** ^{Optional}

- **End Table_Field_LID**

- **End Table_Record_Inventory_LID_Secondary**

- **End Inventory_LID_Secondary**

- **End File_Area_Inventory_LID_Secondary**

- **End Collection_Context**

- **Collection_Data**

description: **A Data collection is a product that has a table of references to one or more standard digital products.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

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

role: **Concrete**

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

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

- **End Data_Standards**

- **Identification_Area_Collection Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

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

- **Subject_Area - Occurs 0 to 1 Times**

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

role: **Concrete**

attribute: **target_name** value: **value** Optional

attribute: **instrument_name** value: **value** Optional

attribute: **instrument_host_name** value: **value** Optional

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

attribute: **full_name** value: **value** Optional

attribute: **investigation_name** value: **value** Optional

attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

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

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

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

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

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Collection**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

role: **Concrete**

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

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

role: **Concrete**

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

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

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

- **Observing_System_Component - Occurs 1 to * Times**

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

role: **Concrete**

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

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

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- End Observing_System

- **Reference_Entry_Collection - Occurs 0 to * Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **has_associated_collection, has_investigation_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

- End Reference_Entry_Collection

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

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

- End Bibliographic_Reference
- **End Cross_Reference_Area_Collection**
attribute: **processing_level_id** value: **CLB, DRV, RAW, RDC** Optional

- **File_Area_Inventory_LIDVID_Primary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Primary class describes a file and an inventory with references to primary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- End File

- **Inventory_LIDVID_Primary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Primary class defines the inventory for primary members of a collection.**

role: **Concrete**

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

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

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

attribute: **fields** value: **2**

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

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

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

attribute: **reference_association_type** value: **has_member_LIDVID_Primary**

- **Table_Record_Inventory_LIDVID_Primary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Primary class defines the inventory record for a**

primary member.
role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1**

attribute: **data_type** value: **ASCII_LIDVID**

attribute: **field_location** value: **1**

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

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

- **End Table_Field_LIDVID**

- **Table_Field_File_Specification_Name Occurs 1 Times**

description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**

role: **Concrete**

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

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

attribute: **field_number** value: **2** Optional

attribute: **data_type** value: **ASCII_File_Specification_Name**

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

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

attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional

- **End Table_Field_File_Specification_Name**

- **End Table_Record_Inventory_LIDVID_Primary**

- **End Inventory_LIDVID_Primary**

- **End File_Area_Inventory_LIDVID_Primary**

- **File_Area_Inventory_LIDVID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- **End File**

- **Inventory_LIDVID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Secondary class defines the inventory for secondary members of a collection. The references are LIDVIDs.**

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

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

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

attribute: **reference_association_type** value: **has_member_LIDVID_Secondary**

- **Table_Record_Inventory_LIDVID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Secondary class defines the inventory record for a secondary member. The reference is a LIDVID.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1**

attribute: **data_type** value: **ASCII_LIDVID**

attribute: **field_location** value: **1**

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

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

- **End Table_Field_LIDVID**

- **End Table_Record_Inventory_LIDVID_Secondary**

- **End Inventory_LIDVID_Secondary**

- **End File_Area_Inventory_LIDVID_Secondary**

- **File_Area_Inventory_LID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- **End File**

- **Inventory_LID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LID Secondary class defines the inventory for secondary members of a collection. The references are LIDs.**

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

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

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

attribute: **reference_association_type** value: **has_member_LID_Secondary**

- **Table_Record_Inventory_LID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LID Secondary class defines the inventory record for a secondary member. The reference is a LID.**

role: **Concrete**

- **Table_Field_LID Occurs 1 Times**

description: **The Table_Field_LID class defines a table field that provides the logical identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1** Optional

attribute: **data_type** value: **ASCII_LID**

attribute: **field_location** value: **1**

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

attribute: **field_format** value: **urn:nasa:pds:xxxx** Optional

- **End Table_Field_LID**

- **End Table_Record_Inventory_LID_Secondary**

- **End Inventory_LID_Secondary**

- **End File_Area_Inventory_LID_Secondary**

- **End Collection_Data**

- **Collection_Document**

description: **A Document collection is a product that has a table of references to one or more document products.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

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

role: **Concrete**

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

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

- **End Data_Standards**

- **Identification_Area_Collection Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

attribute: **last_modification_date_time** value: **value** Optional

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

- **Subject_Area - Occurs 0 to 1 Times**

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

role: **Concrete**

attribute: **target_name** value: **value** Optional

attribute: **instrument_name** value: **value** Optional

attribute: **instrument_host_name** value: **value** Optional

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

attribute: **full_name** value: **value** Optional

attribute: **investigation_name** value: **value** Optional

attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

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

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

attribute: **lidvid_reference** value: *value* ^{Optional}
attribute: **primary_name** value: *value*
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**
- **End Subject_Area**
- **End Identification_Area_Collection**
- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

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

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

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

- **Observing_System_Component - Occurs 1 to * Times**

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

role: **Concrete**

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

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

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

role: **Concrete**

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

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**
- **End Observing_System_Component**
- **End Observing_System**

- **Reference_Entry_Collection - Occurs 0 to * Times**

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

role: **Concrete**

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

attribute: **reference_association_type** value: **has_associated_collection, has_investigation_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

- **End Reference_Entry_Collection**

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

attribute: **name** value: **value** Optional
attribute: **description** value: **value** Optional
attribute: **doi** value: **value** Optional
attribute: **reference_text** value: **value** Optional
attribute: **url** value: **value** Optional

- End Bibliographic_Reference
- End Cross_Reference_Area_Collection
- File_Area_Inventory_LIDVID_Primary - Occurs 0 to 1 Times

description: The File Area Inventory LIDVID Primary class describes a file and an inventory with references to primary members. The references are product LIDVIDs.
role: **Concrete**

- File Occurs 1 Times

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

- End File
- Inventory_LIDVID_Primary Occurs 1 Times - Base_Class:Table_Base

description: The Inventory LIDVID Primary class defines the inventory for primary members of a collection.
role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: **2**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**
attribute: **reference_association_type** value: **has_member_LIDVID_Primary**

- Table_Record_Inventory_LIDVID_Primary Occurs 1 Times

description: The Table Record Inventory LIDVID Primary class defines the inventory record for a primary member.
role: **Concrete**

- Table_Field_LIDVID Occurs 1 Times

description: The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.
role: **Concrete**
attribute: **name** value: **LIDVID**
attribute: **description** value: **value** Optional
attribute: **field_number** value: **1**
attribute: **data_type** value: **ASCII_LIDVID**
attribute: **field_location** value: **1**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** Optional

- End Table_Field_LIDVID
- Table_Field_File_Specification_Name Occurs 1 Times

description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**

role: **Concrete**

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

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

attribute: **field_number** value: **2** ^{Optional}

attribute: **data_type** value: **ASCII_File_Specification_Name**

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

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

attribute: **field_format** value: **dir1/dir2/file_name.file_extension** ^{Optional}

- End Table_Field_File_Specification_Name
- End Table_Record_Inventory_LIDVID_Primary
- End Inventory_LIDVID_Primary
- End File_Area_Inventory_LIDVID_Primary

- **File_Area_Inventory_LIDVID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- End File

- **Inventory_LIDVID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Secondary class defines the inventory for secondary members of a collection. The references are LIDVIDs.**

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

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

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

attribute: **reference_association_type** value: **has_member_LIDVID_Secondary**

- **Table_Record_Inventory_LIDVID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Secondary class defines the inventory record for a secondary member. The reference is a LIDVID.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1**

attribute: **data_type** value: **ASCII_LIDVID**

attribute: **field_location** value: 1
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** Optional

- End Table_Field_LIDVID
- End Table_Record_Inventory_LIDVID_Secondary
- End Inventory_LIDVID_Secondary
- End File_Area_Inventory_LIDVID_Secondary
- **File_Area_Inventory_LID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDs.**
role: **Concrete**

- **File Occurs 1 Times**

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

attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional
attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**
attribute: **file_size** value: **value** Optional
attribute: **maximum_record_bytes** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **records** value: **value** Optional

- End File
- **Inventory_LID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LID Secondary class defines the inventory for secondary members of a collection. The references are LIDs.**
role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: 1
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**
attribute: **reference_association_type** value: **has_member_LID_Secondary**

- **Table_Record_Inventory_LID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LID Secondary class defines the inventory record for a secondary member. The reference is a LID.**
role: **Concrete**

- **Table_Field_LID Occurs 1 Times**

description: **The Table_Field_LID class defines a table field that provides the logical identifier for a product.**

role: **Concrete**
attribute: **name** value: **LID**
attribute: **description** value: **value** Optional
attribute: **field_number** value: 1 Optional
attribute: **data_type** value: **ASCII_LID**
attribute: **field_location** value: 1
attribute: **field_length** value: **value**
attribute: **field_format** value: **urn:nasa:pds:xxxx** Optional

- End Table_Field_LID
 - End Table_Record_Inventory_LID_Secondary
 - End Inventory_LID_Secondary
 - End File_Area_Inventory_LID_Secondary
 - End Collection_Document
-

- **Collection_Generic**

description: **A Generic collection is a product that has a table of references to one or more generic products.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: **value**
attribute: **std_ref_version_id** value: **value**

- **End Data_Standards**

- **Identification_Area_Collection Occurs 1 Times**

description: **The collection identification area consists of attributes that identify and name a collection.**
role: **Concrete**
attribute: **logical_identifier** value: **value**
attribute: **version_id** value: **value**
attribute: **product_class** value: **value**
attribute: **title** value: **value**
attribute: **alternate_title** value: **value** Optional
attribute: **alternate_id** value: **value** Optional
attribute: **contains_primary_member** value: **value**
attribute: **last_modification_date_time** value: **value** Optional
attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
role: **Concrete**
attribute: **target_name** value: **value** Optional
attribute: **instrument_name** value: **value** Optional
attribute: **instrument_host_name** value: **value** Optional
attribute: **keywords** value: **value** Optional
attribute: **full_name** value: **value** Optional
attribute: **investigation_name** value: **value** Optional
attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**
role: **Concrete**
attribute: **class_name** value: **value**
attribute: **name** value: **value**
attribute: **lidvid_reference** value: **value** Optional
attribute: **primary_name** value: **value**
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Collection**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

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

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

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

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

- **Observing_System_Component - Occurs 1 to * Times**

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

role: **Concrete**

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

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

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Collection - Occurs 0 to * Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **has_associated_collection, has_investigation_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

- **End Reference_Entry_Collection**

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

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

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Collection**

- **File_Area_Inventory_LIDVID_Primary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Primary class describes a file and an inventory with references to primary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- **End File**

- **Inventory_LIDVID_Primary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Primary class defines the inventory for primary members of a collection.**

role: **Concrete**

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

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

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

attribute: **fields** value: **2**

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

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

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

attribute: **reference_association_type** value: **has_member_LIDVID_Primary**

- **Table_Record_Inventory_LIDVID_Primary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Primary class defines the inventory record for a primary member.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1**

attribute: **data_type** value: **ASCII_LIDVID**

attribute: **field_location** value: **1**

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

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

- **End Table_Field_LIDVID**

- **Table_Field_File_Specification_Name Occurs 1 Times**

description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**

role: **Concrete**

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

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

attribute: **field_number** value: **2** Optional

attribute: **data_type** value: **ASCII_File_Specification_Name**

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

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

attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional

- **End Table_Field_File_Specification_Name**

- **End Table_Record_Inventory_LIDVID_Primary**

- **End Inventory_LIDVID_Primary**

- **End File_Area_Inventory_LIDVID_Primary**

- **File_Area_Inventory_LIDVID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Secondary class describes a file and an inventory with references to**

secondary members. The references are product LIDVIDs.
role: **Concrete**

- **File Occurs 1 Times**

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

attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional
attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**
attribute: **file_size** value: **value** Optional
attribute: **maximum_record_bytes** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **records** value: **value** Optional

- **End File**

- **Inventory_LIDVID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Secondary class defines the inventory for secondary members of a collection. The references are LIDVIDs.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: **1**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**
attribute: **reference_association_type** value: **has_member_LIDVID_Secondary**

- **Table_Record_Inventory_LIDVID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Secondary class defines the inventory record for a secondary member. The reference is a LIDVID.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

attribute: **name** value: **LIDVID**
attribute: **description** value: **value** Optional
attribute: **field_number** value: **1**
attribute: **data_type** value: **ASCII_LIDVID**
attribute: **field_location** value: **1**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** Optional

- **End Table_Field_LIDVID**

- **End Table_Record_Inventory_LIDVID_Secondary**

- **End Inventory_LIDVID_Secondary**

- **End File_Area_Inventory_LIDVID_Secondary**

- **File_Area_Inventory_LID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

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

attribute: **creation_date_time** value: *value* Optional
attribute: **file_name** value: *value*
attribute: **file_size** value: *value* Optional
attribute: **maximum_record_bytes** value: *value* Optional
attribute: **md5_checksum** value: *value* Optional
attribute: **records** value: *value* Optional

- **End File**

- **Inventory_LID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LID Secondary class defines the inventory for secondary members of a collection. The references are LIDs.**

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

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

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

attribute: **reference_association_type** value: **has_member_LID_Secondary**

- **Table_Record_Inventory_LID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LID Secondary class defines the inventory record for a secondary member. The reference is a LID.**

role: **Concrete**

- **Table_Field_LID Occurs 1 Times**

description: **The Table_Field_LID class defines a table field that provides the logical identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1** Optional

attribute: **data_type** value: **ASCII_LID**

attribute: **field_location** value: **1**

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

attribute: **field_format** value: **urn:nasa:pds:xxxx** Optional

- **End Table_Field_LID**

- **End Table_Record_Inventory_LID_Secondary**

- **End Inventory_LID_Secondary**

- **End File_Area_Inventory_LID_Secondary**

- **End Collection_Generic**

- **Collection_Geometry**

description: **A Geometry collection is a product that has a table of references to one or more geometry products.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

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

role: **Concrete**

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

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

- **End Data_Standards**

- **Identification_Area_Collection Occurs 1 Times**

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

role: **Concrete**

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

attribute: **version_id** value: **value**
attribute: **product_class** value: **value**
attribute: **title** value: **value**
attribute: **alternate_title** value: **value** Optional
attribute: **alternate_id** value: **value** Optional
attribute: **contains_primary_member** value: **value**
attribute: **last_modification_date_time** value: **value** Optional
attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

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

role: **Concrete**

attribute: **target_name** value: **value** Optional
attribute: **instrument_name** value: **value** Optional
attribute: **instrument_host_name** value: **value** Optional
attribute: **keywords** value: **value** Optional
attribute: **full_name** value: **value** Optional
attribute: **investigation_name** value: **value** Optional
attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: **value**
attribute: **name** value: **value**
attribute: **lidvid_reference** value: **value** Optional
attribute: **primary_name** value: **value**
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Collection**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

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

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

role: **Concrete**

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

- **Observing_System_Component - Occurs 1 to * Times**

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

role: **Concrete**

attribute: **comment** value: **value** Optional
attribute: **name** value: **value**
attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

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

to components of the observing system.

role: **Concrete**

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

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

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- End Reference_Entry_Observing_System_Component
- End Observing_System_Component
- End Observing_System

- **Reference_Entry_Collection - Occurs 0 to * Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **has_associated_collection, has_investigation_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

- End Reference_Entry_Collection

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

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

- End Bibliographic_Reference
- End Cross_Reference_Area_Collection

- **File_Area_Inventory_LIDVID_Primary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Primary class describes a file and an inventory with references to primary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- End File

- **Inventory_LIDVID_Primary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Primary class defines the inventory for primary members of a collection.**

role: **Concrete**

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

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

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

attribute: **fields** value: **2**

attribute: **offset** value: *value*
attribute: **record_bytes** value: *value*
attribute: **records** value: *value*
attribute: **reference_association_type** value: has_member_LIDVID_Primary

- **Table_Record_Inventory_LIDVID_Primary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Primary class defines the inventory record for a primary member.**
role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

attribute: **name** value: LIDVID

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

attribute: **field_number** value: 1

attribute: **data_type** value: ASCII_LIDVID

attribute: **field_location** value: 1

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

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

- End Table_Field_LIDVID

- **Table_Field_File_Specification_Name Occurs 1 Times**

description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**

role: **Concrete**

attribute: **name** value: file_specification_name

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

attribute: **field_number** value: 2 Optional

attribute: **data_type** value: ASCII_File_Specification_Name

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

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

attribute: **field_format** value: dir1/dir2/file_name.file_extension Optional

- End Table_Field_File_Specification_Name

- End Table_Record_Inventory_LIDVID_Primary

- End Inventory_LIDVID_Primary

- End File_Area_Inventory_LIDVID_Primary

- **File_Area_Inventory_LIDVID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- End File

- **Inventory_LIDVID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Secondary class defines the inventory for secondary members of a**

collection. The references are LIDVIDs.

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

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

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

attribute: **reference_association_type** value: **has_member_LIDVID_Secondary**

- **Table_Record_Inventory_LIDVID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Secondary class defines the inventory record for a secondary member. The reference is a LIDVID.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1**

attribute: **data_type** value: **ASCII_LIDVID**

attribute: **field_location** value: **1**

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

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

- **End Table_Field_LIDVID**

- **End Table_Record_Inventory_LIDVID_Secondary**

- **End Inventory_LIDVID_Secondary**

- **End File_Area_Inventory_LIDVID_Secondary**

- **File_Area_Inventory_LID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- **End File**

- **Inventory_LID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LID Secondary class defines the inventory for secondary members of a collection. The references are LIDs.**

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

attribute: **record_bytes** value: *value*
attribute: **records** value: *value*
attribute: **reference_association_type** value: *has_member_LID_Secondary*

- **Table_Record_Inventory_LID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LID Secondary class defines the inventory record for a secondary member. The reference is a LID.**
role: **Concrete**

- **Table_Field_LID Occurs 1 Times**

description: **The Table_Field_LID class defines a table field that provides the logical identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: *1* Optional

attribute: **data_type** value: *ASCII_LID*

attribute: **field_location** value: *1*

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

attribute: **field_format** value: *urn:nasa:pds:xxxx* Optional

- **End Table_Field_LID**

- **End Table_Record_Inventory_LID_Secondary**

- **End Inventory_LID_Secondary**

- **End File_Area_Inventory_LID_Secondary**

- **End Collection_Geometry**

- **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**

- **Data_Standards Occurs 1 Times**

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

role: **Concrete**

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

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

- **End Data_Standards**

- **Identification_Area_Collection Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

attribute: **last_modification_date_time** value: *value* Optional

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

- **Subject_Area - Occurs 0 to 1 Times**

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

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: **value** Optional
attribute: **full_name** value: **value** Optional
attribute: **investigation_name** value: **value** Optional
attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**
role: **Concrete**
attribute: **class_name** value: **value**
attribute: **name** value: **value**
attribute: **lidvid_reference** value: **value** Optional
attribute: **primary_name** value: **value**
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Collection**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

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

description: **The Observing System class describes the entire suite used to collect the data.**
role: **Concrete**
attribute: **local_identifier** value: **value** Optional
attribute: **name** value: **value** Optional
attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**
role: **Concrete**
attribute: **comment** value: **value** Optional
attribute: **name** value: **value**
attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**
role: **Concrete**
attribute: **lid_reference** value: **value** Optional
attribute: **lidvid_reference** value: **value** Optional
attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Collection - Occurs 0 to * Times**

description: **The Reference Entry Collection class provides a collection specific reference and type information about the reference. The reference is to a product.**
role: **Concrete**
attribute: **lid_reference** value: **value** Optional

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

attribute: **reference_association_type** value: **has_associated_collection**, **has_investigation_collection**, **has_node_collection**, **has_publication_collection**, **has_target_collection**, **has_update_collection**

- End Reference_Entry_Collection

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

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

- End Bibliographic_Reference
- End Cross_Reference_Area_Collection

- **File_Area_Inventory_LIDVID_Primary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Primary class describes a file and an inventory with references to primary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- End File

- **Inventory_LIDVID_Primary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Primary class defines the inventory for primary members of a collection.**

role: **Concrete**

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

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

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

attribute: **fields** value: **2**

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

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

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

attribute: **reference_association_type** value: **has_member_LIDVID_Primary**

- **Table_Record_Inventory_LIDVID_Primary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Primary class defines the inventory record for a primary member.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

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

attribute: **description** value: *value* Optional
attribute: **field_number** value: **1**
attribute: **data_type** value: **ASCII_LIDVID**
attribute: **field_location** value: **1**
attribute: **field_length** value: *value*
attribute: **field_format** value: *value* Optional

- **End Table_Field_LIDVID**

- **Table_Field_File_Specification_Name Occurs 1 Times**

description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**

role: **Concrete**

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

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

attribute: **field_number** value: **2** Optional

attribute: **data_type** value: **ASCII_File_Specification_Name**

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

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

attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional

- **End Table_Field_File_Specification_Name**
- **End Table_Record_Inventory_LIDVID_Primary**
- **End Inventory_LIDVID_Primary**
- **End File_Area_Inventory_LIDVID_Primary**
- **File_Area_Inventory_LIDVID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- **End File**

- **Inventory_LIDVID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Secondary class defines the inventory for secondary members of a collection. The references are LIDVIDs.**

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

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

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

attribute: **reference_association_type** value: **has_member_LIDVID_Secondary**

- **Table_Record_Inventory_LIDVID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Secondary class defines the inventory record for a secondary member. The reference is a LIDVID.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1**

attribute: **data_type** value: **ASCII_LIDVID**

attribute: **field_location** value: **1**

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

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

- **End Table_Field_LIDVID**

- **End Inventory_LIDVID_Secondary**

- **End File_Area_Inventory_LIDVID_Secondary**

- **End File_Area_Inventory_LIDVID_Secondary**

- **File_Area_Inventory_LID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- **End File**

- **Inventory_LID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LID Secondary class defines the inventory for secondary members of a collection. The references are LIDs.**

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

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

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

attribute: **reference_association_type** value: **has_member_LID_Secondary**

- **Table_Record_Inventory_LID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LID Secondary class defines the inventory record for a secondary member. The reference is a LID.**

role: **Concrete**

- **Table_Field_LID Occurs 1 Times**

description: **The Table_Field_LID class defines a table field that provides the logical identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1** Optional

attribute: **data_type** value: **ASCII_LID**

attribute: **field_location** value: 1
attribute: **field_length** value: **value**
attribute: **field_format** value: **urn:nasa:pds:xxxx** ^{Optional}

- **End Table_Field_LID**
 - **End Table_Record_Inventory_LID_Secondary**
 - **End Inventory_LID_Secondary**
 - **End File_Area_Inventory_LID_Secondary**
 - **End Collection_Miscellaneous**
-

- **Collection_SPICE**

description: **A SPICE collection is a product that has a table of references to one or more SPICE products.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: **value**
attribute: **std_ref_version_id** value: **value**

- **End Data_Standards**

- **Identification_Area_Collection Occurs 1 Times**

description: **The collection identification area consists of attributes that identify and name a collection.**
role: **Concrete**
attribute: **logical_identifier** value: **value**
attribute: **version_id** value: **value**
attribute: **product_class** value: **value**
attribute: **title** value: **value**
attribute: **alternate_title** value: **value** ^{Optional}
attribute: **alternate_id** value: **value** ^{Optional}
attribute: **contains_primary_member** value: **value**
attribute: **last_modification_date_time** value: **value** ^{Optional}
attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

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

attribute: **target_name** value: **value** ^{Optional}
attribute: **instrument_name** value: **value** ^{Optional}
attribute: **instrument_host_name** value: **value** ^{Optional}
attribute: **keywords** value: **value** ^{Optional}
attribute: **full_name** value: **value** ^{Optional}
attribute: **investigation_name** value: **value** ^{Optional}
attribute: **observing_system_name** value: **value** ^{Optional}

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**
role: **Concrete**
attribute: **class_name** value: **value**
attribute: **name** value: **value**
attribute: **lidvid_reference** value: **value** ^{Optional}
attribute: **primary_name** value: **value**
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**
- **End Subject_Area**
- **End Identification_Area_Collection**
- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

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

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

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

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

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

- **Observing_System_Component - Occurs 1 to * Times**

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

role: **Concrete**

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

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

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Collection - Occurs 0 to * Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **has_associated_collection, has_investigation_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

- **End Reference_Entry_Collection**

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

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

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Collection**

- **File_Area_Inventory_LIDVID_Primary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Primary class describes a file and an inventory with references to primary members. The references are product LIDVIDs.**
role: **Concrete**

- **File Occurs 1 Times**

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

attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional
attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**
attribute: **file_size** value: **value** Optional
attribute: **maximum_record_bytes** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **records** value: **value** Optional

- **End File**

- **Inventory_LIDVID_Primary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Primary class defines the inventory for primary members of a collection.**

role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: **2**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**
attribute: **reference_association_type** value: **has_member_LIDVID_Primary**

- **Table_Record_Inventory_LIDVID_Primary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Primary class defines the inventory record for a primary member.**
role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**
attribute: **name** value: **LIDVID**
attribute: **description** value: **value** Optional
attribute: **field_number** value: **1**
attribute: **data_type** value: **ASCII_LIDVID**
attribute: **field_location** value: **1**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** Optional

- **End Table_Field_LIDVID**

- **Table_Field_File_Specification_Name Occurs 1 Times**

description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**

role: **Concrete**
attribute: **name** value: **file_specification_name**
attribute: **description** value: **value** Optional
attribute: **field_number** value: **2** Optional
attribute: **data_type** value: **ASCII_File_Specification_Name**
attribute: **field_location** value: **value**
attribute: **field_length** value: **value**
attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional

- End Table_Field_File_Specification_Name
 - End Table_Record_Inventory_LIDVID_Primary
 - End Inventory_LIDVID_Primary
- End File_Area_Inventory_LIDVID_Primary
- File_Area_Inventory_LIDVID_Secondary - Occurs 0 to 1 Times

description: **The File Area Inventory LIDVID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDVIDs.**
 role: **Concrete**

- File Occurs 1 Times

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

attribute: **local_identifier** value: **value** Optional
 attribute: **comment** value: **value** Optional
 attribute: **creation_date_time** value: **value** Optional
 attribute: **file_name** value: **value**
 attribute: **file_size** value: **value** Optional
 attribute: **maximum_record_bytes** value: **value** Optional
 attribute: **md5_checksum** value: **value** Optional
 attribute: **records** value: **value** Optional

- End File
- Inventory_LIDVID_Secondary Occurs 1 Times - Base_Class:Table_Base

description: **The Inventory LIDVID Secondary class defines the inventory for secondary members of a collection. The references are LIDVIDs.**
 role: **Concrete**

attribute: **local_identifier** value: **value**
 attribute: **comment** value: **value** Optional
 attribute: **encoding_type** value: CHARACTER
 attribute: **fields** value: 1
 attribute: **offset** value: **value**
 attribute: **record_bytes** value: **value**
 attribute: **records** value: **value**
 attribute: **reference_association_type** value: has_member_LIDVID_Secondary

- Table_Record_Inventory_LIDVID_Secondary Occurs 1 Times

description: **The Table Record Inventory LIDVID Secondary class defines the inventory record for a secondary member. The reference is a LIDVID.**
 role: **Concrete**

- Table_Field_LIDVID Occurs 1 Times

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**
 attribute: **name** value: LIDVID
 attribute: **description** value: **value** Optional
 attribute: **field_number** value: 1
 attribute: **data_type** value: ASCII_LIDVID
 attribute: **field_location** value: 1
 attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional

- End Table_Field_LIDVID
 - End Table_Record_Inventory_LIDVID_Secondary
 - End Inventory_LIDVID_Secondary
- End File_Area_Inventory_LIDVID_Secondary
- File_Area_Inventory_LID_Secondary - Occurs 0 to 1 Times

description: **The File Area Inventory LID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- **End File**

- **Inventory_LID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LID Secondary class defines the inventory for secondary members of a collection. The references are LIDs.**

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

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

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

attribute: **reference_association_type** value: **has_member_LID_Secondary**

- **Table_Record_Inventory_LID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LID Secondary class defines the inventory record for a secondary member. The reference is a LID.**

role: **Concrete**

- **Table_Field_LID Occurs 1 Times**

description: **The Table_Field_LID class defines a table field that provides the logical identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1** Optional

attribute: **data_type** value: **ASCII_LID**

attribute: **field_location** value: **1**

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

attribute: **field_format** value: **urn:nasa:pds:xxxx** Optional

- **End Table_Field_LID**

- **End Table_Record_Inventory_LID_Secondary**

- **End Inventory_LID_Secondary**

- **End File_Area_Inventory_LID_Secondary**

- **End Collection_SPICE**

- **Collection_Volume_PDS3**

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

role: **Concrete**

- **Data_Standards Occurs 1 Times**

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

role: **Concrete**

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

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

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

attribute: **last_modification_date_time** value: *value* Optional

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

- **Subject_Area - Occurs 0 to 1 Times**

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

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

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

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

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

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

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

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

attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution

- End Subject_Area

- End Identification_Area_Product

- **Cross_Reference_Area_Context Occurs 1 Times**

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

role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- End Reference_Entry_Context

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

attribute: **name** value: **value** Optional
attribute: **description** value: **value** Optional
attribute: **doi** value: **value** Optional
attribute: **reference_text** value: **value** Optional
attribute: **url** value: **value** Optional

- End Bibliographic_Reference
- End Cross_Reference_Area_Context
- **Volume_PDS3 Occurs 1 Times**

description: **The Volume_PDS3 class is used to capture the volume information from the PDS3 Data Set Catalog.**
role: **Concrete**

attribute: **archive_status** value: **ARCHIVED, ARCHIVED_ACCUMULATING, IN_LIEN_RESOLUTION, IN_LIEN_RESOLUTION_ACCUMULATING, IN_PEER_REVIEW, IN_PEER_REVIEW_ACCUMULATING, IN_QUEUE, IN_QUEUE_ACCUMULATING, LOCALLY_ARCHIVED, LOCALLY_ARCHIVED_ACCUMULATING, PRE_PEER_REVIEW, PRE_PEER_REVIEW_ACCUMULATING, SAFED, SUPERSEDED**

attribute: **description** value: **value** Optional
attribute: **archive_status_note** value: **value**
attribute: **curating_node_id** value: **value** Optional
attribute: **medium_type** value: **value**
attribute: **publication_date** value: **value**
attribute: **volume_de_fullname** value: **value**
attribute: **volume_format** value: **value**
attribute: **volume_id** value: **value**
attribute: **volume_name** value: **value**
attribute: **volume_set_id** value: **value**
attribute: **volume_size** value: **value**
attribute: **volume_version_id** value: **value**

- End Volume_PDS3
 - End Collection_Volume_PDS3
-

- **Collection_Volume_Set_PDS3**

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

- **Data_Standards Occurs 1 Times**

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

role: **Concrete**
attribute: **dd_version_id** value: **value**
attribute: **std_ref_version_id** value: **value**

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

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

role: **Concrete**
attribute: **logical_identifier** value: **value**
attribute: **version_id** value: **value**
attribute: **product_class** value: **value**
attribute: **title** value: **value**
attribute: **alternate_title** value: **value** Optional
attribute: **alternate_id** value: **value** Optional
attribute: **last_modification_date_time** value: **value** Optional
attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

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

role: **Concrete**
attribute: **target_name** value: **value** Optional
attribute: **instrument_name** value: **value** Optional

attribute: **instrument_host_name** value: **value** Optional
attribute: **keywords** value: **value** Optional
attribute: **full_name** value: **value** Optional
attribute: **investigation_name** value: **value** Optional
attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

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

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

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

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

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Context Occurs 1 Times**

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

role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- **End Reference_Entry_Context**

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

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

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Context**

- **Volume_Set_PDS3 Occurs 1 Times**

description: **The Volume_Set_PDS3 class is used to capture the volume set information from the PDS3 Data Set Catalog.**

role: **Concrete**

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

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

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

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

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

- **End Volume_Set_PDS3**

- **End Collection_Volume_Set_PDS3**

- **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**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: *value*
attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area_Collection Occurs 1 Times**

description: **The collection identification area consists of attributes that identify and name a collection.**
role: **Concrete**
attribute: **logical_identifier** value: *value*
attribute: **version_id** value: *value*
attribute: **product_class** value: *value*
attribute: **title** value: *value*
attribute: **alternate_title** value: *value* Optional
attribute: **alternate_id** value: *value* Optional
attribute: **contains_primary_member** value: *value*
attribute: **last_modification_date_time** value: *value* Optional
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

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

role: **Concrete**

attribute: **target_name** value: *value* Optional
attribute: **instrument_name** value: *value* Optional
attribute: **instrument_host_name** value: *value* Optional
attribute: **keywords** value: *value* Optional
attribute: **full_name** value: *value* Optional
attribute: **investigation_name** value: *value* Optional
attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*
attribute: **name** value: *value*
attribute: **lidvid_reference** value: *value* Optional
attribute: **primary_name** value: *value*
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Collection**

- **Cross_Reference_Area_Collection - Occurs 0 to 1 Times**

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

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

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

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

- **Observing_System_Component - Occurs 1 to * Times**

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

role: **Concrete**

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

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

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Collection - Occurs 0 to * Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: **has_associated_collection, has_investigation_collection, has_node_collection, has_publication_collection, has_target_collection, has_update_collection**

- **End Reference_Entry_Collection**

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

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

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Collection**

- **File_Area_Inventory_LIDVID_Primary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Primary class describes a file and an inventory with references to primary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

attribute: **comment** value: *value* Optional
attribute: **creation_date_time** value: *value* Optional
attribute: **file_name** value: *value*
attribute: **file_size** value: *value* Optional
attribute: **maximum_record_bytes** value: *value* Optional
attribute: **md5_checksum** value: *value* Optional
attribute: **records** value: *value* Optional

- **End File**

- **Inventory_LIDVID_Primary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Primary class defines the inventory for primary members of a collection.**

role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: **2**
attribute: **offset** value: *value*
attribute: **record_bytes** value: *value*
attribute: **records** value: *value*
attribute: **reference_association_type** value: **has_member_LIDVID_Primary**

- **Table_Record_Inventory_LIDVID_Primary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Primary class defines the inventory record for a primary member.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

attribute: **name** value: **LIDVID**
attribute: **description** value: *value* Optional
attribute: **field_number** value: **1**
attribute: **data_type** value: **ASCII_LIDVID**
attribute: **field_location** value: **1**
attribute: **field_length** value: *value*
attribute: **field_format** value: *value* Optional

- **End Table_Field_LIDVID**

- **Table_Field_File_Specification_Name Occurs 1 Times**

description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**

role: **Concrete**

attribute: **name** value: **file_specification_name**
attribute: **description** value: *value* Optional
attribute: **field_number** value: **2** Optional
attribute: **data_type** value: **ASCII_File_Specification_Name**
attribute: **field_location** value: *value*
attribute: **field_length** value: *value*
attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional

- **End Table_Field_File_Specification_Name**

- **End Table_Record_Inventory_LIDVID_Primary**

- **End Inventory_LIDVID_Primary**

- **End File_Area_Inventory_LIDVID_Primary**

- **File_Area_Inventory_LIDVID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LIDVID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDVIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- **End File**

- **Inventory_LIDVID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LIDVID Secondary class defines the inventory for secondary members of a collection. The references are LIDVIDs.**

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

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

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

attribute: **reference_association_type** value: **has_member_LIDVID_Secondary**

- **Table_Record_Inventory_LIDVID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LIDVID Secondary class defines the inventory record for a secondary member. The reference is a LIDVID.**

role: **Concrete**

- **Table_Field_LIDVID Occurs 1 Times**

description: **The Table Field LIDVID class defines a table field that provides the logical identifier and version identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1**

attribute: **data_type** value: **ASCII_LIDVID**

attribute: **field_location** value: **1**

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

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

- **End Table_Field_LIDVID**

- **End Table_Record_Inventory_LIDVID_Secondary**

- **End Inventory_LIDVID_Secondary**

- **End File_Area_Inventory_LIDVID_Secondary**

- **File_Area_Inventory_LID_Secondary - Occurs 0 to 1 Times**

description: **The File Area Inventory LID Secondary class describes a file and an inventory with references to secondary members. The references are product LIDs.**

role: **Concrete**

- **File Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

attribute: **file_size** value: *value* Optional
attribute: **maximum_record_bytes** value: *value* Optional
attribute: **md5_checksum** value: *value* Optional
attribute: **records** value: *value* Optional

- End File

- **Inventory_LID_Secondary Occurs 1 Times - Base_Class:Table_Base**

description: **The Inventory LID Secondary class defines the inventory for secondary members of a collection. The references are LIDs.**

role: **Concrete**

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

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

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

attribute: **fields** value: **1**

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

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

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

attribute: **reference_association_type** value: **has_member_LID_Secondary**

- **Table_Record_Inventory_LID_Secondary Occurs 1 Times**

description: **The Table Record Inventory LID Secondary class defines the inventory record for a secondary member. The reference is a LID.**

role: **Concrete**

- **Table_Field_LID Occurs 1 Times**

description: **The Table_Field_LID class defines a table field that provides the logical identifier for a product.**

role: **Concrete**

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

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

attribute: **field_number** value: **1** Optional

attribute: **data_type** value: **ASCII_LID**

attribute: **field_location** value: **1**

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

attribute: **field_format** value: **urn:nasa:pds:xxxx** Optional

- End Table_Field_LID

- End Table_Record_Inventory_LID_Secondary

- End Inventory_LID_Secondary

- End File_Area_Inventory_LID_Secondary

- End Collection_XML_Schema

- **Delivery_Manifest - Base_Class:Table_Base**

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

role: **Concrete**

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

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

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

attribute: **fields** value: **2**

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

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

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

attribute: **reference_association_type** value: **has_member** Optional

- **Table_Record_Manifest Occurs 1 Times**

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

role: **Concrete**

- **Table_Field_Checksum Occurs 1 Times**

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

role: **Concrete**

attribute: **name** value: **MD5_checksum**

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

attribute: **field_number** value: **2** Optional

attribute: **data_type** value: **ASCII_MD5_Checksum**

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

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

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

- **End Table_Field_Checksum**

- **Table_Field_File_Specification_Name Occurs 1 Times**

description: **The Table_Field_File_Specification_Name class defines a table field that provides a file name, file extension, and relative directory path to a product label.**

role: **Concrete**

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

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

attribute: **field_number** value: **2** Optional

attribute: **data_type** value: **ASCII_File_Specification_Name**

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

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

attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional

- **End Table_Field_File_Specification_Name**

- **End Table_Record_Manifest**

- **End Delivery_Manifest**

- **Detector**

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

role: **Concrete**

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

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

- **End Detector**

- **Header**

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

role: **Concrete**

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

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

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

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

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

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

attribute: **external_standard_id** value: **FITS, ISIS, ODL, VICAR**

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

- **End Header**

- **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_sphercl_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 Image_Map_Projection**
-

- **Local_DD**

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

role: **Concrete**

attribute: **local_identifier** value: **value**
 attribute: **comment** value: **value** ^{Optional}
 attribute: **full_name** value: **value**
 attribute: **last_modification_date_time** value: **value**
 attribute: **pds4_merge_flag** value: **F**, **T**

- **DD_Attribute - Occurs 1 to * Times**

description: **The DD_Attribute class defines an attribute for a data dictionary.**

role: **Concrete**

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

- **Terminological_Entry - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

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

- **End Bibliographic_Reference**

- **End Terminological_Entry**

- **DD_Value_Domain - Occurs 0 to 1 Times**

description: **The DD_Value_Domain class defines the value domain for a data dictionary attribute.**

role: **Concrete**

attribute: **enumeration_flag** value: **F, T**

attribute: **specified_unit_id** value: **value** Optional

attribute: **value_data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **formation_rule** value: **value** Optional

attribute: **minimum_characters** value: **value** Optional

attribute: **maximum_characters** value: **value** Optional

attribute: **minimum_value** value: **value** Optional

attribute: **maximum_value** value: **value** Optional

attribute: **pattern** value: **value** Optional

attribute: **unit_of_measure_type** value: **UnitOfMeasure_AmountOfSubstance, UnitOfMeasure_Angle, UnitOfMeasure_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** Optional

- **DD_Permissible_Value - Occurs 0 to * Times**

description: **The DD_Permissible_Value class lists permissible values and their meanings.**

role: **Concrete**

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

attribute: **value_meaning** value: **value** Optional

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

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

- **End DD_Permissible_Value**

- **End DD_Value_Domain**

- **End DD_Attribute**

- **DD_Class - Occurs 0 to * Times**

description: **The DD_Class class defines a user class, a collection of attributes in a data dictionary.**

role: **Concrete**

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

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

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

attribute: **steward_id** value: **atm, geo, img, naif, ops, pds, ppi, rings, rs, sbn** Optional

attribute: **name_space_id** value: **value** Optional

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

- **DD_Association - Occurs 0 to * Times**

description: **The DD_Association class defines the association between two classes or a class and an attribute in a data dictionary.**

role: **Concrete**

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

attribute: **constant_value** value: **value** Optional

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

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

attribute: **reference_association_type** value: **attribute_of, subclass_of**

- **End DD_Association**

- **DD_Association - Occurs 0 to * Times**

description: **The DD_Association class defines the association between two classes or a class and an attribute in a data dictionary.**

role: **Concrete**

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

attribute: **constant_value** value: **value** Optional

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

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

attribute: **reference_association_type** value: **attribute_of, subclass_of**

- **End DD_Association**

- **Terminological_Entry - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

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

- **End Bibliographic_Reference**

- **End Terminological_Entry**

- **End DD_Class**

- **End Local_DD**

- **Product_Archive_Bundle**

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

role: **Concrete**

- **Data_Standards Occurs 1 Times**

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

role: **Concrete**

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

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

- End Data_Standards

- **Identification_Area_Bundle Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

attribute: **last_modification_date_time** value: *value* Optional

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

- **Subject_Area - Occurs 0 to 1 Times**

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

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

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

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

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

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

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

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

attribute: **role** value: ALTERNATE, PRIMARY

- End Name_Resolution

- End Subject_Area

- End Identification_Area_Bundle

- **Cross_Reference_Area_Bundle - Occurs 0 to 1 Times**

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

role: **Concrete**

- **Reference_Entry - Occurs 0 to * Times**

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

role: **Concrete**

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

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

attribute: **reference_association_type** value: has_association, member_of

- End Reference_Entry

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

attribute: **doi** value: **value** Optional
attribute: **reference_text** value: **value** Optional
attribute: **url** value: **value** Optional

- End Bibliographic_Reference
- End Cross_Reference_Area_Bundle
- **File_Area_Text - Occurs 0 to 3 Times**

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

- **File Occurs 1 Times**

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

attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional
attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**
attribute: **file_size** value: **value** Optional
attribute: **maximum_record_bytes** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **records** value: **value** Optional

- End File
- **Stream_Text Occurs 1 Times**

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

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **value**
attribute: **offset** value: **value**

- End Stream_Text
- End File_Area_Text
- **Archive_Bundle Occurs 1 Times**

description: **The archive bundle class describes a collection of products.**
role: **Concrete**

attribute: **start_date_time** value: **value**
attribute: **stop_date_time** value: **value**
attribute: **description** value: **value**

- **Citation Occurs 1 Times**

description: **The Citation class provides text to be used for quoting an artifact as an authoritative source.**

role: **Concrete**
attribute: **citation_text** value: **value**
attribute: **author_list** value: **value**

- End Citation
- End Archive_Bundle
- **Bundle_Member_Entry - Occurs 1 to * Times**

description: **The Bundle Member Entry class provides a member reference to a collection.**
role: **Concrete**

attribute: **file_specification_name** value: **value**
attribute: **lid_reference** value: **value** Optional
attribute: **lidvid_reference** value: **value** Optional
attribute: **reference_association_type** value: **has_browse_collection, has_calibration_collection, has_context_collection, has_data_collection, has_document_collection, has_geometry_collection, has_member_collection, has_miscellaneous_collection, has_spice_collection, has_xml_schema_collection**

- End Bundle_Member_Entry
 - End Product_Archive_Bundle
-

- **Product_Array_2D_Image**

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

role: **Concrete**

- **Data_Standards Occurs 1 Times**

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

role: **Concrete**

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

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

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

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

- **Subject_Area - Occurs 0 to 1 Times**

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

role: **Concrete**

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

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

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

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

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

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

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

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

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

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

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

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

attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution

- End Subject_Area

- End Identification_Area_Product

- **Cross_Reference_Area_Product Occurs 1 Times**

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

role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

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

role: **Concrete**

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

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

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

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

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

- **End Bibliographic_Reference**

- **Observing_System - Occurs 1 to * Times**

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

role: **Concrete**

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

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

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

- **Observing_System_Component - Occurs 1 to * Times**

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

role: **Concrete**

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

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

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

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

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- **End Reference_Entry_Product**

- **End Cross_Reference_Area_Product**

- **Observation_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission_Area - Occurs 0 to * Times**

description: **The mission area allow the insertion of mission specific metadata.**
role: **Concrete**

- **End Mission_Area**

- **Node_Area - Occurs 0 to * Times**

description: **The node area allow the insertion of node specific metadata.**
role: **Concrete**

- **End Node_Area**

attribute: **comment** value: **value** Optional
attribute: **start_date_time** value: **value**
attribute: **stop_date_time** value: **value**
attribute: **local_mean_solar_time** value: **value** Optional
attribute: **local_true_solar_time** value: **value** Optional
attribute: **mission_phase_name** value: **value** Optional
attribute: **orbit_number** value: **value** Optional
attribute: **planet_day_number** value: **value** Optional
attribute: **solar_longitude** value: **value** Optional
attribute: **spacecraft_clock_count_partition** value: **value** Optional
attribute: **spacecraft_clock_start_count** value: **value** Optional
attribute: **spacecraft_clock_stop_count** value: **value** Optional

- **Geometry_New - Occurs 0 to * Times**

description: **The Geometry class groups objects associated with geometry information.**
role: **Concrete**
attribute: **local_identifier** value: **value**

- **Vector_New - Occurs 0 to * Times**

description: **The Vector class provides the components of either a velocity or position vector.**
role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **name** value: **value**
attribute: **description** value: **value**
attribute: **type** value: **POSITION, VELOCITY**
attribute: **vector_components** value: **value**

- **Vector_Component - Occurs 1 to * Times**

description: **The Vector_Component class provides a component of a vector.**
role: **Concrete**
attribute: **name** value: **value** Optional
attribute: **description** value: **value** Optional
attribute: **sequence_number** value: **value**
attribute: **value** value: **value**

- **End Vector_Component**

- **End Vector_New**

- **End Geometry_New**

- **End Observation_Area**

- **File_Area_Observational - Occurs 1 to * Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged_data_objects contained within the file.**
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** ^{Optional}

attribute: **comment** value: **value** ^{Optional}

attribute: **creation_date_time** value: **value** ^{Optional}

attribute: **file_name** value: **value**

attribute: **file_size** value: **value** ^{Optional}

attribute: **maximum_record_bytes** value: **value** ^{Optional}

attribute: **md5_checksum** value: **value** ^{Optional}

attribute: **records** value: **value** ^{Optional}

- **End File**

- **Array_2D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Image class is an extension of array_base and defines a two dimensional image.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Image_2D_Display - Occurs 0 to 1 Times**

description: **The Image_2D_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**

attribute: **first_line** value: **value** ^{Optional}

attribute: **first_line_sample** value: **value** ^{Optional}

attribute: **line_display_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample_display_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image_2D_Display**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **Object_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **description** value: **value** Optional
attribute: **maximum** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **mean** value: **value** Optional
attribute: **median** value: **value** Optional
attribute: **minimum** value: **value** Optional
attribute: **sample_bit_mask** value: **value** Optional
attribute: **standard_deviation** value: **value** Optional

- **End Object_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional
attribute: **invalid_constant** value: **value** Optional
attribute: **missing_constant** value: **value** Optional
attribute: **not_applicable_constant** value: **value** Optional
attribute: **saturated_constant** value: **value** Optional
attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Array_2D_Image**

- **Array_2D_Map - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Map class is an extension of array_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **axes** value: **2**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**
attribute: **elements** 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** Optional

- **End Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** 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}

- End Array_Element
- End Array_2D_Map
- **Array_2D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Spectrum class is an extension of array_base and defines a two dimensional spectrum.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: 2

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_2D_Spectrum
- **Array_3D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Image class is an extension of array_base and defines a three dimensional image.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: **value**

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Image
- **Array_3D_Movie - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Movie class is an extension of array_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Movie
- **Array_3D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **3**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Spectrum
- **Header - Occurs 0 to * Times**

description: The Header class describes a data object header.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **bytes** value: **value**

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **FITS, ISIS, ODL, VICAR**

attribute: **offset** value: **value**

- End Header

- **Stream_Delimited - Occurs 0 to * Times**

description: **The Stream Delimited class defines a simple spreadsheet.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **CSV, OTHER**

attribute: **field_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**

attribute: **fields** value: *value*

attribute: **maximum_record_length** value: *value*

attribute: **offset** value: *value*

attribute: **record_delimiter** value: **0x0A, 0x0D, 0x0D_0x0A**

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: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* ^{Optional}

attribute: **minimum_scaled_value** value: *value* ^{Optional}

attribute: **maximum_scaled_value** value: *value* ^{Optional}

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** value: *value* ^{Optional}

attribute: **unit** value: **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}

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics**

for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Stream_Delimited_Field**

- **End Stream_Delimited_Field_Sequence**

- **End Stream_Delimited_Grouped_Sequence**

- **End Stream_Delimited_Record**

- **End Stream_Delimited**

- **Stream_Text - Occurs 0 to * Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **value**

attribute: **offset** value: **value**

- **End Stream_Text**

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **BINARY**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table_Binary_Field - Occurs 1 to * Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: *value* Optional
 attribute: **field_number** value: *value* Optional
 attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8
 attribute: **field_location** value: *value*
 attribute: **field_length** value: *value*
 attribute: **field_format** value: *value* Optional
 attribute: **minimum_scaled_value** value: *value* Optional
 attribute: **maximum_scaled_value** value: *value* Optional
 attribute: **scaling_factor** value: *value* Optional
 attribute: **value_offset** value: *value* Optional
 attribute: **unit** value: 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local_identifier** value: *value*
 attribute: **description** value: *value* Optional
 attribute: **maximum** value: *value* Optional
 attribute: **mean** value: *value* Optional
 attribute: **median** value: *value* Optional
 attribute: **minimum** value: *value* Optional
 attribute: **sample_bit_mask** value: *value* Optional
 attribute: **standard_deviation** value: *value* Optional

- End Field_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error_constant** value: *value* Optional
 attribute: **invalid_constant** value: *value* Optional
 attribute: **missing_constant** value: *value* Optional
 attribute: **not_applicable_constant** value: *value* Optional
 attribute: **saturated_constant** value: *value* Optional
 attribute: **unknown_constant** value: *value* Optional

- End Special_Constants

- End Table_Binary_Field

- End Table_Record_Binary

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: The Uniformly_Sampled class provides parameters for a uniformly sampled table.

role: **Concrete**

attribute: **first_sampling_parameter_value** value: *value*
 attribute: **last_sampling_parameter_value** value: *value*
 attribute: **sampling_parameter_interval** value: *value*
 attribute: **sampling_parameter_name** value: *value*
 attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional
 attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled
- End Table_Binary
- **Table_Binary_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **encoding_type** value: **BINARY**
attribute: **fields** value: **value**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**

- **Table_Record_Binary_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**

role: **Concrete**

- **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** ^{Optional}

- **Table_Binary_Field_Sequence - Occurs 1 to * Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: **value**
attribute: **description** value: **value** ^{Optional}
attribute: **field_number** value: **value** ^{Optional}
attribute: **data_type** value: **Bit**
attribute: **field_location** value: **value**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** ^{Optional}
attribute: **minimum_scaled_value** value: **value** ^{Optional}
attribute: **maximum_scaled_value** value: **value** ^{Optional}
attribute: **bit_mask** value: **value** ^{Optional}
attribute: **bits** value: **value**
attribute: **scaling_factor** value: **value** ^{Optional}
attribute: **start_bit** value: **value**
attribute: **value_offset** value: **value** ^{Optional}
attribute: **unit** value: **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 Table_Binary_Grouped_Bit_Field

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: ASCII_File_Name, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field_location** value: *value*

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* ^{Optional}

attribute: **minimum_scaled_value** value: *value* ^{Optional}

attribute: **maximum_scaled_value** value: *value* ^{Optional}

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** value: *value* ^{Optional}

attribute: **unit** value: 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 Table_Binary_Grouped_Field**

- **End Table_Binary_Field_Sequence**

- **End Table_Binary_Grouped_Sequence**

- **End Table_Record_Binary_Grouped**

- **End Table_Binary_Grouped**

- **Table_Character - Occurs 0 to * Times - Base_Class:Table_Base**

description: The Table Character class is an extension of table base and defines a simple character table.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: CHARACTER

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record_bytes** value: *value*

attribute: **records** value: *value*

- **Table_Record_Character Occurs 1 Times**

description: The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.

role: **Concrete**

- **Table_Character_Field - Occurs 1 to * Times**

description: The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID

attribute: **field_location** value: *value*

attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: **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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **maximum** value: **value** Optional
 attribute: **mean** value: **value** Optional
 attribute: **median** value: **value** Optional
 attribute: **minimum** value: **value** Optional
 attribute: **sample_bit_mask** value: **value** Optional
 attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional
 attribute: **invalid_constant** value: **value** Optional
 attribute: **missing_constant** value: **value** Optional
 attribute: **not_applicable_constant** value: **value** Optional
 attribute: **saturated_constant** value: **value** Optional
 attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Table_Character_Field**

- **End Table_Record_Character**

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**
 attribute: **last_sampling_parameter_value** value: **value**
 attribute: **sampling_parameter_interval** value: **value**
 attribute: **sampling_parameter_name** value: **value**
 attribute: **sampling_parameter_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional
 attribute: **sampling_parameter_unit** value: **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**

- **End Uniformly_Sampled**

- **End Table_Character**

- **Table_Character_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: *value* Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: *value*
attribute: **offset** value: *value*
attribute: **record_bytes** value: *value*
attribute: **records** value: *value*

- **Table_Record_Character_Grouped Occurs 1 Times**

description: The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.
role: **Concrete**

- **Table_Character_Grouped_Sequence - Occurs 1 to * Times**

description: The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: *value* Optional

- **Table_Character_Field_Sequence - Occurs 1 to * Times**

description: The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Table_Character_Grouped_Field - Occurs 0 to * Times**

description: The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* Optional

attribute: **field_number** value: *value* Optional

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_location** value: *value*

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* Optional

attribute: **minimum_scaled_value** value: *value* Optional

attribute: **maximum_scaled_value** value: *value* Optional

attribute: **scaling_factor** value: *value* Optional

attribute: **value_offset** value: *value* Optional

attribute: **unit** value: **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 Table_Character_Grouped_Field**

- **End Table_Character_Field_Sequence**

- **End Table_Character_Grouped_Sequence**

- **End Table_Record_Character_Grouped**

- **End Table_Character_Grouped**

- **End File_Area_Observational**

- **End Product_Array_2D_Image**

- **Product_Array_3D_Image**

description: **The Product Array 3D Image class defines a product consisting of at least one Array 3D image and other associated data objects and metadata.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: **value** Optional
attribute: **reference_text** value: **value** Optional
attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**
- **Observing_System - Occurs 1 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**
role: **Concrete**

attribute: **local_identifier** value: **value** Optional
attribute: **name** value: **value** Optional
attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional
attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional
attribute: **lidvid_reference** value: **value** Optional
attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**
- **End Observing_System_Component**
- **End Observing_System**

- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional
attribute: **lidvid_reference** value: **value** Optional
attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- **End Reference_Entry_Product**
- **End Cross_Reference_Area_Product**

- **Observation_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission_Area - Occurs 0 to * Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission_Area**

- **Node_Area - Occurs 0 to * Times**

description: **The node area allow the insertion of node specific metadata.**
role: **Concrete**

- **End Node_Area**

attribute: **comment** value: **value** Optional
attribute: **start_date_time** value: **value**
attribute: **stop_date_time** value: **value**
attribute: **local_mean_solar_time** value: **value** Optional
attribute: **local_true_solar_time** value: **value** Optional
attribute: **mission_phase_name** value: **value** Optional
attribute: **orbit_number** value: **value** Optional
attribute: **planet_day_number** value: **value** Optional
attribute: **solar_longitude** value: **value** Optional
attribute: **spacecraft_clock_count_partition** value: **value** Optional
attribute: **spacecraft_clock_start_count** value: **value** Optional
attribute: **spacecraft_clock_stop_count** value: **value** Optional

- **Geometry_New - Occurs 0 to * Times**

description: **The Geometry class groups objects associated with geometry information.**
role: **Concrete**
attribute: **local_identifier** value: **value**

- **Vector_New - Occurs 0 to * Times**

description: **The Vector class provides the components of either a velocity or position vector.**
role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **name** value: **value**
attribute: **description** value: **value**
attribute: **type** value: **POSITION, VELOCITY**
attribute: **vector_components** value: **value**

- **Vector_Component - Occurs 1 to * Times**

description: **The Vector_Component class provides a component of a vector.**
role: **Concrete**
attribute: **name** value: **value** Optional
attribute: **description** value: **value** Optional
attribute: **sequence_number** value: **value**
attribute: **value** value: **value**

- **End Vector_Component**

- **End Vector_New**

- **End Geometry_New**

- **End Observation_Area**

- **File_Area_Observational - Occurs 1 to * Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged_data_objects contained within the file.**
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**
role: **Concrete**
attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional
attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**

attribute: **file_size** value: *value* Optional
attribute: **maximum_record_bytes** value: *value* Optional
attribute: **md5_checksum** value: *value* Optional
attribute: **records** value: *value* Optional

- End File

- **Array_2D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Image class is an extension of array_base and defines a two dimensional image.

role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* Optional
attribute: **axes** value: 2
attribute: **axis_order** value: FIRST_INDEX_FASTEST
attribute: **encoding_type** value: BINARY
attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*
attribute: **elements** 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 Array_Axis

- **Image_2D_Display - Occurs 0 to 1 Times**

description: The Image_2D_Display class provides attributes to enable the display of a 2D image.

role: **Concrete**

attribute: **first_line** value: *value* Optional
attribute: **first_line_sample** value: *value* Optional
attribute: **line_display_direction** value: DOWN, LEFT, RIGHT, UP
attribute: **sample_display_direction** value: DOWN, LEFT, RIGHT, UP

- End Image_2D_Display

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8
attribute: **scaling_factor** value: *value* Optional
attribute: **value_offset** 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

- End Array_Element

- **Object_Statistics - Occurs 0 to 1 Times**

description: The Object Statistics class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **description** value: **value** Optional
attribute: **maximum** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **mean** value: **value** Optional
attribute: **median** value: **value** Optional
attribute: **minimum** value: **value** Optional
attribute: **sample_bit_mask** value: **value** Optional
attribute: **standard_deviation** value: **value** Optional

- End Object_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional
attribute: **invalid_constant** value: **value** Optional
attribute: **missing_constant** value: **value** Optional
attribute: **not_applicable_constant** value: **value** Optional
attribute: **saturated_constant** value: **value** Optional
attribute: **unknown_constant** value: **value** Optional

- End Special_Constants
- End Array_2D_Image

- **Array_2D_Map - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Map class is an extension of array_base and defines a two dimensional map.**
role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **axes** value: **2**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**
attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
attribute: **scaling_factor** value: **value** Optional
attribute: **value_offset** 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

- End Array_Element
- End Array_2D_Map
- **Array_2D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Spectrum class is an extension of array_base and defines a two dimensional spectrum.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 2

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_2D_Spectrum
- **Array_3D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Image class is an extension of array_base and defines a three dimensional image.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: Concrete

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Image
- **Array_3D_Movie - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Movie class is an extension of array_base and defines a movie as a set of two dimensional images in a time series.

role: Concrete

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: Concrete

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: Concrete

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Movie
- **Array_3D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **3**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Spectrum
- **Header - Occurs 0 to * Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **bytes** value: **value**

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **FITS, ISIS, ODL, VICAR**

attribute: **offset** value: **value**

- End Header
- **Stream_Delimited - Occurs 0 to * Times**

description: **The Stream Delimited class defines a simple spreadsheet.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: *value* Optional
attribute: **encoding_type** value: CHARACTER
attribute: **external_standard_id** value: CSV, OTHER
attribute: **field_delimiter** value: 0x09, 0x2C, 0x3B, 0x7C
attribute: **fields** value: *value*
attribute: **maximum_record_length** value: *value*
attribute: **offset** value: *value*
attribute: **record_delimiter** value: 0x0A, 0x0D, 0x0D_0x0A
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: **name** value: *value*
attribute: **description** value: *value* Optional
attribute: **field_number** value: *value* Optional
attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID
attribute: **field_length** value: *value*
attribute: **field_format** value: *value* Optional
attribute: **minimum_scaled_value** value: *value* Optional
attribute: **maximum_scaled_value** value: *value* Optional
attribute: **scaling_factor** value: *value* Optional
attribute: **value_offset** value: *value* Optional
attribute: **unit** value: 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.
role: Concrete
attribute: **local_identifier** value: *value*
attribute: **description** value: *value* Optional
attribute: **maximum** value: *value* Optional

attribute: **mean** value: **value** Optional
attribute: **median** value: **value** Optional
attribute: **minimum** value: **value** Optional
attribute: **sample_bit_mask** value: **value** Optional
attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**
role: **Concrete**

attribute: **error_constant** value: **value** Optional
attribute: **invalid_constant** value: **value** Optional
attribute: **missing_constant** value: **value** Optional
attribute: **not_applicable_constant** value: **value** Optional
attribute: **saturated_constant** value: **value** Optional
attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Stream_Delimited_Field**

- **End Stream_Delimited_Field_Sequence**

- **End Stream_Delimited_Grouped_Sequence**

- **End Stream_Delimited_Record**

- **End Stream_Delimited**

- **Stream_Text - Occurs 0 to * Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **value**
attribute: **offset** value: **value**

- **End Stream_Text**

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **BINARY**
attribute: **fields** value: **value**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**

- **Table_Record_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table_Binary_Field - Occurs 1 to * Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**
attribute: **description** value: **value** Optional
attribute: **field_number** value: **value** Optional
attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name,**

ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Table_Binary_Field**

- **End Table_Record_Binary**

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**

attribute: **last_sampling_parameter_value** value: **value**

attribute: **sampling_parameter_interval** value: **value**

attribute: **sampling_parameter_name** value: **value**

attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional

attribute: **sampling_parameter_unit** value: 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

- **End Uniformly_Sampled**

- End Table_Binary

- **Table_Binary_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **encoding_type** value: **BINARY**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Binary_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**

role: **Concrete**

- **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** ^{Optional}

- **Table_Binary_Field_Sequence - Occurs 1 to * Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **field_number** value: **value** ^{Optional}

attribute: **data_type** value: **Bit**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** ^{Optional}

attribute: **minimum_scaled_value** value: **value** ^{Optional}

attribute: **maximum_scaled_value** value: **value** ^{Optional}

attribute: **bit_mask** value: **value** ^{Optional}

attribute: **bits** value: **value**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **start_bit** value: **value**

attribute: **value_offset** value: **value** ^{Optional}

attribute: **unit** value: **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 Table_Binary_Grouped_Bit_Field

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**
 attribute: **name** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **field_number** value: **value** Optional
 attribute: **data_type** value: **ASCII_File_Name, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
 attribute: **field_location** value: **value**
 attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: **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 Table_Binary_Grouped_Field
 - End Table_Binary_Field_Sequence
 - End Table_Binary_Grouped_Sequence
 - End Table_Record_Binary_Grouped
- End Table_Binary_Grouped
- **Table_Character - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**
 role: **Concrete**

attribute: **local_identifier** value: **value**
 attribute: **comment** value: **value** Optional
 attribute: **encoding_type** value: **CHARACTER**
 attribute: **fields** value: **value**
 attribute: **offset** value: **value**
 attribute: **record_bytes** value: **value**
 attribute: **records** value: **value**

- **Table_Record_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**
 role: **Concrete**

- **Table_Character_Field - Occurs 1 to * Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**
 attribute: **name** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **field_number** value: **value** Optional
 attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
 attribute: **field_location** value: **value**
 attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Table_Character_Field**

- **End Table_Record_Character**

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**

attribute: **last_sampling_parameter_value** value: **value**

attribute: **sampling_parameter_interval** value: **value**

attribute: **sampling_parameter_name** value: **value**

attribute: **sampling_parameter_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional

attribute: **sampling_parameter_unit** value: **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**

- **End Uniformly_Sampled**

- **End Table_Character**

- **Table_Character_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Character_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**
 role: **Concrete**

- **Table_Character_Grouped_Sequence - Occurs 1 to * Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**
 role: **Concrete**
 attribute: **repetitions** value: **value** Optional

- **Table_Character_Field_Sequence - Occurs 1 to * Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**
 role: **Concrete**

- **Table_Character_Grouped_Field - Occurs 0 to * Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**
 role: **Concrete**
 attribute: **name** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **field_number** value: **value** Optional
 attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
 attribute: **field_location** value: **value**
 attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: **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 Table_Character_Grouped_Field**
 - **End Table_Character_Field_Sequence**
 - **End Table_Character_Grouped_Sequence**
 - **End Table_Record_Character_Grouped**
 - **End Table_Character_Grouped**
 - **End File_Area_Observational**
 - **End Product_Array_3D_Image**
-

- **Product_Array_3D_Movie**

description: **The Product Array 3D Movie defines a product consisting of at least one array 3D movie and other associated data objects and metadata.**
 role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution

- End Subject_Area

- End Identification_Area_Product

- **Cross_Reference_Area_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference_text** value: *value* Optional

attribute: **url** value: *value* Optional

- End Bibliographic_Reference

- **Observing_System - Occurs 1 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: **value** ^{Optional}

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** ^{Optional}

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- **End Reference_Entry_Product**

- **End Cross_Reference_Area_Product**

- **Observation_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission_Area - Occurs 0 to * Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission_Area**

- **Node_Area - Occurs 0 to * Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node_Area**

attribute: **comment** value: **value** Optional
attribute: **start_date_time** value: **value**
attribute: **stop_date_time** value: **value**
attribute: **local_mean_solar_time** value: **value** Optional
attribute: **local_true_solar_time** value: **value** Optional
attribute: **mission_phase_name** value: **value** Optional
attribute: **orbit_number** value: **value** Optional
attribute: **planet_day_number** value: **value** Optional
attribute: **solar_longitude** value: **value** Optional
attribute: **spacecraft_clock_count_partition** value: **value** Optional
attribute: **spacecraft_clock_start_count** value: **value** Optional
attribute: **spacecraft_clock_stop_count** value: **value** Optional

- **Geometry_New - Occurs 0 to * Times**

description: **The Geometry class groups objects associated with geometry information.**
role: **Concrete**
attribute: **local_identifier** value: **value**

- **Vector_New - Occurs 0 to * Times**

description: **The Vector class provides the components of either a velocity or position vector.**
role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **name** value: **value**
attribute: **description** value: **value**
attribute: **type** value: **POSITION, VELOCITY**
attribute: **vector_components** value: **value**

- **Vector_Component - Occurs 1 to * Times**

description: **The Vector_Component class provides a component of a vector.**
role: **Concrete**
attribute: **name** value: **value** Optional
attribute: **description** value: **value** Optional
attribute: **sequence_number** value: **value**
attribute: **value** value: **value**

- **End Vector_Component**

- **End Vector_New**

- **End Geometry_New**

- **End Observation_Area**

- **File_Area_Observational - Occurs 1 to * Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged_data_objects contained within the file.**
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**
role: **Concrete**
attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional
attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**
attribute: **file_size** value: **value** Optional
attribute: **maximum_record_bytes** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **records** value: **value** Optional

- **End File**

- **Array_2D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Image class is an extension of array_base and defines a two dimensional image.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Image_2D_Display - Occurs 0 to 1 Times**

description: **The Image_2D_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**

attribute: **first_line** value: *value* ^{Optional}

attribute: **first_line_sample** value: *value* ^{Optional}

attribute: **line_display_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample_display_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image_2D_Display**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **Object_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **maximum** value: *value* ^{Optional}

attribute: **md5_checksum** value: *value* ^{Optional}

attribute: **mean** value: *value* ^{Optional}

attribute: **median** value: *value* ^{Optional}

attribute: **minimum** value: *value* ^{Optional}

attribute: **sample_bit_mask** value: *value* ^{Optional}

attribute: **standard_deviation** value: *value* ^{Optional}

- End Object_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: *value* ^{Optional}
 attribute: **invalid_constant** value: *value* ^{Optional}
 attribute: **missing_constant** value: *value* ^{Optional}
 attribute: **not_applicable_constant** value: *value* ^{Optional}
 attribute: **saturated_constant** value: *value* ^{Optional}
 attribute: **unknown_constant** value: *value* ^{Optional}

- End Special_Constants

- End Array_2D_Image

- **Array_2D_Map - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Map class is an extension of array_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local_identifier** value: *value*
 attribute: **comment** value: *value* ^{Optional}
 attribute: **axes** value: **2**
 attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
 attribute: **encoding_type** value: **BINARY**
 attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*
 attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
 attribute: **scaling_factor** value: *value* ^{Optional}
 attribute: **value_offset** 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}

- End Array_Element

- End Array_2D_Map

- **Array_2D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Spectrum class is an extension of array_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}
attribute: **axes** value: **2**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_2D_Spectrum**

- **Array_3D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Image class is an extension of array_base and defines a three dimensional image.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: **3**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Image
- **Array_3D_Movie - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Movie class is an extension of array_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Movie
- **Array_3D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}
attribute: **axes** value: **3**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_3D_Spectrum**

- **Header - Occurs 0 to * Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **name** value: *value* ^{Optional}

attribute: **description** value: *value* ^{Optional}

attribute: **bytes** value: *value*

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **FITS, ISIS, ODL, VICAR**

attribute: **offset** value: *value*

- **End Header**

- **Stream_Delimited - Occurs 0 to * Times**

description: **The Stream Delimited class defines a simple spreadsheet.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **CSV, OTHER**

attribute: **field_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**

attribute: **fields** value: *value*

attribute: **maximum_record_length** value: *value*

attribute: **offset** value: *value*

attribute: **record_delimiter** value: **0x0A, 0x0D, 0x0D_0x0A**

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: **name** value: **value**
attribute: **description** value: **value** ^{Optional}
attribute: **field_number** value: **value** ^{Optional}
attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** ^{Optional}
attribute: **minimum_scaled_value** value: **value** ^{Optional}
attribute: **maximum_scaled_value** value: **value** ^{Optional}
attribute: **scaling_factor** value: **value** ^{Optional}
attribute: **value_offset** value: **value** ^{Optional}
attribute: **unit** value: **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}

- **Field_Statistics - Occurs 0 to 1 Times**

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.
role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **description** value: **value** ^{Optional}
attribute: **maximum** value: **value** ^{Optional}
attribute: **mean** value: **value** ^{Optional}
attribute: **median** value: **value** ^{Optional}
attribute: **minimum** value: **value** ^{Optional}
attribute: **sample_bit_mask** value: **value** ^{Optional}
attribute: **standard_deviation** value: **value** ^{Optional}

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- End Special_Constants
 - End Stream_Delimited_Field
 - End Stream_Delimited_Field_Sequence
 - End Stream_Delimited_Grouped_Sequence
 - End Stream_Delimited_Record
 - End Stream_Delimited

- **Stream_Text - Occurs 0 to * Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **value**

attribute: **offset** value: **value**

- End Stream_Text

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **BINARY**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table_Binary_Field - Occurs 1 to * Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI,**

ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC,

ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name,

ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID,

ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16,

ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed,

ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID, Bit,

ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2,

SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8,

UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8,

UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **maximum** value: **value** Optional
 attribute: **mean** value: **value** Optional
 attribute: **median** value: **value** Optional
 attribute: **minimum** value: **value** Optional
 attribute: **sample_bit_mask** value: **value** Optional
 attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional
 attribute: **invalid_constant** value: **value** Optional
 attribute: **missing_constant** value: **value** Optional
 attribute: **not_applicable_constant** value: **value** Optional
 attribute: **saturated_constant** value: **value** Optional
 attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Table_Binary_Field**

- **End Table_Record_Binary**

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**
 attribute: **last_sampling_parameter_value** value: **value**
 attribute: **sampling_parameter_interval** value: **value**
 attribute: **sampling_parameter_name** value: **value**
 attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional
 attribute: **sampling_parameter_unit** value: 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

- **End Uniformly_Sampled**

- **End Table_Binary**

- **Table_Binary_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: **value**
 attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **BINARY**
attribute: **fields** value: **value**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**

- **Table_Record_Binary_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**
role: **Concrete**

- **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**
role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Table_Binary_Field_Sequence - Occurs 1 to * Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**
role: **Concrete**

- **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **Bit**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **bit_mask** value: **value** Optional

attribute: **bits** value: **value**

attribute: **scaling_factor** value: **value** Optional

attribute: **start_bit** value: **value**

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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 Table_Binary_Grouped_Bit_Field**

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_File_Name, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16,**

UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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 Table_Binary_Grouped_Field
- End Table_Binary_Field_Sequence
- End Table_Binary_Grouped_Sequence
- End Table_Record_Binary_Grouped
- End Table_Binary_Grouped
- Table_Character - Occurs 0 to * Times - Base_Class:Table_Base

description: The Table Character class is an extension of table base and defines a simple character table.
role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- Table_Record_Character Occurs 1 Times

description: The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.
role: **Concrete**

- Table_Character_Field - Occurs 1 to * Times

description: The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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

- Field_Statistics - Occurs 0 to 1 Times

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: Concrete

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- End Field_Statistics

- Special_Constants - Occurs 0 to 1 Times

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: Concrete

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- End Special_Constants

- End Table_Character_Field

- End Table_Record_Character

- Uniformly_Sampled - Occurs 0 to 1 Times

description: The Uniformly_Sampled class provides parameters for a uniformly sampled table.

role: Concrete

attribute: **first_sampling_parameter_value** value: **value**

attribute: **last_sampling_parameter_value** value: **value**

attribute: **sampling_parameter_interval** value: **value**

attribute: **sampling_parameter_name** value: **value**

attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional

attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled

- End Table_Character

- Table_Character_Grouped - Occurs 0 to * Times - Base_Class:Table_Base

description: The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.

role: Concrete

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: CHARACTER

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- Table_Record_Character_Grouped Occurs 1 Times

description: The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.

role: Concrete

- Table_Character_Grouped_Sequence - Occurs 1 to * Times

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Table_Character_Field_Sequence - Occurs 1 to * Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table_Character_Grouped_Field - Occurs 0 to * Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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 Table_Character_Grouped_Field**

- **End Table_Character_Field_Sequence**

- **End Table_Character_Grouped_Sequence**

- **End Table_Record_Character_Grouped**

- **End Table_Character_Grouped**

- **End File_Area_Observational**

- **End Product_Array_3D_Movie**

- **Product_Array_3D_Spectrum**

description: **The Product Array 3D Spectrum class defines a product consisting of at least one Array 3D spectrum and other associated data objects and metadata..**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: **value**

attribute: **std_ref_version_id** value: **value**

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference_text** value: *value* Optional

attribute: **url** value: *value* Optional

- **End Bibliographic_Reference**

- **Observing_System - Occurs 1 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: *value* Optional

attribute: **name** value: *value* Optional

attribute: **description** value: *value*

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used**

to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.

role: **Concrete**

attribute: **comment** value: **value** ^{Optional}

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- **End Reference_Entry_Product**

- **End Cross_Reference_Area_Product**

- **Observation_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission_Area - Occurs 0 to * Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission_Area**

- **Node_Area - Occurs 0 to * Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node_Area**

attribute: **comment** value: **value** ^{Optional}

attribute: **start_date_time** value: **value**

attribute: **stop_date_time** value: **value**

attribute: **local_mean_solar_time** value: **value** ^{Optional}

attribute: **local_true_solar_time** value: **value** ^{Optional}

attribute: **mission_phase_name** value: **value** ^{Optional}

attribute: **orbit_number** value: **value** ^{Optional}

attribute: **planet_day_number** value: **value** ^{Optional}

attribute: **solar_longitude** value: *value* ^{Optional}
attribute: **spacecraft_clock_count_partition** value: *value* ^{Optional}
attribute: **spacecraft_clock_start_count** value: *value* ^{Optional}
attribute: **spacecraft_clock_stop_count** value: *value* ^{Optional}

- **Geometry_New - Occurs 0 to * Times**

description: **The Geometry class groups objects associated with geometry information.**
role: **Concrete**
attribute: **local_identifier** value: *value*

- **Vector_New - Occurs 0 to * Times**

description: **The Vector class provides the components of either a velocity or position vector.**
role: **Concrete**
attribute: **local_identifier** value: *value*
attribute: **name** value: *value*
attribute: **description** value: *value*
attribute: **type** value: **POSITION, VELOCITY**
attribute: **vector_components** value: *value*

- **Vector_Component - Occurs 1 to * Times**

description: **The Vector_Component class provides a component of a vector.**
role: **Concrete**
attribute: **name** value: *value* ^{Optional}
attribute: **description** value: *value* ^{Optional}
attribute: **sequence_number** value: *value*
attribute: **value** value: *value*

- **End Vector_Component**

- **End Vector_New**

- **End Geometry_New**

- **End Observation_Area**

- **File_Area_Observational - Occurs 1 to * Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged_data objects contained within the file.**
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**
role: **Concrete**
attribute: **local_identifier** value: *value* ^{Optional}
attribute: **comment** value: *value* ^{Optional}
attribute: **creation_date_time** value: *value* ^{Optional}
attribute: **file_name** value: *value*
attribute: **file_size** value: *value* ^{Optional}
attribute: **maximum_record_bytes** value: *value* ^{Optional}
attribute: **md5_checksum** value: *value* ^{Optional}
attribute: **records** value: *value* ^{Optional}

- **End File**

- **Array_2D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Image class is an extension of array_base and defines a two dimensional image.**
role: **Concrete**
attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* ^{Optional}
attribute: **axes** value: **2**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Image_2D_Display - Occurs 0 to 1 Times**

description: The Image_2D_Display class provides attributes to enable the display of a 2D image.

role: **Concrete**

attribute: **first_line** value: *value* ^{Optional}

attribute: **first_line_sample** value: *value* ^{Optional}

attribute: **line_display_direction** value: DOWN, LEFT, RIGHT, UP

attribute: **sample_display_direction** value: DOWN, LEFT, RIGHT, UP

- End Image_2D_Display

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element

- **Object_Statistics - Occurs 0 to 1 Times**

description: The Object Statistics class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **maximum** value: *value* ^{Optional}

attribute: **md5_checksum** value: *value* ^{Optional}

attribute: **mean** value: *value* ^{Optional}

attribute: **median** value: *value* ^{Optional}

attribute: **minimum** value: *value* ^{Optional}

attribute: **sample_bit_mask** value: *value* ^{Optional}

attribute: **standard_deviation** value: *value* ^{Optional}

- End Object_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error_constant** value: *value* ^{Optional}

attribute: **invalid_constant** value: *value* ^{Optional}

attribute: **missing_constant** value: *value* Optional
attribute: **not_applicable_constant** value: *value* Optional
attribute: **saturated_constant** value: *value* Optional
attribute: **unknown_constant** value: *value* Optional

- End Special_Constants
- End Array_2D_Image
- **Array_2D_Map - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Map class is an extension of array_base and defines a two dimensional map.
role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* Optional
attribute: **axes** value: **2**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*
attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
attribute: **scaling_factor** value: *value* Optional
attribute: **value_offset** 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

- End Array_Element
- End Array_2D_Map
- **Array_2D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Spectrum class is an extension of array_base and defines a two dimensional spectrum.

role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* Optional
attribute: **axes** value: **2**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element

- End Array_2D_Spectrum

- **Array_3D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Image class is an extension of array_base and defines a three dimensional image.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Image
- **Array_3D_Movie - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Movie class is an extension of array_base and defines a movie as a set of two dimensional images in a time series.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: **3**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Movie
- **Array_3D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: **3**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**
- **End Array_3D_Spectrum**

- **Header - Occurs 0 to * Times**

description: The Header class describes a data object header.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **name** value: *value* ^{Optional}

attribute: **description** value: *value* ^{Optional}

attribute: **bytes** value: *value*

attribute: **encoding_type** value: CHARACTER

attribute: **external_standard_id** value: FITS, ISIS, ODL, VICAR

attribute: **offset** value: *value*

- **End Header**

- **Stream_Delimited - Occurs 0 to * Times**

description: The Stream Delimited class defines a simple spreadsheet.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: CHARACTER

attribute: **external_standard_id** value: CSV, OTHER

attribute: **field_delimiter** value: 0x09, 0x2C, 0x3B, 0x7C

attribute: **fields** value: *value*

attribute: **maximum_record_length** value: *value*

attribute: **offset** value: *value*

attribute: **record_delimiter** value: 0x0A, 0x0D, 0x0D_0x0A

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: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional
attribute: **saturated_constant** value: **value** Optional
attribute: **unknown_constant** value: **value** Optional

- End Special_Constants
 - End Stream_Delimited_Field
 - End Stream_Delimited_Field_Sequence
 - End Stream_Delimited_Grouped_Sequence
 - End Stream_Delimited_Record

- **Stream_Text - Occurs 0 to * Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **value**
attribute: **offset** value: **value**

- End Stream_Text

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **BINARY**
attribute: **fields** value: **value**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**

- **Table_Record_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table_Binary_Field - Occurs 1 to * Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**
attribute: **description** value: **value** Optional
attribute: **field_number** value: **value** Optional
attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
attribute: **field_location** value: **value**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** Optional
attribute: **minimum_scaled_value** value: **value** Optional
attribute: **maximum_scaled_value** value: **value** Optional
attribute: **scaling_factor** value: **value** Optional
attribute: **value_offset** value: **value** Optional
attribute: **unit** value: **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}

- **Field_Statistics - Occurs 0 to 1 Times**

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **maximum** value: **value** ^{Optional}

attribute: **mean** value: **value** ^{Optional}

attribute: **median** value: **value** ^{Optional}

attribute: **minimum** value: **value** ^{Optional}

attribute: **sample_bit_mask** value: **value** ^{Optional}

attribute: **standard_deviation** value: **value** ^{Optional}

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error_constant** value: **value** ^{Optional}

attribute: **invalid_constant** value: **value** ^{Optional}

attribute: **missing_constant** value: **value** ^{Optional}

attribute: **not_applicable_constant** value: **value** ^{Optional}

attribute: **saturated_constant** value: **value** ^{Optional}

attribute: **unknown_constant** value: **value** ^{Optional}

- **End Special_Constants**

- **End Table_Binary_Field**

- **End Table_Record_Binary**

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: The Uniformly_Sampled class provides parameters for a uniformly sampled table.

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**

attribute: **last_sampling_parameter_value** value: **value**

attribute: **sampling_parameter_interval** value: **value**

attribute: **sampling_parameter_name** value: **value**

attribute: **sampling_parameter_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** ^{Optional}

attribute: **sampling_parameter_unit** value: **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**

- **End Uniformly_Sampled**

- **End Table_Binary**

- **Table_Binary_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **encoding_type** value: **BINARY**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Binary_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**
role: **Concrete**

- **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** ^{Optional}

- **Table_Binary_Field_Sequence - Occurs 1 to * Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **field_number** value: **value** ^{Optional}

attribute: **data_type** value: **Bit**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** ^{Optional}

attribute: **minimum_scaled_value** value: **value** ^{Optional}

attribute: **maximum_scaled_value** value: **value** ^{Optional}

attribute: **bit_mask** value: **value** ^{Optional}

attribute: **bits** value: **value**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **start_bit** value: **value**

attribute: **value_offset** value: **value** ^{Optional}

attribute: **unit** value: **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 Table_Binary_Grouped_Bit_Field**

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **field_number** value: **value** ^{Optional}

attribute: **data_type** value: **ASCII_File_Name, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** ^{Optional}

attribute: **minimum_scaled_value** value: **value** ^{Optional}

attribute: **maximum_scaled_value** value: **value** ^{Optional}

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** value: **value** ^{Optional}

attribute: **unit** value: 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 Table_Binary_Grouped_Field
- End Table_Binary_Field_Sequence
- End Table_Binary_Grouped_Sequence
- End Table_Record_Binary_Grouped
- End Table_Binary_Grouped
- Table_Character - Occurs 0 to * Times - Base_Class:Table_Base

description: The Table Character class is an extension of table base and defines a simple character table.
role: Concrete

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **encoding_type** value: CHARACTER
attribute: **fields** value: **value**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**

- Table_Record_Character Occurs 1 Times

description: The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.
role: Concrete

- Table_Character_Field - Occurs 1 to * Times

description: The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.

role: Concrete

attribute: **name** value: **value**
attribute: **description** value: **value** ^{Optional}
attribute: **field_number** value: **value** ^{Optional}
attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID
attribute: **field_location** value: **value**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** ^{Optional}
attribute: **minimum_scaled_value** value: **value** ^{Optional}
attribute: **maximum_scaled_value** value: **value** ^{Optional}
attribute: **scaling_factor** value: **value** ^{Optional}
attribute: **value_offset** value: **value** ^{Optional}
attribute: **unit** value: 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}

- Field_Statistics - Occurs 0 to 1 Times

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.
role: Concrete

attribute: **local_identifier** value: **value**
attribute: **description** value: **value** ^{Optional}
attribute: **maximum** value: **value** ^{Optional}
attribute: **mean** value: **value** ^{Optional}

attribute: **median** value: *value* Optional
attribute: **minimum** value: *value* Optional
attribute: **sample_bit_mask** value: *value* Optional
attribute: **standard_deviation** value: *value* Optional

- End Field_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: *value* Optional
attribute: **invalid_constant** value: *value* Optional
attribute: **missing_constant** value: *value* Optional
attribute: **not_applicable_constant** value: *value* Optional
attribute: **saturated_constant** value: *value* Optional
attribute: **unknown_constant** value: *value* Optional

- End Special_Constants

- End Table_Character_Field

- End Table_Record_Character

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first_sampling_parameter_value** value: *value*
attribute: **last_sampling_parameter_value** value: *value*
attribute: **sampling_parameter_interval** value: *value*
attribute: **sampling_parameter_name** value: *value*
attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional
attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled

- End Table_Character

- **Table_Character_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* Optional
attribute: **encoding_type** value: CHARACTER
attribute: **fields** value: *value*
attribute: **offset** value: *value*
attribute: **record_bytes** value: *value*
attribute: **records** value: *value*

- **Table_Record_Character_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**

role: **Concrete**

- **Table_Character_Grouped_Sequence - Occurs 1 to * Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: *value* Optional

- **Table_Character_Field_Sequence - Occurs 1 to * Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**
role: **Concrete**

- **Table_Character_Grouped_Field - Occurs 0 to * Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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 Table_Character_Grouped_Field**

- **End Table_Character_Field_Sequence**

- **End Table_Character_Grouped_Sequence**

- **End Table_Record_Character_Grouped**

- **End Table_Character_Grouped**

- **End File_Area_Observational**

- **End Product_Array_3D_Spectrum**

- **Product_Attribute_Definition**

description: **The Product Attribute Definition provides an attribute definition in XML encoding.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: **value**

attribute: **std_ref_version_id** value: **value**

- **End Data_Standards**

- **Identification_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical_identifier** value: **value**

attribute: **version_id** value: **value**

attribute: **product_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate_title** value: **value** Optional

attribute: **alternate_id** value: **value** Optional

attribute: **last_modification_date_time** value: *value* Optional
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area**

- **Cross_Reference_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**

role: **Concrete**

- **Observing_System - Occurs 0 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: *value* Optional

attribute: **name** value: *value* Optional

attribute: **description** value: *value*

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: *value* Optional

attribute: **lidvid_reference** value: *value* Optional

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- End Reference_Entry_Observing_System_Component
- End Observing_System_Component
- End Observing_System

- **Reference_Entry - Occurs 0 to * Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_association, member_of**

- End Reference_Entry

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- End Bibliographic_Reference

- End Cross_Reference_Area

- **DD_Attribute_Full Occurs 1 Times**

description: **The DD_Attribute_Full class provides a more complete definition of an attribute in the data dictionary.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **version_id** value: **value**

attribute: **class_name** value: **value**

attribute: **name** value: **value**

attribute: **registration_authority_id** value: **0001_NASA_PDS_1**

attribute: **steward_id** value: **atm, geo, img, naif, ops, pds, ppi, rings, rs, sbn**

attribute: **name_space_id** value: **value**

attribute: **registered_by** value: **value**

attribute: **submitter_id** value: **value**

attribute: **definition** value: **value**

attribute: **attribute_concept** value: **DEC_ADDRESS, DEC_ANGLE, DEC_ATTRIBUTE, DEC_BIT, DEC_CHECKSUM, DEC_COLLECTION, DEC_CONSTANT, DEC_COSINE, DEC_COUNT, DEC_DELIMITER, DEC_DESCRIPTION, DEC_DEVIATION, DEC_DIRECTION, DEC_DISTANCE, DEC_DOI, DEC_DURATION, DEC_FACTOR, DEC_FLAG, DEC_FORMAT, DEC_GROUP, DEC_HOME, DEC_LATITUDE, DEC_LENGTH, DEC_LIST, DEC_LOCATION, DEC_LOGICAL, DEC_LONGITUDE, DEC_MASK, DEC_MAXIMUM, DEC_MEAN, DEC_MEDIAN, DEC_MINIMUM, DEC_NAME, DEC_NOTE, DEC_NUMBER, DEC_OFFSET, DEC_ORDER, DEC_PARALLEL, DEC_PASSWORD, DEC_PATH, DEC_PATTERN, DEC_PIXEL, DEC_QUATERNION, DEC_RADIUS, DEC_RATIO, DEC_REFERENCE, DEC_RESOLUTION, DEC_ROLE, DEC_ROTATION, DEC_SCALE, DEC_SEQUENCE, DEC_SET, DEC_SIZE, DEC_STATUS, DEC_SUMMARY, DEC_SYNTAX, DEC_TEMPERATURE, DEC_TEXT, DEC_TITLE, DEC_TYPE, DEC_UNIT, DEC_VALUE, DEC_VECTOR**

- **Terminological_Entry - Occurs 1 to * Times**

description: **The terminological_entry class provides the name (designation) and definition of the attribute in a specified natural language.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **definition** value: **value**

attribute: **language** value: **English**

attribute: **preferred_flag** value: **value**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **doi** value: **value** ^{Optional}

attribute: **reference_text** value: **value** ^{Optional}

attribute: **url** value: **value** ^{Optional}

- **End Bibliographic_Reference**

- **End Terminological_Entry**

- **DD_Value_Domain_Full - Occurs 0 to 1 Times**

description: **The DD_Value_Domain_Full class provides a more complete definition of a attribute's value domain.**

role: **Concrete**

attribute: **enumeration_flag** value: **F, T**

attribute: **specified_unit_id** value: **value** ^{Optional}

attribute: **value_data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **formation_rule** value: **value** ^{Optional}

attribute: **minimum_characters** value: **value** ^{Optional}

attribute: **maximum_characters** value: **value** ^{Optional}

attribute: **minimum_value** value: **value** ^{Optional}

attribute: **maximum_value** value: **value** ^{Optional}

attribute: **pattern** value: **value** ^{Optional}

attribute: **unit_of_measure_type** value: **UnitOfMeasure_AmountOfSubstance, UnitOfMeasure_Angle, UnitOfMeasure_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** ^{Optional}

attribute: **conceptual_domain** value: **CD_BOOLEAN, CD_INTEGER, CD_NAME, CD_NUMERIC, CD_REAL, CD_SHORT_STRING, CD_TEXT, CD_TIME, CD_TYPE**

- **DD_Permissible_Value - Occurs 0 to * Times**

description: **The DD_Permissible_Value class lists permissible values and their meanings.**

role: **Concrete**

attribute: **value** value: **value**

attribute: **value_meaning** value: **value** ^{Optional}

attribute: **value_begin_date** value: **value**

attribute: **value_end_date** value: **value**

- **End DD_Permissible_Value**

- **End DD_Value_Domain_Full**

- **End DD_Attribute_Full**

- **End Product_Attribute_Definition**

- **Product_Browse**

description: **The Product Browse class defines a product consisting of one encoded byte stream digital object.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: **value**

attribute: **std_ref_version_id** value: *value*

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution

- End Subject_Area

- End Identification_Area_Product

- **Cross_Reference_Area_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference_text** value: *value* Optional

attribute: **url** value: *value* Optional

- End Bibliographic_Reference

- **Observing_System - Occurs 1 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: *value* Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- **End Reference_Entry_Product**

- **End Cross_Reference_Area_Product**

- **File_Area Occurs 1 Times**

description: **The File Area class describes a file and one or more tagged_data_objects contained within the file.**
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** Optional

attribute: **comment** value: **value** Optional

attribute: **creation_date_time** value: **value** Optional

attribute: **file_name** value: **value**

attribute: **file_size** value: **value** Optional

attribute: **maximum_record_bytes** value: **value** Optional

attribute: **md5_checksum** value: **value** Optional

attribute: **records** value: **value** Optional

- **End File**

- **Array_2D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Image class is an extension of array_base and defines a two dimensional image.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Image_2D_Display - Occurs 0 to 1 Times**

description: The Image_2D_Display class provides attributes to enable the display of a 2D image.

role: **Concrete**

attribute: **first_line** value: *value* ^{Optional}

attribute: **first_line_sample** value: *value* ^{Optional}

attribute: **line_display_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample_display_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image_2D_Display**

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **Object_Statistics - Occurs 0 to 1 Times**

description: The Object Statistics class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **maximum** value: *value* ^{Optional}

attribute: **md5_checksum** value: *value* ^{Optional}

attribute: **mean** value: *value* ^{Optional}

attribute: **median** value: *value* ^{Optional}

attribute: **minimum** value: *value* ^{Optional}

attribute: **sample_bit_mask** value: **value** Optional
attribute: **standard_deviation** value: **value** Optional

- **End Object_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional
attribute: **invalid_constant** value: **value** Optional
attribute: **missing_constant** value: **value** Optional
attribute: **not_applicable_constant** value: **value** Optional
attribute: **saturated_constant** value: **value** Optional
attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Array_2D_Image**

- **Array_2D_Map - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Map class is an extension of array_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **axes** value: **2**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**
attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
attribute: **scaling_factor** value: **value** Optional
attribute: **value_offset** 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

- **End Array_Element**

- **End Array_2D_Map**

- **Array_2D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Spectrum class is an extension of array_base and defines a two dimensional**

spectrum.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_2D_Spectrum**

- **Array_3D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Image class is an extension of array_base and defines a three dimensional image.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: **3**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_3D_Image**

- **Array_3D_Movie - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Movie class is an extension of array_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **3**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_3D_Movie**

- **Array_3D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.**

role: **Concrete**
attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* ^{Optional}
attribute: **axes** value: 3
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_3D_Spectrum**

- **Encoded_Image - Occurs 0 to * Times**

description: **The Encoded Image class, a subclass of Encoded Byte stream is used for ancillary images in standard formats, such as JPEG.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: **BINARY**

attribute: **external_standard_id** value: **GIF, JPEG, PDF, TIFF**

attribute: **offset** value: *value*

- **End Encoded_Image**

- **File_PDF - Occurs 0 to * Times**

description: **The File PDF class describes a PDF encoded byte stream.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: **BINARY**

attribute: **external_standard_id** value: **PDF**

attribute: **offset** value: *value*

- **End File_PDF**

- **Header - Occurs 0 to * Times**

description: **The Header class describes a data object header.**
role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **name** value: **value** Optional
attribute: **description** value: **value** Optional
attribute: **bytes** value: **value**
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **FITS, ISIS, ODL, VICAR**
attribute: **offset** value: **value**

- **End Header**

- **Stream_Delimited - Occurs 0 to * Times**

description: **The Stream Delimited class defines a simple spreadsheet.**
role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **CSV, OTHER**
attribute: **field_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**
attribute: **fields** value: **value**
attribute: **maximum_record_length** value: **value**
attribute: **offset** value: **value**
attribute: **record_delimiter** value: **0x0A, 0x0D, 0x0D_0x0A**
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: **name** value: **value**
attribute: **description** value: **value** Optional
attribute: **field_number** value: **value** Optional
attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** Optional
attribute: **minimum_scaled_value** value: **value** Optional
attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** ^{Optional}
attribute: **value_offset** value: **value** ^{Optional}
attribute: **unit** value: **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}

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **description** value: **value** ^{Optional}
attribute: **maximum** value: **value** ^{Optional}
attribute: **mean** value: **value** ^{Optional}
attribute: **median** value: **value** ^{Optional}
attribute: **minimum** value: **value** ^{Optional}
attribute: **sample_bit_mask** value: **value** ^{Optional}
attribute: **standard_deviation** value: **value** ^{Optional}

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** ^{Optional}
attribute: **invalid_constant** value: **value** ^{Optional}
attribute: **missing_constant** value: **value** ^{Optional}
attribute: **not_applicable_constant** value: **value** ^{Optional}
attribute: **saturated_constant** value: **value** ^{Optional}
attribute: **unknown_constant** value: **value** ^{Optional}

- **End Special_Constants**

- **End Stream_Delimited_Field**

- **End Stream_Delimited_Field_Sequence**

- **End Stream_Delimited_Grouped_Sequence**

- **End Stream_Delimited_Record**

- **End Stream_Delimited**

- **Stream_Text - Occurs 0 to * Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **value**
attribute: **offset** value: **value**

- **End Stream_Text**

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **encoding_type** value: **BINARY**
attribute: **fields** value: **value**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**

- **Table_Record_Binary Occurs 1 Times**

description: The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.

role: Concrete

- **Table_Binary_Field - Occurs 1 to * Times**

description: The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.

role: Concrete

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: Concrete

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- End Field_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: Concrete

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- End Special_Constants

- End Table_Binary_Field

- End Table_Record_Binary

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: The Uniformly_Sampled class provides parameters for a uniformly sampled table.

role: Concrete

attribute: **first_sampling_parameter_value** value: *value*

attribute: **last_sampling_parameter_value** value: *value*

attribute: **sampling_parameter_interval** value: *value*

attribute: **sampling_parameter_name** value: *value*

attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC ^{Optional}

attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled

- End Table_Binary

- **Table_Binary_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.

role: Concrete

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: BINARY

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record_bytes** value: *value*

attribute: **records** value: *value*

- **Table_Record_Binary_Grouped Occurs 1 Times**

description: The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.

role: Concrete

- **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

description: The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.

role: Concrete

attribute: **repetitions** value: *value* ^{Optional}

- **Table_Binary_Field_Sequence - Occurs 1 to * Times**

description: The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: Concrete

- **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.

role: Concrete

attribute: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: Bit

attribute: **field_location** value: *value*

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* ^{Optional}

attribute: **minimum_scaled_value** value: *value* ^{Optional}

attribute: **maximum_scaled_value** value: *value* ^{Optional}

attribute: **bit_mask** value: *value* ^{Optional}

attribute: **bits** value: *value*

attribute: **scaling_factor** value: **value** Optional
attribute: **start_bit** value: **value**
attribute: **value_offset** value: **value** Optional
attribute: **unit** value: **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 Table_Binary_Grouped_Bit_Field**

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_File_Name, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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 Table_Binary_Grouped_Field**

- **End Table_Binary_Field_Sequence**

- **End Table_Binary_Grouped_Sequence**

- **End Table_Record_Binary_Grouped**

- **End Table_Binary_Grouped**

- **Table_Character - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**

role: **Concrete**

- **Table_Character_Field - Occurs 1 to * Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- End Field_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- End Special_Constants

- End Table_Character_Field

- End Table_Record_Character

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**

attribute: **last_sampling_parameter_value** value: **value**

attribute: **sampling_parameter_interval** value: **value**

attribute: **sampling_parameter_name** value: **value**

attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional

attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled
- End Table_Character
- Table_Character_Grouped - Occurs 0 to * Times - Base_Class:Table_Base

description: The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.

role: Concrete

attribute: local_identifier value: value

attribute: comment value: value Optional

attribute: encoding_type value: CHARACTER

attribute: fields value: value

attribute: offset value: value

attribute: record_bytes value: value

attribute: records value: value

- Table_Record_Character_Grouped Occurs 1 Times

description: The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.

role: Concrete

- Table_Character_Grouped_Sequence - Occurs 1 to * Times

description: The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.

role: Concrete

attribute: repetitions value: value Optional

- Table_Character_Field_Sequence - Occurs 1 to * Times

description: The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: Concrete

- Table_Character_Grouped_Field - Occurs 0 to * Times

description: The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.

role: Concrete

attribute: name value: value

attribute: description value: value Optional

attribute: field_number value: value Optional

attribute: data_type value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID

attribute: field_location value: value

attribute: field_length value: value

attribute: field_format value: value Optional

attribute: minimum_scaled_value value: value Optional

attribute: maximum_scaled_value value: value Optional

attribute: scaling_factor value: value Optional

attribute: value_offset value: value Optional

attribute: unit value: 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 Table_Character_Grouped_Field
 - End Table_Character_Field_Sequence
 - End Table_Character_Grouped_Sequence
 - End Table_Record_Character_Grouped
 - End Table_Character_Grouped
 - End File_Area
 - End Product_Browse
-

- **Product_Bundle**

description: **Product Bundle is a cluster product and has a table of references to one or more collections.**
 role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: **value**

attribute: **std_ref_version_id** value: **value**

- End Data_Standards

- **Identification_Area_Bundle Occurs 1 Times**

description: **The bundle identification area consists of attributes that identify and name a bundle.**

role: **Concrete**

attribute: **logical_identifier** value: **value**

attribute: **version_id** value: **value**

attribute: **product_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate_title** value: **value** Optional

attribute: **alternate_id** value: **value** Optional

attribute: **last_modification_date_time** value: **value** Optional

attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: **value** Optional

attribute: **instrument_name** value: **value** Optional

attribute: **instrument_host_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full_name** value: **value** Optional

attribute: **investigation_name** value: **value** Optional

attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: **value**

attribute: **name** value: **value**

attribute: **lidvid_reference** value: **value** Optional

attribute: **primary_name** value: **value**

attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution

- End Subject_Area

- End Identification_Area_Bundle

- **Cross_Reference_Area_Bundle - Occurs 0 to 1 Times**

description: **The bundle cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference_Entry - Occurs 0 to * Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_association, member_of**

- **End Reference_Entry**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Bundle**

- **Bundle_Member_Entry - Occurs 1 to * Times**

description: **The Bundle Member Entry class provides a member reference to a collection.**

role: **Concrete**

attribute: **file_specification_name** value: **value**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_browse_collection, has_calibration_collection, has_context_collection, has_data_collection, has_document_collection, has_geometry_collection, has_member_collection, has_miscellaneous_collection, has_spice_collection, has_xml_schema_collection**

- **End Bundle_Member_Entry**

- **End Product_Bundle**

- **Product_Data_Set_PDS3**

description: **The Data Set PDS3 product is used to create proxy labels for the data sets in the PDS3 Data Set catalog.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: **value**

attribute: **std_ref_version_id** value: **value**

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: **value**

attribute: **version_id** value: **value**

attribute: **product_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate_title** value: **value** Optional

attribute: **alternate_id** value: **value** Optional

attribute: **last_modification_date_time** value: **value** Optional

attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: **value** Optional

attribute: **instrument_name** value: **value** Optional

attribute: **instrument_host_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full_name** value: **value** Optional

attribute: **investigation_name** value: **value** Optional

attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: **value**

attribute: **name** value: **value**

attribute: **lidvid_reference** value: **value** Optional

attribute: **primary_name** value: **value**

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- **End Reference_Entry_Context**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Context**

- **Bundle_Member_Entry - Occurs 1 to * Times**

description: **The Bundle Member Entry class provides a member reference to a collection.**

role: **Concrete**

attribute: **file_specification_name** value: **value**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_browse_collection, has_calibration_collection, has_context_collection, has_data_collection, has_document_collection, has_geometry_collection, has_member_collection, has_miscellaneous_collection, has_spice_collection, has_xml_schema_collection**

- End Bundle_Member_Entry

- **Data_Set_PDS3 Occurs 1 Times**

description: **The Data Set PDS3 class is used to capture the data set information from the PDS3 Data Set Catalog.**

role: **Concrete**

attribute: **data_set_id** value: **value**
attribute: **data_set_name** value: **value**
attribute: **data_set_release_date** value: **value**
attribute: **start_date_time** value: **value**
attribute: **stop_date_time** value: **value**
attribute: **producer_full_name** value: **value**
attribute: **citation_text** value: **value**
attribute: **data_set_terse_desc** value: **value**
attribute: **abstract_desc** value: **value**
attribute: **data_set_desc** value: **value**
attribute: **confidence_level_note** value: **value**
attribute: **archive_status** value: **ARCHIVED, ARCHIVED_ACCUMULATING, IN_LIEN_RESOLUTION, IN_LIEN_RESOLUTION_ACCUMULATING, IN_PEER_REVIEW, IN_PEER_REVIEW_ACCUMULATING, IN_QUEUE, IN_QUEUE_ACCUMULATING, LOCALLY_ARCHIVED, LOCALLY_ARCHIVED_ACCUMULATING, PRE_PEER_REVIEW, PRE_PEER_REVIEW_ACCUMULATING, SAFED, SUPERSEDED**

- **NSSDC - Occurs 0 to * Times**

description: **The NSSDC Information class provides identification information for data submitted to the NSSDC.**

role: **Concrete**

attribute: **medium_type** value: **value**
attribute: **nssdc_collection_id** value: **value**

- End NSSDC

- End Data_Set_PDS3

- End Product_Data_Set_PDS3

- **Product_Delivery_Manifest**

description: **The Product Delivery Manifest is class that defines a system product that contains a table of references to one or more files.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: **value**
attribute: **std_ref_version_id** value: **value**

- End Data_Standards

- **Identification_Area_Manifest Occurs 1 Times**

description: **The manifest identification area consists of attributes that identify and name a manifest.**

role: **Concrete**

attribute: **logical_identifier** value: **value**
attribute: **version_id** value: **value**
attribute: **product_class** value: **value**
attribute: **title** value: **value**
attribute: **alternate_title** value: **value** ^{Optional}
attribute: **alternate_id** value: **value** ^{Optional}
attribute: **last_modification_date_time** value: **value** ^{Optional}
attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: **value** Optional

attribute: **instrument_name** value: **value** Optional

attribute: **instrument_host_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full_name** value: **value** Optional

attribute: **investigation_name** value: **value** Optional

attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: **value**

attribute: **name** value: **value**

attribute: **lidvid_reference** value: **value** Optional

attribute: **primary_name** value: **value**

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Manifest**

- **Cross_Reference_Area_Manifest - Occurs 0 to 1 Times**

description: **The manifest cross reference area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **Reference_Entry - Occurs 0 to * Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_association, member_of**

- **End Reference_Entry**

- **End Cross_Reference_Area_Manifest**

- **File_Area_Delivery_Manifest Occurs 1 Times**

description: **The File_Area_Delivery_Manifest class describes a file that contains a character table that is compliant to a file generated from MD5 checksum software.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** Optional

attribute: **comment** value: **value** Optional

attribute: **creation_date_time** value: *value* Optional
attribute: **file_name** value: *value*
attribute: **file_size** value: *value* Optional
attribute: **maximum_record_bytes** value: *value* Optional
attribute: **md5_checksum** value: *value* Optional
attribute: **records** value: *value* Optional

- End File

- **Delivery_Manifest Occurs 1 Times - Base_Class:Table_Base**

description: The **Delivery_Manifest** class defines a two column table for file references. The table structure is compatible with the output from an MD5 checksum utility.

role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: **2**
attribute: **offset** value: *value*
attribute: **record_bytes** value: *value*
attribute: **records** value: *value*
attribute: **reference_association_type** value: **has_member** Optional

- **Table_Record_Manifest Occurs 1 Times**

description: The **Table Record Manifest** class defines the record for an MD5 checksum manifest table.

role: **Concrete**

- **Table_Field_Checksum Occurs 1 Times**

description: The **Table Field Checksum** class defines a table field that provides a file checksum.

role: **Concrete**

attribute: **name** value: **MD5_checksum**
attribute: **description** value: *value* Optional
attribute: **field_number** value: **2** Optional
attribute: **data_type** value: **ASCII_MD5_Checksum**
attribute: **field_location** value: *value*
attribute: **field_length** value: *value*
attribute: **field_format** value: *value* Optional

- End Table_Field_Checksum

- **Table_Field_File_Specification_Name Occurs 1 Times**

description: The **Table Field File Specification Name** class defines a table field that provides a file name, file extension, and relative directory path to a product label.

role: **Concrete**

attribute: **name** value: **file_specification_name**
attribute: **description** value: *value* Optional
attribute: **field_number** value: **2** Optional
attribute: **data_type** value: **ASCII_File_Specification_Name**
attribute: **field_location** value: *value*
attribute: **field_length** value: *value*
attribute: **field_format** value: **dir1/dir2/file_name.file_extension** Optional

- End Table_Field_File_Specification_Name

- End Table_Record_Manifest

- End Delivery_Manifest

- End File_Area_Delivery_Manifest

- End Product_Delivery_Manifest

- **Product_Document**

description: A **Product Document** is a product consisting of a single logical document that may be comprised of one or

more document formats.

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area_Document Occurs 1 Times**

description: **The document identification area consists of attributes that identify and name a document product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Document**

- **Cross_Reference_Area_Document - Occurs 0 to 1 Times**

description: **The document cross reference area provides references to associated registered products.**

role: **Concrete**

- **Observing_System - Occurs 0 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: *value* Optional

attribute: **name** value: *value* Optional

attribute: **description** value: *value*

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- **End Reference_Entry_Context**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Document**

- **Document_Format_Set - Occurs 1 to * Times**

description: **The Document Format Set class is a set consisting of a document format and associated files.**

role: **Concrete**

- **Document_File - Occurs 1 to * Times**

description: **The Document File class describes a file which is a part of a document.**

role: **Concrete**

attribute: **local_identifier** value: **value** Optional

attribute: **comment** value: **value** Optional

attribute: **creation_date_time** value: **value** Optional

attribute: **directory_path_name** value: *value* Optional
attribute: **encoding_type** value: **BINARY, CHARACTER**
attribute: **external_standard_id** value: **ENCAPSULATED_POSTSCRIPT, GIF, HTML, JPG, LaTeX, MICROSOFT_WORD, PDF, PDF-A, PNG, POSTSCRIPT, RICH_TEXT, TEXT, TIFF**
attribute: **file_name** value: *value*
attribute: **file_size** value: *value* Optional
attribute: **maximum_record_bytes** value: *value* Optional
attribute: **md5_checksum** value: *value* Optional
attribute: **records** value: *value* Optional

- **End Document_File**

- **Document_Format Occurs 1 Times**

description: **The Document Format provides a description of a variant of a logical document that is stored in a specific format. For example the PDS Standards Reference has HTML and PDF formatted versions.**

role: **Concrete**

attribute: **description** value: *value* Optional

attribute: **format_type** value: **HTML, PDF-A, TEXT**

attribute: **starting_point_identifier** value: *value* Optional

- **End Document_Format**

- **End Document_Format_Set**

- **Document_Desc Occurs 1 Times**

description: **The Document_Desc class describes a document.**

role: **Concrete**

attribute: **document_name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **acknowledgement_text** value: *value* Optional

attribute: **author_list** value: *value* Optional

attribute: **copyright** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **editor_list** value: *value* Optional

attribute: **publication_date** value: *value*

attribute: **revision_id** value: *value* Optional

- **End Document_Desc**

- **End Product_Document**

- **Product_File_Repository**

description: **The Product File Repository class consists of a single text file. This product is used to register a file in a repository.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional
attribute: **last_modification_date_time** value: *value* Optional
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional
attribute: **instrument_name** value: *value* Optional
attribute: **instrument_host_name** value: *value* Optional
attribute: **keywords** value: *value* Optional
attribute: **full_name** value: *value* Optional
attribute: **investigation_name** value: *value* Optional
attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*
attribute: **name** value: *value*
attribute: **lidvid_reference** value: *value* Optional
attribute: **primary_name** value: *value*
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area**

- **Cross_Reference_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**

role: **Concrete**

- **Observing_System - Occurs 0 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: *value* Optional
attribute: **name** value: *value* Optional
attribute: **description** value: *value*

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: *value* Optional
attribute: **name** value: *value*
attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: *value* Optional
attribute: **lidvid_reference** value: *value* Optional
attribute: **reference_association_type** value: **Analyst, Artificial_Illumination,**

**Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope,
Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- End Reference_Entry_Observing_System_Component
- End Observing_System_Component
- End Observing_System

- **Reference_Entry - Occurs 0 to * Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_association, member_of**

- End Reference_Entry

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- End Bibliographic_Reference
- End Cross_Reference_Area

- **File_Area_Binary Occurs 1 Times**

description: **The File Area Binary class describes a file that contains an encoded byte stream.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** Optional

attribute: **comment** value: **value** Optional

attribute: **creation_date_time** value: **value** Optional

attribute: **file_name** value: **value**

attribute: **file_size** value: **value** Optional

attribute: **maximum_record_bytes** value: **value** Optional

attribute: **md5_checksum** value: **value** Optional

attribute: **records** value: **value** Optional

- End File

- **Encoded_Binary - Occurs 0 to * Times**

description: **The Encoded Binary class describes a binary encoded byte stream. This class is used to describe files in the repository that are being registered using Product_File_Repository.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **BINARY**

attribute: **external_standard_id** value: **System**

attribute: **offset** value: **value**

- End Encoded_Binary
 - End File_Area_Binary
 - End Product_File_Repository
-

- **Product_File_Text**

description: **The Product File Text consists of a single text file with ASCII character encoding.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: *value*
attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**
role: **Concrete**
attribute: **logical_identifier** value: *value*
attribute: **version_id** value: *value*
attribute: **product_class** value: *value*
attribute: **title** value: *value*
attribute: **alternate_title** value: *value* ^{Optional}
attribute: **alternate_id** value: *value* ^{Optional}
attribute: **last_modification_date_time** value: *value* ^{Optional}
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
role: **Concrete**

attribute: **target_name** value: *value* ^{Optional}
attribute: **instrument_name** value: *value* ^{Optional}
attribute: **instrument_host_name** value: *value* ^{Optional}
attribute: **keywords** value: *value* ^{Optional}
attribute: **full_name** value: *value* ^{Optional}
attribute: **investigation_name** value: *value* ^{Optional}
attribute: **observing_system_name** value: *value* ^{Optional}

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**
role: **Concrete**
attribute: **class_name** value: *value*
attribute: **name** value: *value*
attribute: **lidvid_reference** value: *value* ^{Optional}
attribute: **primary_name** value: *value*
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area**

- **Cross_Reference_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**
role: **Concrete**

- **Observing_System - Occurs 0 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**
role: **Concrete**
attribute: **local_identifier** value: *value* ^{Optional}
attribute: **name** value: *value* ^{Optional}
attribute: **description** value: *value*

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** ^{Optional}

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry - Occurs 0 to * Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **has_association, member_of**

- **End Reference_Entry**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **doi** value: **value** ^{Optional}

attribute: **reference_text** value: **value** ^{Optional}

attribute: **url** value: **value** ^{Optional}

- **End Bibliographic_Reference**

- **End Cross_Reference_Area**

- **File_Area_Text Occurs 1 Times**

description: **The File Area Text class describes a file that contains a text stream object.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** ^{Optional}

attribute: **comment** value: **value** ^{Optional}

attribute: **creation_date_time** value: **value** ^{Optional}

attribute: **file_name** value: **value**

attribute: **file_size** value: *value* Optional
attribute: **maximum_record_bytes** value: *value* Optional
attribute: **md5_checksum** value: *value* Optional
attribute: **records** value: *value* Optional

- End File

- **Stream_Text Occurs 1 Times**

description: **The Stream text class defines a text file.**
role: **Concrete**
attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: *value*
attribute: **offset** value: *value*

- End Stream_Text

- End File_Area_Text

- End Product_File_Text

- **Product_Instrument**

description: **An Instrument product describes an instrument.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: *value*
attribute: **std_ref_version_id** value: *value*

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**
role: **Concrete**
attribute: **logical_identifier** value: *value*
attribute: **version_id** value: *value*
attribute: **product_class** value: *value*
attribute: **title** value: *value*
attribute: **alternate_title** value: *value* Optional
attribute: **alternate_id** value: *value* Optional
attribute: **last_modification_date_time** value: *value* Optional
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**
attribute: **target_name** value: *value* Optional
attribute: **instrument_name** value: *value* Optional
attribute: **instrument_host_name** value: *value* Optional
attribute: **keywords** value: *value* Optional
attribute: **full_name** value: *value* Optional
attribute: **investigation_name** value: *value* Optional
attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**
role: **Concrete**
attribute: **class_name** value: *value*

attribute: **name** value: **value**
attribute: **lidvid_reference** value: **value** Optional
attribute: **primary_name** value: **value**
attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution
- End Subject_Area
- End Identification_Area_Product
- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**
role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- End Reference_Entry_Context
- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- End Bibliographic_Reference
- End Cross_Reference_Area_Context

- **Instrument Occurs 1 Times**

description: **The Instrument class provides a description of a physical object that collects data.**

role: **Concrete**

attribute: **version_id** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

attribute: **naif_instrument_id** value: **value** Optional

attribute: **serial_number** value: **value** Optional

- End Instrument
 - End Product_Instrument
-

- **Product_Instrument_Host**

description: **An Instrument Host product describes an instrument host.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: **value**

attribute: **std_ref_version_id** value: **value**

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution

- End Subject_Area

- End Identification_Area_Product

- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: *value* Optional

attribute: **lidvid_reference** value: *value* Optional

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- End Reference_Entry_Context

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional
attribute: **doi** value: *value* Optional
attribute: **reference_text** value: *value* Optional
attribute: **url** value: *value* Optional

- End Bibliographic_Reference
- End Cross_Reference_Area_Context

- **Instrument_Host Occurs 1 Times**

description: **The Instrument Host class provides a description of the physical object upon which an instrument is mounted.**

role: **Concrete**

attribute: **version_id** value: *value* Optional
attribute: **name** value: *value* Optional
attribute: **description** value: *value*
attribute: **naif_host_id** value: *value* Optional
attribute: **serial_number** value: *value* Optional

- End Instrument_Host
 - End Product_Instrument_Host
-

- **Product_Instrument_Host_PDS3**

description: **An Instrument Host product describes an instrument host. This product captures the PDS3 catalog instrument host information.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*
attribute: **std_ref_version_id** value: *value*

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*
attribute: **version_id** value: *value*
attribute: **product_class** value: *value*
attribute: **title** value: *value*
attribute: **alternate_title** value: *value* Optional
attribute: **alternate_id** value: *value* Optional
attribute: **last_modification_date_time** value: *value* Optional
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional
attribute: **instrument_name** value: *value* Optional
attribute: **instrument_host_name** value: *value* Optional
attribute: **keywords** value: *value* Optional
attribute: **full_name** value: *value* Optional
attribute: **investigation_name** value: *value* Optional
attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**
role: **Concrete**
attribute: **class_name** value: **value**
attribute: **name** value: **value**
attribute: **lidvid_reference** value: **value** Optional
attribute: **primary_name** value: **value**
attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution
- End Subject_Area
- End Identification_Area_Product
- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**
role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- End Reference_Entry_Context

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- End Bibliographic_Reference
- End Cross_Reference_Area_Context

- **Instrument_Host_PDS3 Occurs 1 Times**

description: **The Instrument Host class provides a description of the physical object upon which an instrument is mounted. This class captures the PDS3 catalog Instrument Host information.**

role: **Concrete**

attribute: **instrument_host_name** value: **value**

attribute: **instrument_host_desc** value: **value**

attribute: **instrument_host_id** value: **24COL, A12A, A12C, A12L, A14A, A14C, A14L, A15A, A15C, A15L, A15S, AAO, AMON, APO35M, ARCB, ASTR, AUSTC14, BUGLAB, C130, C154, CFHT, CH1-ORB, CLEM1, CO, CON, CTIO, CTIO15, CTIO15M, CTIOPPT, DAWN, DIF, DII, DS1, ECAS, ER-2, ESO, ESO1M, ESO22M, FEXP, GDSCC, GEMGB, GIO, GO, GP, GSR, GSSR, HAY, HP, HST, HSTK, ICE, IRAS, IRSN, IRTF, IUE, KECK1, KP36, KP50, KP84, LAB510, LCROSS, LICK1M, LO72, LOWELL, LP, LRO, LSPN, M10, MCD21, MCD27, MCD27M, MDM, MER1, MER2, MESS, MEX, MGN, MGS, MK88, MKO, MKOPPT, MKOUH22M, MMT0, MO, MODEL, MPFL, MPFR, MR6, MR7, MR9, MRO, MRO24M, MSN, MSSSO, MSX, MTBG61, MTSC14, N/A, NDC8, NEAR, NH, NNSN, NRAO, O325T1, O325T2, O376T1, O376T3, O413T2, OAO, OBS007T1, OBS055T3, OBS055T4, OBS055T6, OBS056T2, OBS056T3, OBS056T6, OBS056T9, OBS060T2, OBS157T4, OBS211T1, OBS211T2, OBS240T1, OBS270T7, OBS288T5, OBS295T3, OBS320T13, OBS321T1, OBS321T3, OBS321T4, OBS325T1, OBS325T2, OBS326T2, OBS327T1, OBS333T1, OBS333T2, OBS3340T1, OBS347T3, OBS376T1, OBS376T2, OBS376T3, OBS378T2, OBS413T2, OBS445T3, OBS4701T1, OBS4702T1, OBS4703T1, ODY, P10, P11, P12, PAL, PAL200, PEDB, PGD, PHB2, PHX, PPN, PUBLIT, PVO, REUNIC14, RL, RO, RSN, S229, SAKIG, SDU, SOHO, SPEC, SUISEI, TRRLAB, UH, ULY, UNK, VARGBTTEL, VEGA1, VEGA2, VEX, VG1, VG2, VL1, VL2, VO1, VO2, VTH, WFF, WHT, WIYN**

attribute: **instrument_host_type** value: **data_base, earth_based, n/a, rover, spacecraft, unk**

- End Instrument_Host_PDS3
- End Product_Instrument_Host_PDS3

- **Product_Instrument_PDS3**

description: **An Instrument product describes an instrument. This product captures the PDS3 catalog instrument information.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- **End Reference_Entry_Context**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **doi** value: **value** ^{Optional}

attribute: **reference_text** value: **value** ^{Optional}

attribute: **url** value: **value** ^{Optional}

- **End Bibliographic_Reference**
- **End Cross_Reference_Area_Context**

- **Instrument_PDS3 Occurs 1 Times**

description: **The Instrument class provides a description of a physical object that collects data. This class captures the PDS3 catalog Instrument information.**

role: **Concrete**

attribute: **instrument_name** value: **value**

attribute: **instrument_desc** value: **value**

attribute: **instrument_id** value: ..., 2cp, 8cps, a-star, accel, acp, ames-gcm, ampg, amsp, amvis, api, apph, aps, apxs, asar, asas, asi, asimet, astr, avir, awnd, b&c, b-star, cam1, cam2, caps

attribute: **instrument_serial_number** value: **value**

attribute: **instrument_type** value: 3-color_pushbroom_imager, abrader, accelerometer, acoustic_sensor, anemometer, antennae, atmospheric_profiler, attitude_control_system, barometer, beta_detector, bolometer, calorimeter/spectrometer, camera, ccd, ccd/spectrograph, ccd_camera, charged_particle_analyzer, charged_particle_telescope, computation, cosmic_dust_analyzer, cosmic_ray_detector, detector_array, dosimeter, drill, dust_detector, dust_impact_detector, dust_sample_collector, electrode_collector, electron_reflectometer, electron_spectrometer, electronics, electrostatic_analyzer, energetic_particle_detector, energetic_particles_detector, eye, faraday_cup, fluxgate_magnetometer, fluxgate_sensor, framing_camera, gamma-ray_burst_detector, gamma_ray_spectrometer, gas_detector, high_energy_particle_detector, housekeeping, hygrometer, imager, imaging_camera, imaging_science_subsystem, imaging_spectrometer, in_situ_meteorology, inertial_measurement_unit, infrared_imager, infrared_imaging_device, infrared_imaging_spectrometer, infrared_interferometer, infrared_photometer, infrared_polarimeter, infrared_spectrometer, ion_mass_spectrometer, laser_altimeter, laser_rangefinder, lidar, linear_array_camera, low-frequency_radio_array, magnetometer, magnetometer_electron_reflecto, magnetospheric_imaging, mass_spectrometer, material_property_sensor, meteorology, microscope, n/a, nephelometer, neutral_particle_detector, neutron_spectrometer, optical_scanning_radiometer, optical_spectrograph, optical_telescope, particle_counter, particle_detector, particle_telescope, photoelectric_photometer, photometer, photomultiplier, photopolarimeter, photopolarimeter_radiometer, plasma_experiment, plasma_instrument, plasma_wave, plasma_wave_spectrometer, polarimeter, probe, quadrapole_mass_spectrometer, quadrupole_mass_spectrometer, radar, radar_antenna, radar_mapper, radar_transmitter/receiver, radio_and_plasma_wave_science, radio_science, radio_science_transponder, radio_spectrometer, radio_telescope, radiometer, radiometer-spectrophotometer, reference_data, reflectance_spectrometer, retarding_potential_analyzer, robotic_arm, scanning_probe_microscope, spectral_imager, spectrograph, spectrometer, spectrometric_coronagraph, spectroreflectometer, star_scanner, synthesized_array, telescope, thermal_infrared_spectrometer, thermistor, thermometer, total_power_detector, ultraviolet_spectrometer, unk, unknown, uv/visible_spectrometer, vidicon_camera, visible_spectrometer, visual_count, wide_field_camera, wide_field_planetary_camera_2, xray_spectrometer

attribute: **instrument_version_id** value: bb, em, fm

- **End Instrument_PDS3**
 - **End Product_Instrument_PDS3**
-

- **Product_Investigation**

description: **The Investigation product describes an investigation.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: *value* Optional

attribute: **lidvid_reference** value: *value* Optional

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- **End Reference_Entry_Context**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Context**

- **Investigation Occurs 1 Times**

description: **The Investigation class is the abstract parent class for all activities involved in the collection of data.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

attribute: **start_date** value: **value**

attribute: **stop_date** value: **value**

- **End Investigation**

- **End Product_Investigation**

- **Product_Mission**

description: **An Mission product describes a mission.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: **value**

attribute: **std_ref_version_id** value: **value**

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: **value**

attribute: **version_id** value: **value**

attribute: **product_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate_title** value: **value** Optional

attribute: **alternate_id** value: **value** Optional

attribute: **last_modification_date_time** value: **value** Optional

attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: **value** Optional

attribute: **instrument_name** value: **value** Optional

attribute: **instrument_host_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full_name** value: **value** Optional

attribute: **investigation_name** value: **value** Optional

attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: **value**

attribute: **name** value: **value**

attribute: **lidvid_reference** value: **value** Optional

attribute: **primary_name** value: **value**

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- **End Reference_Entry_Context**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Context**

- **Mission Occurs 1 Times**

description: **The Mission class describes an activity involved in the collection of data.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

attribute: **start_date** value: **value**

attribute: **stop_date** value: **value**

- **End Mission**

- **End Product_Mission**

- **Product_Mission_PDS3**

description: **An Mission product describes a mission. This product captures the PDS3 catalog mission information.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: *value* Optional

attribute: **lidvid_reference** value: *value* Optional

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- **End Reference_Entry_Context**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **doi** value: **value** ^{Optional}

attribute: **reference_text** value: **value** ^{Optional}

attribute: **url** value: **value** ^{Optional}

- **End Bibliographic_Reference**
- **End Cross_Reference_Area_Context**

- **Mission_PDS3 Occurs 1 Times**

description: **The Mission PDS3 class describes an activity involved in the collection of data. This class captures the PDS3 catalog Mission information.**

role: **Concrete**

attribute: **mission_name** value: 2001_mars_odyssey, apollo_12, apollo_14, apollo_15, asteroid_observations, cassini-huygens, cassini-huygens_mission_to_saturn_and_titan, chandrayaan-1, comet_sl9/jupiter_collision, contour_mission, dawn, dawn_mission_to_vesta_and_ceres, deep_impact, deep_space_1, deep_space_program_science_experiment, epoxi, galileo, geologic_remote_sensing_field_experiment, giotto, giotto_extended_mission, ground_based_atmospheric_observations, hayabusa, hst, ihw, infrared_astronomical_satellite, international_cometary_explorer, international_halley_watch, international_rosetta_mission, international_ultraviolet_explorer, iue, lunar_crater_observation_and_sensing_satellite, lunar_prospecter, lunar_reconnaissance_orbiter, magellan, mariner69, mariner71, mariner_10, mars_environmental_survey_(mesur_pathfinder), mars_exploration_rover, mars_express, mars_global_surveyor, mars_observer, mars_pathfinder, mars_reconnaissance_orbiter, messenger, midcourse_space_experiment, n/a, near_earth_asteroid_rendezvous, new_horizons, phobos_2, phoenix, pioneer, pioneer_10, pioneer_11, pioneer_venus, pre-magellan, sakigake, saturn_occultation_of_28_sagittarius_1989, saturn_ring_plane_crossing_1995, saturn_small_satellite_astrometry, solar_and_heliospheric_observatory, stardust, suisei, support_archives, ulysses, vega_1, vega_2, venus_express, viking, voyager

attribute: **mission_desc** value: **value**

attribute: **mission_objectives_summary** value: **value**

attribute: **mission_start_date** value: **value**

attribute: **mission_stop_date** value: **value**

- **End Mission_PDS3**
 - **End Product_Mission_PDS3**
-

- **Product_Node**

description: **A node product describes a node.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: **value**

attribute: **std_ref_version_id** value: **value**

- **End Data_Standards**

- **Identification_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical_identifier** value: **value**

attribute: **version_id** value: **value**

attribute: **product_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate_title** value: **value** ^{Optional}

attribute: **alternate_id** value: **value** ^{Optional}

attribute: **last_modification_date_time** value: **value** ^{Optional}

attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: **value** Optional

attribute: **instrument_name** value: **value** Optional

attribute: **instrument_host_name** value: **value** Optional

attribute: **keywords** value: **value** Optional

attribute: **full_name** value: **value** Optional

attribute: **investigation_name** value: **value** Optional

attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: **value**

attribute: **name** value: **value**

attribute: **lidvid_reference** value: **value** Optional

attribute: **primary_name** value: **value**

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area**

- **Cross_Reference_Area_Context - Occurs 0 to 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- **End Reference_Entry_Context**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Context**

- **Node Occurs 1 Times**

description: **The Node class provides a description of a conceptual object that provides local governance within the federated Planetary Data System.**

role: **Concrete**

attribute: **node_name** value: **Engineering, Geosciences, Imaging, Navigation_Ancillary_Information_Facility, Planetary_Atmospheres, Planetary_Plasma_Interactions, Planetary_Rings, Radio_Science, Small_Bodies**

attribute: **name** value: **value** Optional
attribute: **description** value: **value**
attribute: **institution_name** value: **value**

- End Node
 - End Product_Node
-

- **Product_Non_Specific**

description: **The Product Non Specific class defines a template for any data product.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: **value**
attribute: **std_ref_version_id** value: **value**

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**
role: **Concrete**
attribute: **logical_identifier** value: **value**
attribute: **version_id** value: **value**
attribute: **product_class** value: **value**
attribute: **title** value: **value**
attribute: **alternate_title** value: **value** Optional
attribute: **alternate_id** value: **value** Optional
attribute: **last_modification_date_time** value: **value** Optional
attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
role: **Concrete**

attribute: **target_name** value: **value** Optional
attribute: **instrument_name** value: **value** Optional
attribute: **instrument_host_name** value: **value** Optional
attribute: **keywords** value: **value** Optional
attribute: **full_name** value: **value** Optional
attribute: **investigation_name** value: **value** Optional
attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**
attribute: **class_name** value: **value**
attribute: **name** value: **value**
attribute: **lidvid_reference** value: **value** Optional
attribute: **primary_name** value: **value**
attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution
 - End Subject_Area
- End Identification_Area_Product

- **Cross_Reference_Area_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**
role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **Observing_System - Occurs 1 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- **End Reference_Entry_Product**

- **End Cross_Reference_Area_Product**

- **Observation_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission_Area - Occurs 0 to * Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission_Area**

- **Node_Area - Occurs 0 to * Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node_Area**

attribute: **comment** value: **value** Optional

attribute: **start_date_time** value: **value**

attribute: **stop_date_time** value: **value**

attribute: **local_mean_solar_time** value: **value** Optional

attribute: **local_true_solar_time** value: **value** Optional

attribute: **mission_phase_name** value: **value** Optional

attribute: **orbit_number** value: **value** Optional

attribute: **planet_day_number** value: **value** Optional

attribute: **solar_longitude** value: **value** Optional

attribute: **spacecraft_clock_count_partition** value: **value** Optional

attribute: **spacecraft_clock_start_count** value: **value** Optional

attribute: **spacecraft_clock_stop_count** value: **value** Optional

- **Geometry_New - Occurs 0 to * Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local_identifier** value: **value**

- **Vector_New - Occurs 0 to * Times**

description: **The Vector class provides the components of either a velocity or position vector.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **name** value: **value**

attribute: **description** value: **value**

attribute: **type** value: **POSITION, VELOCITY**

attribute: **vector_components** value: **value**

- **Vector_Component - Occurs 1 to * Times**

description: **The Vector_Component class provides a component of a vector.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **sequence_number** value: **value**

attribute: **value** value: **value**

- **End Vector_Component**

- **End Vector_New**

- **End Geometry_New**

- **End Observation_Area**

- **File_Area_Observational - Occurs 1 to * Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged_data_objects contained within the file.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** ^{Optional}

attribute: **comment** value: **value** ^{Optional}

attribute: **creation_date_time** value: **value** ^{Optional}

attribute: **file_name** value: **value**

attribute: **file_size** value: **value** ^{Optional}

attribute: **maximum_record_bytes** value: **value** ^{Optional}

attribute: **md5_checksum** value: **value** ^{Optional}

attribute: **records** value: **value** ^{Optional}

- **End File**

- **Array_2D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Image class is an extension of array_base and defines a two dimensional image.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Image_2D_Display - Occurs 0 to 1 Times**

description: **The Image_2D_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**

attribute: **first_line** value: **value** ^{Optional}

attribute: **first_line_sample** value: **value** ^{Optional}

attribute: **line_display_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample_display_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image_2D_Display**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **Object_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **maximum** value: **value** ^{Optional}

attribute: **md5_checksum** value: **value** ^{Optional}

attribute: **mean** value: **value** ^{Optional}

attribute: **median** value: **value** ^{Optional}

attribute: **minimum** value: **value** ^{Optional}

attribute: **sample_bit_mask** value: **value** ^{Optional}

attribute: **standard_deviation** value: **value** ^{Optional}

- **End Object_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** ^{Optional}

attribute: **invalid_constant** value: **value** ^{Optional}

attribute: **missing_constant** value: **value** ^{Optional}

attribute: **not_applicable_constant** value: **value** ^{Optional}

attribute: **saturated_constant** value: **value** ^{Optional}

attribute: **unknown_constant** value: **value** ^{Optional}

- **End Special_Constants**

- **End Array_2D_Image**

- **Array_2D_Map - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Map class is an extension of array_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: *value* ^{Optional}
attribute: **value_offset** 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}

- End Array_Element
- End Array_2D_Map
- **Array_2D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Spectrum class is an extension of array_base and defines a two dimensional spectrum.

role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* ^{Optional}
attribute: **axes** value: 2
attribute: **axis_order** value: FIRST_INDEX_FASTEST
attribute: **encoding_type** value: BINARY
attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*
attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8
attribute: **scaling_factor** value: *value* ^{Optional}
attribute: **value_offset** 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}

- End Array_Element
- End Array_2D_Spectrum
- **Array_3D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Image class is an extension of array_base and defines a three dimensional image.

role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* ^{Optional}
attribute: **axes** value: 3
attribute: **axis_order** value: FIRST_INDEX_FASTEST
attribute: **encoding_type** value: BINARY
attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Image

- **Array_3D_Movie - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Movie class is an extension of array_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Movie
- **Array_3D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **3**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Spectrum
- **Header - Occurs 0 to * Times**

description: The Header class describes a data object header.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **bytes** value: **value**

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **FITS, ISIS, ODL, VICAR**

attribute: **offset** value: **value**

- End Header

- **Stream_Delimited - Occurs 0 to * Times**

description: **The Stream Delimited class defines a simple spreadsheet.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **CSV, OTHER**

attribute: **field_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**

attribute: **fields** value: *value*

attribute: **maximum_record_length** value: *value*

attribute: **offset** value: *value*

attribute: **record_delimiter** value: **0x0A, 0x0D, 0x0D_0x0A**

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: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* ^{Optional}

attribute: **minimum_scaled_value** value: *value* ^{Optional}

attribute: **maximum_scaled_value** value: *value* ^{Optional}

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** value: *value* ^{Optional}

attribute: **unit** value: **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}

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics**

for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Stream_Delimited_Field**

- **End Stream_Delimited_Field_Sequence**

- **End Stream_Delimited_Grouped_Sequence**

- **End Stream_Delimited_Record**

- **End Stream_Delimited**

- **Stream_Text - Occurs 0 to * Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **value**

attribute: **offset** value: **value**

- **End Stream_Text**

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **BINARY**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table_Binary_Field - Occurs 1 to * Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional
 attribute: **field_number** value: **value** Optional
 attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8
 attribute: **field_location** value: **value**
 attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local_identifier** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **maximum** value: **value** Optional
 attribute: **mean** value: **value** Optional
 attribute: **median** value: **value** Optional
 attribute: **minimum** value: **value** Optional
 attribute: **sample_bit_mask** value: **value** Optional
 attribute: **standard_deviation** value: **value** Optional

- End Field_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error_constant** value: **value** Optional
 attribute: **invalid_constant** value: **value** Optional
 attribute: **missing_constant** value: **value** Optional
 attribute: **not_applicable_constant** value: **value** Optional
 attribute: **saturated_constant** value: **value** Optional
 attribute: **unknown_constant** value: **value** Optional

- End Special_Constants

- End Table_Binary_Field

- End Table_Record_Binary

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: The Uniformly_Sampled class provides parameters for a uniformly sampled table.

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**
 attribute: **last_sampling_parameter_value** value: **value**
 attribute: **sampling_parameter_interval** value: **value**
 attribute: **sampling_parameter_name** value: **value**
 attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional
 attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled
- End Table_Binary
- **Table_Binary_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **encoding_type** value: **BINARY**
attribute: **fields** value: **value**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**

- **Table_Record_Binary_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**

role: **Concrete**

- **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** ^{Optional}

- **Table_Binary_Field_Sequence - Occurs 1 to * Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: **value**
attribute: **description** value: **value** ^{Optional}
attribute: **field_number** value: **value** ^{Optional}
attribute: **data_type** value: **Bit**
attribute: **field_location** value: **value**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** ^{Optional}
attribute: **minimum_scaled_value** value: **value** ^{Optional}
attribute: **maximum_scaled_value** value: **value** ^{Optional}
attribute: **bit_mask** value: **value** ^{Optional}
attribute: **bits** value: **value**
attribute: **scaling_factor** value: **value** ^{Optional}
attribute: **start_bit** value: **value**
attribute: **value_offset** value: **value** ^{Optional}
attribute: **unit** value: **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 Table_Binary_Grouped_Bit_Field

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: ASCII_File_Name, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field_location** value: *value*

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* ^{Optional}

attribute: **minimum_scaled_value** value: *value* ^{Optional}

attribute: **maximum_scaled_value** value: *value* ^{Optional}

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** value: *value* ^{Optional}

attribute: **unit** value: 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 Table_Binary_Grouped_Field**

- **End Table_Binary_Field_Sequence**

- **End Table_Binary_Grouped_Sequence**

- **End Table_Record_Binary_Grouped**

- **End Table_Binary_Grouped**

- **Table_Character - Occurs 0 to * Times - Base_Class:Table_Base**

description: The Table Character class is an extension of table base and defines a simple character table.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: CHARACTER

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record_bytes** value: *value*

attribute: **records** value: *value*

- **Table_Record_Character Occurs 1 Times**

description: The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.

role: **Concrete**

- **Table_Character_Field - Occurs 1 to * Times**

description: The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID

attribute: **field_location** value: *value*

attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: **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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **maximum** value: **value** Optional
 attribute: **mean** value: **value** Optional
 attribute: **median** value: **value** Optional
 attribute: **minimum** value: **value** Optional
 attribute: **sample_bit_mask** value: **value** Optional
 attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional
 attribute: **invalid_constant** value: **value** Optional
 attribute: **missing_constant** value: **value** Optional
 attribute: **not_applicable_constant** value: **value** Optional
 attribute: **saturated_constant** value: **value** Optional
 attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Table_Character_Field**

- **End Table_Record_Character**

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**
 attribute: **last_sampling_parameter_value** value: **value**
 attribute: **sampling_parameter_interval** value: **value**
 attribute: **sampling_parameter_name** value: **value**
 attribute: **sampling_parameter_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional
 attribute: **sampling_parameter_unit** value: **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**

- **End Uniformly_Sampled**

- **End Table_Character**

- **Table_Character_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: *value* ^{Optional}
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: *value*
attribute: **offset** value: *value*
attribute: **record_bytes** value: *value*
attribute: **records** value: *value*

- **Table_Record_Character_Grouped Occurs 1 Times**

description: The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.
role: **Concrete**

- **Table_Character_Grouped_Sequence - Occurs 1 to * Times**

description: The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: *value* ^{Optional}

- **Table_Character_Field_Sequence - Occurs 1 to * Times**

description: The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Table_Character_Grouped_Field - Occurs 0 to * Times**

description: The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_location** value: *value*

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* ^{Optional}

attribute: **minimum_scaled_value** value: *value* ^{Optional}

attribute: **maximum_scaled_value** value: *value* ^{Optional}

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** value: *value* ^{Optional}

attribute: **unit** value: **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 Table_Character_Grouped_Field**

- **End Table_Character_Field_Sequence**

- **End Table_Character_Grouped_Sequence**

- **End Table_Record_Character_Grouped**

- **End Table_Character_Grouped**

- **End File_Area_Observational**

- **End Product_Non_Specific**

- **Product_PDS_Affiliate**

description: **A PDS Affiliate product describes a person in the role of an affiliate of the PDS.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: *value*
attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**
role: **Concrete**
attribute: **logical_identifier** value: *value*
attribute: **version_id** value: *value*
attribute: **product_class** value: *value*
attribute: **title** value: *value*
attribute: **alternate_title** value: *value* Optional
attribute: **alternate_id** value: *value* Optional
attribute: **last_modification_date_time** value: *value* Optional
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**
attribute: **target_name** value: *value* Optional
attribute: **instrument_name** value: *value* Optional
attribute: **instrument_host_name** value: *value* Optional
attribute: **keywords** value: *value* Optional
attribute: **full_name** value: *value* Optional
attribute: **investigation_name** value: *value* Optional
attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**
role: **Concrete**
attribute: **class_name** value: *value*
attribute: **name** value: *value*
attribute: **lidvid_reference** value: *value* Optional
attribute: **primary_name** value: *value*
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**
role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**
attribute: **lid_reference** value: *value* Optional
attribute: **lidvid_reference** value: *value* Optional
attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- End Reference_Entry_Context

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **doi** value: **value** ^{Optional}

attribute: **reference_text** value: **value** ^{Optional}

attribute: **url** value: **value** ^{Optional}

- End Bibliographic_Reference

- End Cross_Reference_Area_Context

- **PDS_Affiliate Occurs 1 Times**

description: **The PDS Affiliate class provides a description of a person who has an association with the planetary science community and has access to PDS resources not normally allowed to the general public.**

role: **Concrete**

attribute: **node_name** value: **Engineering, Geosciences, HQ, Imaging, National_Space_Science_Data_Center, Navigation_Ancillary_Information_Facility, PDS_Management, Planetary_Atmospheres, Planetary_Plasma_Interactions, Planetary_Rings, Radio_Science, Small_Bodies, unk** ^{Optional}

attribute: **registration_date** value: **value**

attribute: **electronic_mail_address** value: **value** ^{Optional}

attribute: **name** value: **value** ^{Optional}

attribute: **sort_name** value: **value**

attribute: **description** value: **value**

attribute: **affiliation_type** value: **Affiliate, Data_Provider, Manager, Technical_Staff**

attribute: **alternate_telephone_number** value: **value** ^{Optional}

attribute: **institution_name** value: **value**

attribute: **phone_book_flag** value: **value**

attribute: **postal_address_text** value: **value**

attribute: **telephone_number** value: **value** ^{Optional}

- End PDS_Affiliate

- End Product_PDS_Affiliate
-

- **Product_PDS_Guest**

description: **A PDS Guest product describes a person in the role of guest user of the PDS.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: **value**

attribute: **std_ref_version_id** value: **value**

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: **value**

attribute: **version_id** value: **value**

attribute: **product_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate_title** value: **value** ^{Optional}

attribute: **alternate_id** value: **value** ^{Optional}

attribute: **last_modification_date_time** value: **value** ^{Optional}

attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: ALTERNATE, PRIMARY

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: *value* Optional

attribute: **lidvid_reference** value: *value* Optional

attribute: **reference_association_type** value: has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target

- **End Reference_Entry_Context**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference_text** value: *value* Optional

attribute: **url** value: *value* Optional

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Context**

- **PDS_Guest Occurs 1 Times**

description: **The PDS_Guest class is the default description of a person who has an association with the planetary science community and who has the most limited access to PDS resources.**

role: **Concrete**

attribute: **registration_date** value: *value*

attribute: **electronic_mail_address** value: *value* Optional

attribute: **name** value: **value** Optional
attribute: **sort_name** value: **value**
attribute: **description** value: **value**

- End PDS_Guest
 - End Product_PDS_Guest
-

• Product_Proxy_PDS3

description: **The Product Proxy PDS class defines a product with enough information to to register a PDS3 data product.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: **value**
attribute: **std_ref_version_id** value: **value**

- End Data_Standards

- **Identification_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**
role: **Concrete**

attribute: **logical_identifier** value: **value**
attribute: **version_id** value: **value**
attribute: **product_class** value: **value**
attribute: **title** value: **value**
attribute: **alternate_title** value: **value** Optional
attribute: **alternate_id** value: **value** Optional
attribute: **last_modification_date_time** value: **value** Optional
attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**
attribute: **target_name** value: **value** Optional
attribute: **instrument_name** value: **value** Optional
attribute: **instrument_host_name** value: **value** Optional
attribute: **keywords** value: **value** Optional
attribute: **full_name** value: **value** Optional
attribute: **investigation_name** value: **value** Optional
attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**
attribute: **class_name** value: **value**
attribute: **name** value: **value**
attribute: **lidvid_reference** value: **value** Optional
attribute: **primary_name** value: **value**
attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution

- End Subject_Area

- End Identification_Area

- **Cross_Reference_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**
role: **Concrete**

- **Observing_System - Occurs 0 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: **value** ^{Optional}

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** ^{Optional}

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry - Occurs 0 to * Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **has_association, member_of**

- **End Reference_Entry**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **doi** value: **value** ^{Optional}

attribute: **reference_text** value: **value** ^{Optional}

attribute: **url** value: **value** ^{Optional}

- **End Bibliographic_Reference**

- **End Cross_Reference_Area**

- **Observation_Area - Occurs 0 to 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission_Area - Occurs 0 to * Times**

description: **The mission area allow the insertion of mission specific metadata.**
role: **Concrete**

- **End Mission_Area**

- **Node_Area - Occurs 0 to * Times**

description: **The node area allow the insertion of node specific metadata.**
role: **Concrete**

- **End Node_Area**

attribute: **comment** value: **value** Optional
attribute: **start_date_time** value: **value**
attribute: **stop_date_time** value: **value**
attribute: **local_mean_solar_time** value: **value** Optional
attribute: **local_true_solar_time** value: **value** Optional
attribute: **mission_phase_name** value: **value** Optional
attribute: **orbit_number** value: **value** Optional
attribute: **planet_day_number** value: **value** Optional
attribute: **solar_longitude** value: **value** Optional
attribute: **spacecraft_clock_count_partition** value: **value** Optional
attribute: **spacecraft_clock_start_count** value: **value** Optional
attribute: **spacecraft_clock_stop_count** value: **value** Optional

- **Geometry_New - Occurs 0 to * Times**

description: **The Geometry class groups objects associated with geometry information.**
role: **Concrete**
attribute: **local_identifier** value: **value**

- **Vector_New - Occurs 0 to * Times**

description: **The Vector class provides the components of either a velocity or position vector.**
role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **name** value: **value**
attribute: **description** value: **value**
attribute: **type** value: **POSITION, VELOCITY**
attribute: **vector_components** value: **value**

- **Vector_Component - Occurs 1 to * Times**

description: **The Vector_Component class provides a component of a vector.**
role: **Concrete**
attribute: **name** value: **value** Optional
attribute: **description** value: **value** Optional
attribute: **sequence_number** value: **value**
attribute: **value** value: **value**

- **End Vector_Component**

- **End Vector_New**

- **End Geometry_New**

- **End Observation_Area**

- **File_Area - Occurs 1 to * Times**

description: **The File Area class describes a file and one or more tagged_data_objects contained within the file.**
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**
role: **Concrete**
attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional

attribute: **creation_date_time** value: *value* Optional
attribute: **file_name** value: *value*
attribute: **file_size** value: *value* Optional
attribute: **maximum_record_bytes** value: *value* Optional
attribute: **md5_checksum** value: *value* Optional
attribute: **records** value: *value* Optional

- End File

- **Array_2D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Image class is an extension of array_base and defines a two dimensional image.

role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* Optional
attribute: **axes** value: **2**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*
attribute: **elements** 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 Array_Axis

- **Image_2D_Display - Occurs 0 to 1 Times**

description: The Image_2D_Display class provides attributes to enable the display of a 2D image.

role: **Concrete**

attribute: **first_line** value: *value* Optional
attribute: **first_line_sample** value: *value* Optional
attribute: **line_display_direction** value: **DOWN, LEFT, RIGHT, UP**
attribute: **sample_display_direction** value: **DOWN, LEFT, RIGHT, UP**

- End Image_2D_Display

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
attribute: **scaling_factor** value: *value* Optional
attribute: **value_offset** 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

- End Array_Element

- **Object_Statistics - Occurs 0 to 1 Times**

description: The Object Statistics class provides a set of values that provide metrics about the

object.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Object_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Array_2D_Image**

- **Array_2D_Map - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Map class is an extension of array_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** 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}

- End Array_Element
- End Array_2D_Map
- **Array_2D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Spectrum class is an extension of array_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_2D_Spectrum
- **Array_3D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Image class is an extension of array_base and defines a three dimensional image.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **3**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*
attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element

- End Array_3D_Image

- **Array_3D_Movie - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Movie class is an extension of array_base and defines a movie as a set of two dimensional images in a time series.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Movie
- **Array_3D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **3**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Spectrum
- **Encoded_Image - Occurs 0 to * Times**

description: **The Encoded Image class, a subclass of Encoded Byte stream is used for ancillary images in standard formats, such as JPEG.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **encoding_type** value: **BINARY**

attribute: **external_standard_id** value: **GIF, JPEG, PDF, TIFF**

attribute: **offset** value: **value**

- End Encoded_Image
- **File_PDF - Occurs 0 to * Times**

description: **The File PDF class describes a PDF encoded byte stream.**

role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* ^{Optional}
attribute: **encoding_type** value: **BINARY**
attribute: **external_standard_id** value: **PDF**
attribute: **offset** value: *value*

- End File_PDF

- **Header - Occurs 0 to * Times**

description: **The Header class describes a data object header.**
role: **Concrete**
attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* ^{Optional}
attribute: **name** value: *value* ^{Optional}
attribute: **description** value: *value* ^{Optional}
attribute: **bytes** value: *value*
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **FITS, ISIS, ODL, VICAR**
attribute: **offset** value: *value*

- End Header

- **Stream_Delimited - Occurs 0 to * Times**

description: **The Stream Delimited class defines a simple spreadsheet.**
role: **Concrete**
attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* ^{Optional}
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **CSV, OTHER**
attribute: **field_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**
attribute: **fields** value: *value*
attribute: **maximum_record_length** value: *value*
attribute: **offset** value: *value*
attribute: **record_delimiter** value: **0x0A, 0x0D, 0x0D_0x0A**
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: **name** value: *value*
attribute: **description** value: *value* ^{Optional}
attribute: **field_number** value: *value* ^{Optional}
attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI,**

ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- End Field_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- End Special_Constants

- End Stream_Delimited_Field

- End Stream_Delimited_Field_Sequence

- End Stream_Delimited_Grouped_Sequence

- End Stream_Delimited_Record

- End Stream_Delimited

- **Stream_Text - Occurs 0 to * Times**

description: The Stream text class defines a text file.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: CHARACTER

attribute: **external_standard_id** value: **value**

attribute: **offset** value: **value**

- End Stream_Text

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **BINARY**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table_Binary_Field - Occurs 1 to * Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to**

indicate special cases that occur in the data.

role: **Concrete**

attribute: **error_constant** value: *value* Optional

attribute: **invalid_constant** value: *value* Optional

attribute: **missing_constant** value: *value* Optional

attribute: **not_applicable_constant** value: *value* Optional

attribute: **saturated_constant** value: *value* Optional

attribute: **unknown_constant** value: *value* Optional

- End Special_Constants
- End Table_Binary_Field
- End Table_Record_Binary
- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: The **Uniformly_Sampled** class provides parameters for a uniformly sampled table.

role: **Concrete**

attribute: **first_sampling_parameter_value** value: *value*

attribute: **last_sampling_parameter_value** value: *value*

attribute: **sampling_parameter_interval** value: *value*

attribute: **sampling_parameter_name** value: *value*

attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional

attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled
- End Table_Binary
- **Table_Binary_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: The **Table Binary Grouped** class is an extension of table base and defines a simple binary table that allows repeating groups of fields.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding_type** value: BINARY

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record_bytes** value: *value*

attribute: **records** value: *value*

- **Table_Record_Binary_Grouped Occurs 1 Times**

description: The **Table Record Binary Grouped** class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.

role: **Concrete**

- **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

description: The **Table Binary Grouped Sequence** class is a component of the grouped table class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: *value* Optional

- **Table_Binary_Field_Sequence - Occurs 1 to * Times**

description: The **Table Binary Field Sequence** class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: The **Table Binary Grouped Bit Field** class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.

role: **Concrete**

attribute: **name** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **field_number** value: **value** Optional
 attribute: **data_type** value: **Bit**
 attribute: **field_location** value: **value**
 attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **bit_mask** value: **value** Optional
 attribute: **bits** value: **value**
 attribute: **scaling_factor** value: **value** Optional
 attribute: **start_bit** value: **value**
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: **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 Table_Binary_Grouped_Bit_Field**

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **field_number** value: **value** Optional
 attribute: **data_type** value: **ASCII_File_Name, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
 attribute: **field_location** value: **value**
 attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: **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 Table_Binary_Grouped_Field**

- **End Table_Binary_Field_Sequence**

- **End Table_Binary_Grouped_Sequence**

- **End Table_Record_Binary_Grouped**

- **End Table_Binary_Grouped**

- **Table_Character - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**

role: **Concrete**

attribute: **local_identifier** value: **value**
 attribute: **comment** value: **value** Optional
 attribute: **encoding_type** value: **CHARACTER**
 attribute: **fields** value: **value**
 attribute: **offset** value: **value**
 attribute: **record_bytes** value: **value**
 attribute: **records** value: **value**

- **Table_Record_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**

role: **Concrete**

- **Table_Character_Field - Occurs 1 to * Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **field_number** value: **value** ^{Optional}

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** ^{Optional}

attribute: **minimum_scaled_value** value: **value** ^{Optional}

attribute: **maximum_scaled_value** value: **value** ^{Optional}

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** value: **value** ^{Optional}

attribute: **unit** value: **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}

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **maximum** value: **value** ^{Optional}

attribute: **mean** value: **value** ^{Optional}

attribute: **median** value: **value** ^{Optional}

attribute: **minimum** value: **value** ^{Optional}

attribute: **sample_bit_mask** value: **value** ^{Optional}

attribute: **standard_deviation** value: **value** ^{Optional}

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** ^{Optional}

attribute: **invalid_constant** value: **value** ^{Optional}

attribute: **missing_constant** value: **value** ^{Optional}

attribute: **not_applicable_constant** value: **value** ^{Optional}

attribute: **saturated_constant** value: **value** ^{Optional}

attribute: **unknown_constant** value: **value** ^{Optional}

- **End Special_Constants**

- **End Table_Character_Field**

- **End Table_Record_Character**

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: The Uniformly_Sampled class provides parameters for a uniformly sampled table.

role: **Concrete**

attribute: **first_sampling_parameter_value** value: *value*

attribute: **last_sampling_parameter_value** value: *value*

attribute: **sampling_parameter_interval** value: *value*

attribute: **sampling_parameter_name** value: *value*

attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC ^{Optional}

attribute: **sampling_parameter_unit** value: 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

- **End Uniformly_Sampled**

- **End Table_Character**

- **Table_Character_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: CHARACTER

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record_bytes** value: *value*

attribute: **records** value: *value*

- **Table_Record_Character_Grouped Occurs 1 Times**

description: The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.

role: **Concrete**

- **Table_Character_Grouped_Sequence - Occurs 1 to * Times**

description: The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: *value* ^{Optional}

- **Table_Character_Field_Sequence - Occurs 1 to * Times**

description: The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Table_Character_Grouped_Field - Occurs 0 to * Times**

description: The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID

attribute: **field_location** value: *value*

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* ^{Optional}

attribute: **minimum_scaled_value** value: **value** ^{Optional}
 attribute: **maximum_scaled_value** value: **value** ^{Optional}
 attribute: **scaling_factor** value: **value** ^{Optional}
 attribute: **value_offset** value: **value** ^{Optional}
 attribute: **unit** value: **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 Table_Character_Grouped_Field
 - End Table_Character_Field_Sequence
 - End Table_Character_Grouped_Sequence
 - End Table_Record_Character_Grouped
 - End Table_Character_Grouped
 - End File_Area
 - End Product_Proxy_PDS3
-

• Product_Resource

description: **A resource product describes a web resource.**
 role: **Concrete**

• Data_Standards Occurs 1 Times

description: **The Data Standards class indicates the controlling standards for this product.**
 role: **Concrete**
 attribute: **dd_version_id** value: **value**
 attribute: **std_ref_version_id** value: **value**

• End Data_Standards

• Identification_Area_Product Occurs 1 Times

description: **The product identification area consists of attributes that identify and name a data product.**
 role: **Concrete**
 attribute: **logical_identifier** value: **value**
 attribute: **version_id** value: **value**
 attribute: **product_class** value: **value**
 attribute: **title** value: **value**
 attribute: **alternate_title** value: **value** ^{Optional}
 attribute: **alternate_id** value: **value** ^{Optional}
 attribute: **last_modification_date_time** value: **value** ^{Optional}
 attribute: **type** value: **value**

• Subject_Area - Occurs 0 to 1 Times

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
 role: **Concrete**
 attribute: **target_name** value: **value** ^{Optional}
 attribute: **instrument_name** value: **value** ^{Optional}
 attribute: **instrument_host_name** value: **value** ^{Optional}
 attribute: **keywords** value: **value** ^{Optional}
 attribute: **full_name** value: **value** ^{Optional}
 attribute: **investigation_name** value: **value** ^{Optional}
 attribute: **observing_system_name** value: **value** ^{Optional}

• Name_Resolution - Occurs 0 to * Times

description: **The Name_Resolution class provides both primary and alternate names of an object.**
 role: **Concrete**
 attribute: **class_name** value: **value**
 attribute: **name** value: **value**
 attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **primary_name** value: *value*
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**
- **End Subject_Area**
- **End Identification_Area_Product**
- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**
role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: *value* Optional

attribute: **lidvid_reference** value: *value* Optional

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- **End Reference_Entry_Context**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference_text** value: *value* Optional

attribute: **url** value: *value* Optional

- **End Bibliographic_Reference**
- **End Cross_Reference_Area_Context**

- **Resource Occurs 1 Times**

description: **The Resource class provides a description of a web resource. This class is a generic class and is used for resources not otherwise defined in the model.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value*

attribute: **url** value: *value*

- **End Resource**
 - **End Product_Resource**
-

- **Product_Service**

description: **The Product Service class defines a product for registering services. Service descriptions from this product are used to register services as intrinsic registry objects.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: ALTERNATE, PRIMARY

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area**

- **Cross_Reference_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**

role: **Concrete**

- **Observing_System - Occurs 0 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: *value* Optional

attribute: **name** value: *value* Optional

attribute: **description** value: *value*

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: *value*

attribute: **observing_system_component_type** value: Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry - Occurs 0 to * Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **has_association, member_of**

- **End Reference_Entry**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **doi** value: **value** ^{Optional}

attribute: **reference_text** value: **value** ^{Optional}

attribute: **url** value: **value** ^{Optional}

- **End Bibliographic_Reference**

- **End Cross_Reference_Area**

- **File_Area_Service_Description - Occurs 0 to * Times**

description: **The File Area Service Description class describes a file that contains a service description.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** ^{Optional}

attribute: **comment** value: **value** ^{Optional}

attribute: **creation_date_time** value: **value** ^{Optional}

attribute: **file_name** value: **value**

attribute: **file_size** value: **value** ^{Optional}

attribute: **maximum_record_bytes** value: **value** ^{Optional}

attribute: **md5_checksum** value: **value** ^{Optional}

attribute: **records** value: **value** ^{Optional}

- **End File**

- **Service_Description - Occurs 0 to * Times**

description: **The Service Description class defines a file that contains a standardized service specification.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: *value* Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **WADL, WSDL**
attribute: **offset** value: *value*

- End Service_Description
 - End File_Area_Service_Description
 - End Product_Service
-

- **Product_Software**

description: **Product Software is a product consisting of a set of one or more software formats.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: *value*
attribute: **std_ref_version_id** value: *value*

- End Data_Standards

- **Cross_Reference_Area_Software - Occurs 0 to 1 Times**

description: **The cross reference area software provides references for registered products associated with this product.**
role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**
role: **Concrete**
attribute: **name** value: *value* Optional
attribute: **description** value: *value* Optional
attribute: **doi** value: *value* Optional
attribute: **reference_text** value: *value* Optional
attribute: **url** value: *value* Optional

- End Bibliographic_Reference

- **Reference_Entry - Occurs 0 to * Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**
role: **Concrete**
attribute: **lid_reference** value: *value* Optional
attribute: **lidvid_reference** value: *value* Optional
attribute: **reference_association_type** value: **has_association, member_of**

- End Reference_Entry

- End Cross_Reference_Area_Software

- **Software_Desc Occurs 1 Times**

description: **The Software Desc class describes a software product**
role: **Concrete**
attribute: **version_id** value: *value*
attribute: **name** value: *value*
attribute: **description** value: *value*
attribute: **author_list** value: *value* Optional
attribute: **programmers_manual_identifier** value: *value*
attribute: **software_id** value: *value*
attribute: **software_type** value: **n/a, unk**
attribute: **users_manual_identifier** value: *value*

- End Software_Desc

- **Software_Binary - Occurs 0 to * Times**

description: **The Software Script class provides a description of a software code that is stored as a compiled binary file.**

role: **Concrete**

attribute: **files** value: *value*

attribute: **os_version** value: *value*

attribute: **program_notes_identifier** value: *value*

attribute: **supported_architecture** value: *value*

attribute: **supported_os** value: *value*

attribute: **sw_format_type** value: *value*

attribute: **system_requirements** value: *value*

- End Software_Binary

- **Software_Script - Occurs 0 to * Times**

description: **The Software Script class provides a description of a software code that is stored as a script.**

role: **Concrete**

attribute: **files** value: *value*

attribute: **install_notes** value: *value*

attribute: **supported_environment** value: *value*

attribute: **system_requirements** value: *value*

- End Software_Script

- **Software_Source - Occurs 0 to * Times**

description: **The Software Script class provides a description of a software code that is stored as source code.**

role: **Concrete**

attribute: **compile_notes** value: *value*

attribute: **files** value: *value*

attribute: **os_version** value: *value*

attribute: **program_notes_identifier** value: *value*

attribute: **software_dialect** value: *value*

attribute: **software_language** value: *value*

attribute: **supported_architecture** value: *value*

attribute: **supported_os** value: *value*

attribute: **sw_format_type** value: *value*

attribute: **system_requirements** value: *value*

- End Software_Source

- End Product_Software
-

- **Product_SPICE_Kernel_Binary**

description: **The Product SPICE Kernel Text class defines a binary SPICE product.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- End Data_Standards

- **Identification_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional
attribute: **alternate_id** value: *value* Optional
attribute: **last_modification_date_time** value: *value* Optional
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional
attribute: **instrument_name** value: *value* Optional
attribute: **instrument_host_name** value: *value* Optional
attribute: **keywords** value: *value* Optional
attribute: **full_name** value: *value* Optional
attribute: **investigation_name** value: *value* Optional
attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*
attribute: **name** value: *value*
attribute: **lidvid_reference** value: *value* Optional
attribute: **primary_name** value: *value*
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area**

- **Cross_Reference_Area_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**
role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional
attribute: **description** value: *value* Optional
attribute: **doi** value: *value* Optional
attribute: **reference_text** value: *value* Optional
attribute: **url** value: *value* Optional

- **End Bibliographic_Reference**

- **Observing_System - Occurs 1 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: *value* Optional
attribute: **name** value: *value* Optional
attribute: **description** value: *value*

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: *value* Optional

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- **End Reference_Entry_Product**

- **End Cross_Reference_Area_Product**

- **File_Area_SPICE_Kernel_Binary Occurs 1 Times**

description: **The File Area SPICE Kernel Text class describes a file that contains a SPICE Kernel Binary object.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** Optional

attribute: **comment** value: **value** Optional

attribute: **creation_date_time** value: **value** Optional

attribute: **file_name** value: **value**

attribute: **file_size** value: **value** Optional

attribute: **maximum_record_bytes** value: **value** Optional

attribute: **md5_checksum** value: **value** Optional

attribute: **records** value: **value** Optional

- **End File**

- **SPICE_Kernel_Binary Occurs 1 Times**

description: **The SPICE Kernel class describes a SPICE file.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **BINARY**

attribute: **external_standard_id** value: **SPICE**

attribute: **kernel_type** value: **CK, DBK, DSK, EK, PCK, SPK**

attribute: **offset** value: **value**

- **End SPICE_Kernel_Binary**

- End File_Area_SPICE_Kernel_Binary
 - End Product_SPICE_Kernel_Binary
-

- **Product_SPICE_Kernel_Text**

description: The Product SPICE Kernel Text class defines a text SPICE product.
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: The Data Standards class indicates the controlling standards for this product.
role: **Concrete**
attribute: **dd_version_id** value: *value*
attribute: **std_ref_version_id** value: *value*

- End Data_Standards

- **Identification_Area Occurs 1 Times**

description: The identification area consists of attributes that identify and name an object.
role: **Concrete**
attribute: **logical_identifier** value: *value*
attribute: **version_id** value: *value*
attribute: **product_class** value: *value*
attribute: **title** value: *value*
attribute: **alternate_title** value: *value* Optional
attribute: **alternate_id** value: *value* Optional
attribute: **last_modification_date_time** value: *value* Optional
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.

role: **Concrete**
attribute: **target_name** value: *value* Optional
attribute: **instrument_name** value: *value* Optional
attribute: **instrument_host_name** value: *value* Optional
attribute: **keywords** value: *value* Optional
attribute: **full_name** value: *value* Optional
attribute: **investigation_name** value: *value* Optional
attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: The Name_Resolution class provides both primary and alternate names of an object.
role: **Concrete**
attribute: **class_name** value: *value*
attribute: **name** value: *value*
attribute: **lidvid_reference** value: *value* Optional
attribute: **primary_name** value: *value*
attribute: **role** value: ALTERNATE, PRIMARY

- End Name_Resolution

- End Subject_Area

- End Identification_Area

- **Cross_Reference_Area_Product Occurs 1 Times**

description: The cross reference product area provides references to associated registered products.
role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: The Bibliographic Reference class provides references to documents that are not registered with the PDS.

role: **Concrete**
attribute: **name** value: **value** ^{Optional}
attribute: **description** value: **value** ^{Optional}
attribute: **doi** value: **value** ^{Optional}
attribute: **reference_text** value: **value** ^{Optional}
attribute: **url** value: **value** ^{Optional}

- End Bibliographic_Reference

- **Observing_System - Occurs 1 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**
role: **Concrete**
attribute: **local_identifier** value: **value** ^{Optional}
attribute: **name** value: **value** ^{Optional}
attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** ^{Optional}

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- End Reference_Entry_Observing_System_Component

- End Observing_System_Component

- End Observing_System

- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- End Reference_Entry_Product

- End Cross_Reference_Area_Product

- **File_Area_SPICE_Kernel_Text Occurs 1 Times**

description: **The File Area SPICE Kernel Text class describes a file that contains a SPICE Kernel Text object.**
role: **Concrete**

- File Occurs 1 Times

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** ^{Optional}

attribute: **comment** value: **value** ^{Optional}

attribute: **creation_date_time** value: **value** ^{Optional}

attribute: **file_name** value: **value**

attribute: **file_size** value: **value** ^{Optional}

attribute: **maximum_record_bytes** value: **value** ^{Optional}

attribute: **md5_checksum** value: **value** ^{Optional}

attribute: **records** value: **value** ^{Optional}

- End File

- **SPICE_Kernel_Text Occurs 1 Times**

description: **The SPICE Kernel class describes a SPICE file.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **SPICE**

attribute: **kernel_type** value: **EK, FK, IK, LSK, MK, PCK, SCLK**

attribute: **offset** value: **value**

- End SPICE_Kernel_Text

- End File_Area_SPICE_Kernel_Text

- End Product_SPICE_Kernel_Text
-

- **Product_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**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: **value**

attribute: **std_ref_version_id** value: **value**

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: **value**

attribute: **version_id** value: **value**

attribute: **product_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate_title** value: **value** ^{Optional}

attribute: **alternate_id** value: **value** ^{Optional}

attribute: **last_modification_date_time** value: **value** ^{Optional}

attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: **value** ^{Optional}

attribute: **instrument_name** value: **value** ^{Optional}

attribute: **instrument_host_name** value: **value** ^{Optional}

attribute: **keywords** value: **value** ^{Optional}

attribute: **full_name** value: **value** Optional
attribute: **investigation_name** value: **value** Optional
attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: **value**

attribute: **name** value: **value**

attribute: **lidvid_reference** value: **value** Optional

attribute: **primary_name** value: **value**

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **Observing_System - Occurs 1 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination,**

**Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope,
Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- End Reference_Entry_Observing_System_Component
- End Observing_System_Component
- End Observing_System

- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- End Reference_Entry_Product
- End Cross_Reference_Area_Product

- **Observation_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission_Area - Occurs 0 to * Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- End Mission_Area

- **Node_Area - Occurs 0 to * Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- End Node_Area

attribute: **comment** value: **value** Optional

attribute: **start_date_time** value: **value**

attribute: **stop_date_time** value: **value**

attribute: **local_mean_solar_time** value: **value** Optional

attribute: **local_true_solar_time** value: **value** Optional

attribute: **mission_phase_name** value: **value** Optional

attribute: **orbit_number** value: **value** Optional

attribute: **planet_day_number** value: **value** Optional

attribute: **solar_longitude** value: **value** Optional

attribute: **spacecraft_clock_count_partition** value: **value** Optional

attribute: **spacecraft_clock_start_count** value: **value** Optional

attribute: **spacecraft_clock_stop_count** value: **value** Optional

- **Geometry_New - Occurs 0 to * Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local_identifier** value: **value**

- **Vector_New - Occurs 0 to * Times**

description: **The Vector class provides the components of either a velocity or position vector.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **name** value: **value**

attribute: **description** value: *value*
attribute: **type** value: **POSITION, VELOCITY**
attribute: **vector_components** value: *value*

- **Vector_Component - Occurs 1 to * Times**

description: **The Vector_Component class provides a component of a vector.**
role: **Concrete**
attribute: **name** value: *value* Optional
attribute: **description** value: *value* Optional
attribute: **sequence_number** value: *value*
attribute: **value** value: *value*

- **End Vector_Component**

- **End Vector_New**

- **End Geometry_New**

- **End Observation_Area**

- **File_Area_Observational - Occurs 1 to * Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged_data_objects contained within the file.**
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**
role: **Concrete**
attribute: **local_identifier** value: *value* Optional
attribute: **comment** value: *value* Optional
attribute: **creation_date_time** value: *value* Optional
attribute: **file_name** value: *value*
attribute: **file_size** value: *value* Optional
attribute: **maximum_record_bytes** value: *value* Optional
attribute: **md5_checksum** value: *value* Optional
attribute: **records** value: *value* Optional

- **End File**

- **Array_2D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Image class is an extension of array_base and defines a two dimensional image.**
role: **Concrete**
attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* Optional
attribute: **axes** value: **2**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**
role: **Concrete**
attribute: **name** value: *value*
attribute: **elements** 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 Array_Axis**

- **Image_2D_Display - Occurs 0 to 1 Times**

description: **The Image_2D_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**

attribute: **first_line** value: **value** ^{Optional}

attribute: **first_line_sample** value: **value** ^{Optional}

attribute: **line_display_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample_display_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image_2D_Display**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **Object_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **maximum** value: **value** ^{Optional}

attribute: **md5_checksum** value: **value** ^{Optional}

attribute: **mean** value: **value** ^{Optional}

attribute: **median** value: **value** ^{Optional}

attribute: **minimum** value: **value** ^{Optional}

attribute: **sample_bit_mask** value: **value** ^{Optional}

attribute: **standard_deviation** value: **value** ^{Optional}

- **End Object_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** ^{Optional}

attribute: **invalid_constant** value: **value** ^{Optional}

attribute: **missing_constant** value: **value** ^{Optional}

attribute: **not_applicable_constant** value: **value** ^{Optional}

attribute: **saturated_constant** value: **value** ^{Optional}

attribute: **unknown_constant** value: **value** ^{Optional}

- **End Special_Constants**

- **End Array_2D_Image**

- **Array_2D_Map - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Map class is an extension of array_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_2D_Map**

- **Array_2D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Spectrum class is an extension of array_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_2D_Spectrum
- **Array_3D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Image class is an extension of array_base and defines a three dimensional image.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Image
- **Array_3D_Movie - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Movie class is an extension of array_base and defines a movie as a set of two dimensional images in a time series.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: **value**

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_3D_Movie**

- **Array_3D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **3**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Spectrum
- **Header - Occurs 0 to * Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **name** value: *value* ^{Optional}

attribute: **description** value: *value* ^{Optional}

attribute: **bytes** value: *value*

attribute: **encoding_type** value: CHARACTER

attribute: **external_standard_id** value: FITS, ISIS, ODL, VICAR

attribute: **offset** value: *value*

- End Header
- **Stream_Delimited - Occurs 0 to * Times**

description: **The Stream Delimited class defines a simple spreadsheet.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: CHARACTER

attribute: **external_standard_id** value: CSV, OTHER

attribute: **field_delimiter** value: 0x09, 0x2C, 0x3B, 0x7C

attribute: **fields** value: *value*

attribute: **maximum_record_length** value: *value*

attribute: **offset** value: *value*

attribute: **record_delimiter** value: 0x0A, 0x0D, 0x0D_0x0A

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: **name** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **field_number** value: **value** ^{Optional}

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** ^{Optional}

attribute: **minimum_scaled_value** value: **value** ^{Optional}

attribute: **maximum_scaled_value** value: **value** ^{Optional}

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** value: **value** ^{Optional}

attribute: **unit** value: **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}

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **maximum** value: **value** ^{Optional}

attribute: **mean** value: **value** ^{Optional}

attribute: **median** value: **value** ^{Optional}

attribute: **minimum** value: **value** ^{Optional}

attribute: **sample_bit_mask** value: **value** ^{Optional}

attribute: **standard_deviation** value: **value** ^{Optional}

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** ^{Optional}

attribute: **invalid_constant** value: **value** ^{Optional}

attribute: **missing_constant** value: **value** ^{Optional}

attribute: **not_applicable_constant** value: **value** ^{Optional}

attribute: **saturated_constant** value: **value** ^{Optional}

attribute: **unknown_constant** value: **value** ^{Optional}

- **End Special_Constants**

- **End Stream_Delimited_Field**

- **End Stream_Delimited_Field_Sequence**

- **End Stream_Delimited_Grouped_Sequence**

- **End Stream_Delimited_Record**

- **End Stream_Delimited**

- **Stream_Text - Occurs 0 to * Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **encoding_type** value: CHARACTER
attribute: **external_standard_id** value: *value*
attribute: **offset** value: *value*

- End Stream_Text

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

description: The Table Binary class is an extension of table base and defines a simple binary table.
role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* Optional
attribute: **encoding_type** value: BINARY
attribute: **fields** value: *value*
attribute: **offset** value: *value*
attribute: **record_bytes** value: *value*
attribute: **records** value: *value*

- **Table_Record_Binary Occurs 1 Times**

description: The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.
role: **Concrete**

- **Table_Binary_Field - Occurs 1 to * Times**

description: The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.

role: **Concrete**

attribute: **name** value: *value*
attribute: **description** value: *value* Optional
attribute: **field_number** value: *value* Optional
attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8
attribute: **field_location** value: *value*
attribute: **field_length** value: *value*
attribute: **field_format** value: *value* Optional
attribute: **minimum_scaled_value** value: *value* Optional
attribute: **maximum_scaled_value** value: *value* Optional
attribute: **scaling_factor** value: *value* Optional
attribute: **value_offset** value: *value* Optional
attribute: **unit** value: 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **description** value: *value* Optional
attribute: **maximum** value: *value* Optional
attribute: **mean** value: *value* Optional
attribute: **median** value: *value* Optional

attribute: **minimum** value: **value** ^{Optional}
attribute: **sample_bit_mask** value: **value** ^{Optional}
attribute: **standard_deviation** value: **value** ^{Optional}

- End Field_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** ^{Optional}
attribute: **invalid_constant** value: **value** ^{Optional}
attribute: **missing_constant** value: **value** ^{Optional}
attribute: **not_applicable_constant** value: **value** ^{Optional}
attribute: **saturated_constant** value: **value** ^{Optional}
attribute: **unknown_constant** value: **value** ^{Optional}

- End Special_Constants

- End Table_Binary_Field

- End Table_Record_Binary

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**
attribute: **last_sampling_parameter_value** value: **value**
attribute: **sampling_parameter_interval** value: **value**
attribute: **sampling_parameter_name** value: **value**
attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC ^{Optional}
attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled

- End Table_Binary

- **Table_Binary_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **encoding_type** value: BINARY
attribute: **fields** value: **value**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**

- **Table_Record_Binary_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**

role: **Concrete**

- **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** ^{Optional}

- **Table_Binary_Field_Sequence - Occurs 1 to * Times**

description: **The Table Binary Field Sequence class is a component of the**

grouped table class. It defines a set of fields or a nested set of fields.
role: **Concrete**

- **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **Bit**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **bit_mask** value: **value** Optional

attribute: **bits** value: **value**

attribute: **scaling_factor** value: **value** Optional

attribute: **start_bit** value: **value**

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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 Table_Binary_Grouped_Bit_Field**

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_File_Name, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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 Table_Binary_Grouped_Field**

- **End Table_Binary_Field_Sequence**

- **End Table_Binary_Grouped_Sequence**

- **End Table_Record_Binary_Grouped**

- **End Table_Binary_Grouped**

- **Table_Character - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: **CHARACTER**

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record_bytes** value: *value*

attribute: **records** value: *value*

- **Table_Record_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**

role: **Concrete**

- **Table_Character_Field - Occurs 1 to * Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_location** value: *value*

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* ^{Optional}

attribute: **minimum_scaled_value** value: *value* ^{Optional}

attribute: **maximum_scaled_value** value: *value* ^{Optional}

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** value: *value* ^{Optional}

attribute: **unit** value: **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}

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **maximum** value: *value* ^{Optional}

attribute: **mean** value: *value* ^{Optional}

attribute: **median** value: *value* ^{Optional}

attribute: **minimum** value: *value* ^{Optional}

attribute: **sample_bit_mask** value: *value* ^{Optional}

attribute: **standard_deviation** value: *value* ^{Optional}

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: *value* ^{Optional}

attribute: **invalid_constant** value: *value* ^{Optional}

attribute: **missing_constant** value: **value** Optional
attribute: **not_applicable_constant** value: **value** Optional
attribute: **saturated_constant** value: **value** Optional
attribute: **unknown_constant** value: **value** Optional

- End Special_Constants
- End Table_Character_Field
- End Table_Record_Character

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: The **Uniformly_Sampled** class provides parameters for a uniformly sampled table.

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**

attribute: **last_sampling_parameter_value** value: **value**

attribute: **sampling_parameter_interval** value: **value**

attribute: **sampling_parameter_name** value: **value**

attribute: **sampling_parameter_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional

attribute: **sampling_parameter_unit** value: **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**

- End Uniformly_Sampled
- End Table_Character

- **Table_Character_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: The **Table Character Grouped** class is an extension of table base and defines a simple character table that allows repeating groups of fields.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Character_Grouped Occurs 1 Times**

description: The **Table Record Character Grouped** class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.

role: **Concrete**

- **Table_Character_Grouped_Sequence - Occurs 1 to * Times**

description: The **Table Character Grouped Sequence** class is a component of the grouped table class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Table_Character_Field_Sequence - Occurs 1 to * Times**

description: The **Table Character Field Sequence** class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Table_Character_Grouped_Field - Occurs 0 to * Times**

description: The **Table Character Grouped Field** class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI,**

ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC,
 ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name,
 ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID,
 ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer,
 ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real,
 ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved,
 ASCII_Text_Preserved, ASCII_Time, ASCII_VID
 attribute: **field_location** value: *value*
 attribute: **field_length** value: *value*
 attribute: **field_format** value: *value* Optional
 attribute: **minimum_scaled_value** value: *value* Optional
 attribute: **maximum_scaled_value** value: *value* Optional
 attribute: **scaling_factor** value: *value* Optional
 attribute: **value_offset** value: *value* Optional
 attribute: **unit** value: **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 Table_Character_Grouped_Field
 - End Table_Character_Field_Sequence
 - End Table_Character_Grouped_Sequence
 - End Table_Record_Character_Grouped
 - End Table_Character_Grouped
 - End File_Area_Observational
 - End Product_Stream_Delimited
-

• Product_Table_Binary

description: **The Product Table Binary class defines a product consisting of at least one Binary table and other associated data objects and metadata.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: **value** Optional
attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: **value**

attribute: **name** value: **value**

attribute: **lidvid_reference** value: **value** Optional

attribute: **primary_name** value: **value**

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **Observing_System - Occurs 1 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- End Reference_Entry_Observing_System_Component
- End Observing_System_Component
- End Observing_System

- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- End Reference_Entry_Product
- End Cross_Reference_Area_Product

- **Observation_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission_Area - Occurs 0 to * Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- End Mission_Area

- **Node_Area - Occurs 0 to * Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- End Node_Area

attribute: **comment** value: **value** Optional

attribute: **start_date_time** value: **value**

attribute: **stop_date_time** value: **value**

attribute: **local_mean_solar_time** value: **value** Optional

attribute: **local_true_solar_time** value: **value** Optional

attribute: **mission_phase_name** value: **value** Optional

attribute: **orbit_number** value: **value** Optional

attribute: **planet_day_number** value: **value** Optional

attribute: **solar_longitude** value: **value** Optional

attribute: **spacecraft_clock_count_partition** value: **value** Optional

attribute: **spacecraft_clock_start_count** value: **value** Optional

attribute: **spacecraft_clock_stop_count** value: **value** Optional

- **Geometry_New - Occurs 0 to * Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local_identifier** value: **value**

- **Vector_New - Occurs 0 to * Times**

description: **The Vector class provides the components of either a velocity or position vector.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **name** value: **value**

attribute: **description** value: **value**

attribute: **type** value: **POSITION, VELOCITY**

attribute: **vector_components** value: **value**

- **Vector_Component - Occurs 1 to * Times**

description: **The Vector_Component class provides a component of a vector.**

role: **Concrete**

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **sequence_number** value: **value**

attribute: **value** value: **value**

- **End Vector_Component**

- **End Vector_New**

- **End Geometry_New**

- **End Observation_Area**

- **File_Area_Observational - Occurs 1 to * Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged_data_objects contained within the file.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** ^{Optional}

attribute: **comment** value: **value** ^{Optional}

attribute: **creation_date_time** value: **value** ^{Optional}

attribute: **file_name** value: **value**

attribute: **file_size** value: **value** ^{Optional}

attribute: **maximum_record_bytes** value: **value** ^{Optional}

attribute: **md5_checksum** value: **value** ^{Optional}

attribute: **records** value: **value** ^{Optional}

- **End File**

- **Array_2D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Image class is an extension of array_base and defines a two dimensional image.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Image_2D_Display - Occurs 0 to 1 Times**

description: **The Image_2D_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**

attribute: **first_line** value: **value** ^{Optional}

attribute: **first_line_sample** value: **value** ^{Optional}

attribute: **line_display_direction** value: DOWN, LEFT, RIGHT, UP
attribute: **sample_display_direction** value: DOWN, LEFT, RIGHT, UP

- End Image_2D_Display

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: Concrete

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element

- **Object_Statistics - Occurs 0 to 1 Times**

description: The Object Statistics class provides a set of values that provide metrics about the object.

role: Concrete

attribute: **local_identifier** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **maximum** value: *value* ^{Optional}

attribute: **md5_checksum** value: *value* ^{Optional}

attribute: **mean** value: *value* ^{Optional}

attribute: **median** value: *value* ^{Optional}

attribute: **minimum** value: *value* ^{Optional}

attribute: **sample_bit_mask** value: *value* ^{Optional}

attribute: **standard_deviation** value: *value* ^{Optional}

- End Object_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: Concrete

attribute: **error_constant** value: *value* ^{Optional}

attribute: **invalid_constant** value: *value* ^{Optional}

attribute: **missing_constant** value: *value* ^{Optional}

attribute: **not_applicable_constant** value: *value* ^{Optional}

attribute: **saturated_constant** value: *value* ^{Optional}

attribute: **unknown_constant** value: *value* ^{Optional}

- End Special_Constants

- End Array_2D_Image

- **Array_2D_Map - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Map class is an extension of array_base and defines a two dimensional map.

role: Concrete

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 2

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element

- End Array_2D_Map

- **Array_2D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Spectrum class is an extension of array_base and defines a two dimensional spectrum.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 2

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_2D_Spectrum
- **Array_3D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Image class is an extension of array_base and defines a three dimensional image.

role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **axes** value: **3**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: **value**

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**
attribute: **name** value: **value**
attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**
attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8
attribute: **scaling_factor** value: **value** ^{Optional}
attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Image
- **Array_3D_Movie - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Movie class is an extension of array_base and defines a movie as a set of two dimensional images in a time series.

role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **axes** value: **3**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: **value**

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Movie
- **Array_3D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**
- **End Array_3D_Spectrum**

- **Header - Occurs 0 to * Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **bytes** value: **value**

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **FITS, ISIS, ODL, VICAR**

attribute: **offset** value: **value**

- **End Header**

- **Stream_Delimited - Occurs 0 to * Times**

description: **The Stream Delimited class defines a simple spreadsheet.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **CSV, OTHER**

attribute: **field_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**

attribute: **fields** value: **value**

attribute: **maximum_record_length** value: **value**

attribute: **offset** value: **value**

attribute: **record_delimiter** value: **0x0A, 0x0D, 0x0D_0x0A**

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: **name** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **field_number** value: **value** ^{Optional}

attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Stream_Delimited_Field**

- **End Stream_Delimited_Field_Sequence**

- **End Stream_Delimited_Grouped_Sequence**

- **End Stream_Delimited_Record**

- **End Stream_Delimited**

- **Stream_Text - Occurs 0 to * Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: CHARACTER

attribute: **external_standard_id** value: **value**

attribute: **offset** value: **value**

- **End Stream_Text**

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

description: The Table Binary class is an extension of table base and defines a simple binary table.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **encoding_type** value: **BINARY**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Binary Occurs 1 Times**

description: The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.

role: **Concrete**

- **Table_Binary_Field - Occurs 1 to * Times**

description: The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **field_number** value: **value** ^{Optional}

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** ^{Optional}

attribute: **minimum_scaled_value** value: **value** ^{Optional}

attribute: **maximum_scaled_value** value: **value** ^{Optional}

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** value: **value** ^{Optional}

attribute: **unit** value: **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}

- **Field_Statistics - Occurs 0 to 1 Times**

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **maximum** value: **value** ^{Optional}

attribute: **mean** value: **value** ^{Optional}

attribute: **median** value: **value** ^{Optional}

attribute: **minimum** value: **value** ^{Optional}

attribute: **sample_bit_mask** value: **value** ^{Optional}

attribute: **standard_deviation** value: **value** ^{Optional}

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- End Special_Constants
- End Table_Binary_Field
- End Table_Record_Binary

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**

attribute: **last_sampling_parameter_value** value: **value**

attribute: **sampling_parameter_interval** value: **value**

attribute: **sampling_parameter_name** value: **value**

attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional

attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled
- End Table_Binary

- **Table_Binary_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: BINARY

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Binary_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**

role: **Concrete**

- **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Table_Binary_Field_Sequence - Occurs 1 to * Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**
 attribute: **name** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **field_number** value: **value** Optional
 attribute: **data_type** value: **Bit**
 attribute: **field_location** value: **value**
 attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **bit_mask** value: **value** Optional
 attribute: **bits** value: **value**
 attribute: **scaling_factor** value: **value** Optional
 attribute: **start_bit** value: **value**
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: **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 Table_Binary_Grouped_Bit_Field**

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**
 attribute: **name** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **field_number** value: **value** Optional
 attribute: **data_type** value: **ASCII_File_Name, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**
 attribute: **field_location** value: **value**
 attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: **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 Table_Binary_Grouped_Field**

- **End Table_Binary_Field_Sequence**

- **End Table_Binary_Grouped_Sequence**

- **End Table_Record_Binary_Grouped**

- **End Table_Binary_Grouped**

- **Table_Character - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**

role: **Concrete**
 attribute: **local_identifier** value: **value**
 attribute: **comment** value: **value** Optional
 attribute: **encoding_type** value: **CHARACTER**
 attribute: **fields** value: **value**

attribute: **offset** value: *value*
attribute: **record_bytes** value: *value*
attribute: **records** value: *value*

- **Table_Record_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**
role: **Concrete**

- **Table_Character_Field - Occurs 1 to * Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* Optional

attribute: **field_number** value: *value* Optional

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_location** value: *value*

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* Optional

attribute: **minimum_scaled_value** value: *value* Optional

attribute: **maximum_scaled_value** value: *value* Optional

attribute: **scaling_factor** value: *value* Optional

attribute: **value_offset** value: *value* Optional

attribute: **unit** value: **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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **description** value: *value* Optional

attribute: **maximum** value: *value* Optional

attribute: **mean** value: *value* Optional

attribute: **median** value: *value* Optional

attribute: **minimum** value: *value* Optional

attribute: **sample_bit_mask** value: *value* Optional

attribute: **standard_deviation** value: *value* Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: *value* Optional

attribute: **invalid_constant** value: *value* Optional

attribute: **missing_constant** value: *value* Optional

attribute: **not_applicable_constant** value: *value* Optional

attribute: **saturated_constant** value: *value* Optional

attribute: **unknown_constant** value: *value* Optional

- **End Special_Constants**

- End Table_Character_Field
- End Table_Record_Character

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: The Uniformly_Sampled class provides parameters for a uniformly sampled table.

role: Concrete

attribute: **first_sampling_parameter_value** value: *value*

attribute: **last_sampling_parameter_value** value: *value*

attribute: **sampling_parameter_interval** value: *value*

attribute: **sampling_parameter_name** value: *value*

attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC ^{Optional}

attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled
- End Table_Character

- **Table_Character_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.

role: Concrete

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: CHARACTER

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record_bytes** value: *value*

attribute: **records** value: *value*

- **Table_Record_Character_Grouped Occurs 1 Times**

description: The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.

role: Concrete

- **Table_Character_Grouped_Sequence - Occurs 1 to * Times**

description: The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.

role: Concrete

attribute: **repetitions** value: *value* ^{Optional}

- **Table_Character_Field_Sequence - Occurs 1 to * Times**

description: The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: Concrete

- **Table_Character_Grouped_Field - Occurs 0 to * Times**

description: The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.

role: Concrete

attribute: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID

attribute: **field_location** value: **value**
 attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: **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 Table_Character_Grouped_Field
 - End Table_Character_Field_Sequence
 - End Table_Character_Grouped_Sequence
 - End Table_Record_Character_Grouped
 - End Table_Character_Grouped
 - End File_Area_Observational
-

- **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**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
 role: **Concrete**
 attribute: **dd_version_id** value: **value**
 attribute: **std_ref_version_id** value: **value**

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**
 role: **Concrete**
 attribute: **logical_identifier** value: **value**
 attribute: **version_id** value: **value**
 attribute: **product_class** value: **value**
 attribute: **title** value: **value**
 attribute: **alternate_title** value: **value** Optional
 attribute: **alternate_id** value: **value** Optional
 attribute: **last_modification_date_time** value: **value** Optional
 attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
 role: **Concrete**

attribute: **target_name** value: **value** Optional
 attribute: **instrument_name** value: **value** Optional
 attribute: **instrument_host_name** value: **value** Optional
 attribute: **keywords** value: **value** Optional
 attribute: **full_name** value: **value** Optional
 attribute: **investigation_name** value: **value** Optional
 attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**
attribute: **class_name** value: **value**
attribute: **name** value: **value**
attribute: **lidvid_reference** value: **value** Optional
attribute: **primary_name** value: **value**
attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution
- End Subject_Area
- End Identification_Area_Product
- **Cross_Reference_Area_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**
role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**
attribute: **name** value: **value** Optional
attribute: **description** value: **value** Optional
attribute: **doi** value: **value** Optional
attribute: **reference_text** value: **value** Optional
attribute: **url** value: **value** Optional

- End Bibliographic_Reference
- **Observing_System - Occurs 1 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**
role: **Concrete**

attribute: **local_identifier** value: **value** Optional
attribute: **name** value: **value** Optional
attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**
attribute: **comment** value: **value** Optional
attribute: **name** value: **value**
attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**
attribute: **lid_reference** value: **value** Optional
attribute: **lidvid_reference** value: **value** Optional
attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- End Reference_Entry_Observing_System_Component
- End Observing_System_Component
- End Observing_System
- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- **End Reference_Entry_Product**
- **End Cross_Reference_Area_Product**

- **Observation_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission_Area - Occurs 0 to * Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission_Area**

- **Node_Area - Occurs 0 to * Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node_Area**

attribute: **comment** value: **value** ^{Optional}

attribute: **start_date_time** value: **value**

attribute: **stop_date_time** value: **value**

attribute: **local_mean_solar_time** value: **value** ^{Optional}

attribute: **local_true_solar_time** value: **value** ^{Optional}

attribute: **mission_phase_name** value: **value** ^{Optional}

attribute: **orbit_number** value: **value** ^{Optional}

attribute: **planet_day_number** value: **value** ^{Optional}

attribute: **solar_longitude** value: **value** ^{Optional}

attribute: **spacecraft_clock_count_partition** value: **value** ^{Optional}

attribute: **spacecraft_clock_start_count** value: **value** ^{Optional}

attribute: **spacecraft_clock_stop_count** value: **value** ^{Optional}

- **Geometry_New - Occurs 0 to * Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local_identifier** value: **value**

- **Vector_New - Occurs 0 to * Times**

description: **The Vector class provides the components of either a velocity or position vector.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **name** value: **value**

attribute: **description** value: **value**

attribute: **type** value: **POSITION, VELOCITY**

attribute: **vector_components** value: **value**

- **Vector_Component - Occurs 1 to * Times**

description: **The Vector_Component class provides a component of a vector.**

role: **Concrete**

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **sequence_number** value: *value*
attribute: **value** value: *value*

- End Vector_Component
- End Vector_New
- End Geometry_New
- End Observation_Area
- **File_Area_Observational - Occurs 1 to * Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged_data_objects contained within the file.**
role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**
role: **Concrete**

attribute: **local_identifier** value: *value* Optional
attribute: **comment** value: *value* Optional
attribute: **creation_date_time** value: *value* Optional
attribute: **file_name** value: *value*
attribute: **file_size** value: *value* Optional
attribute: **maximum_record_bytes** value: *value* Optional
attribute: **md5_checksum** value: *value* Optional
attribute: **records** value: *value* Optional

- End File
- **Array_2D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Image class is an extension of array_base and defines a two dimensional image.**

role: **Concrete**
attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* Optional
attribute: **axes** value: **2**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**
attribute: **name** value: *value*
attribute: **elements** 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 Array_Axis
- **Image_2D_Display - Occurs 0 to 1 Times**

description: **The Image_2D_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**
attribute: **first_line** value: *value* Optional
attribute: **first_line_sample** value: *value* Optional
attribute: **line_display_direction** value: **DOWN, LEFT, RIGHT, UP**
attribute: **sample_display_direction** value: **DOWN, LEFT, RIGHT, UP**

- End Image_2D_Display
- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** 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

- **End Array_Element**

- **Object_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **md5_checksum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Object_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Array_2D_Image**

- **Array_2D_Map - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Map class is an extension of array_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: Concrete

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element

- End Array_2D_Map

- **Array_2D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Spectrum class is an extension of array_base and defines a two dimensional spectrum.

role: Concrete

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 2

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: Concrete

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: Concrete

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_2D_Spectrum
- **Array_3D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Image class is an extension of array_base and defines a three dimensional image.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Image
- **Array_3D_Movie - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Movie class is an extension of array_base and defines a movie as a set of two dimensional images in a time series.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element

- End Array_3D_Movie

- **Array_3D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Spectrum

- **Header - Occurs 0 to * Times**

description: **The Header class describes a data object header.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **bytes** value: *value*

attribute: **encoding_type** value: CHARACTER

attribute: **external_standard_id** value: FITS, ISIS, ODL, VICAR

attribute: **offset** value: *value*

- End Header

- **Stream_Delimited - Occurs 0 to * Times**

description: **The Stream Delimited class defines a simple spreadsheet.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding_type** value: CHARACTER

attribute: **external_standard_id** value: CSV, OTHER

attribute: **field_delimiter** value: 0x09, 0x2C, 0x3B, 0x7C

attribute: **fields** value: *value*

attribute: **maximum_record_length** value: *value*

attribute: **offset** value: *value*

attribute: **record_delimiter** value: 0x0A, 0x0D, 0x0D_0x0A

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: **name** value: *value*

attribute: **description** value: *value* Optional

attribute: **field_number** value: *value* Optional

attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved,

ASCII_Text_Preserved, ASCII_Time, ASCII_VID

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Stream_Delimited_Field**

- **End Stream_Delimited_Field_Sequence**

- **End Stream_Delimited_Grouped_Sequence**

- **End Stream_Delimited_Record**

- **End Stream_Delimited**

- **Stream_Text - Occurs 0 to * Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **value**

attribute: **offset** value: **value**

- **End Stream_Text**

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **BINARY**
attribute: **fields** value: **value**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**

- **Table_Record_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**
role: **Concrete**

- **Table_Binary_Field - Occurs 1 to * Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional
attribute: **saturated_constant** value: **value** Optional
attribute: **unknown_constant** value: **value** Optional

- End Special_Constants
- End Table_Binary_Field
- End Table_Record_Binary

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: The **Uniformly_Sampled** class provides parameters for a uniformly sampled table.

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**

attribute: **last_sampling_parameter_value** value: **value**

attribute: **sampling_parameter_interval** value: **value**

attribute: **sampling_parameter_name** value: **value**

attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional

attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled
- End Table_Binary

- **Table_Binary_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: The **Table Binary Grouped** class is an extension of table base and defines a simple binary table that allows repeating groups of fields.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **BINARY**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Binary_Grouped Occurs 1 Times**

description: The **Table Record Binary Grouped** class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.

role: **Concrete**

- **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

description: The **Table Binary Grouped Sequence** class is a component of the grouped table class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Table_Binary_Field_Sequence - Occurs 1 to * Times**

description: The **Table Binary Field Sequence** class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: The **Table Binary Grouped Bit Field** class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **Bit**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **bit_mask** value: **value** Optional
 attribute: **bits** value: **value**
 attribute: **scaling_factor** value: **value** Optional
 attribute: **start_bit** value: **value**
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: **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 Table_Binary_Grouped_Bit_Field**

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_File_Name, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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 Table_Binary_Grouped_Field**

- **End Table_Binary_Field_Sequence**

- **End Table_Binary_Grouped_Sequence**

- **End Table_Record_Binary_Grouped**

- **End Table_Binary_Grouped**

- **Table_Character - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**
 role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**

role: **Concrete**

- **Table_Character_Field - Occurs 1 to * Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **field_number** value: **value** ^{Optional}

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** ^{Optional}

attribute: **minimum_scaled_value** value: **value** ^{Optional}

attribute: **maximum_scaled_value** value: **value** ^{Optional}

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** value: **value** ^{Optional}

attribute: **unit** value: **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}

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **maximum** value: **value** ^{Optional}

attribute: **mean** value: **value** ^{Optional}

attribute: **median** value: **value** ^{Optional}

attribute: **minimum** value: **value** ^{Optional}

attribute: **sample_bit_mask** value: **value** ^{Optional}

attribute: **standard_deviation** value: **value** ^{Optional}

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** ^{Optional}

attribute: **invalid_constant** value: **value** ^{Optional}

attribute: **missing_constant** value: **value** ^{Optional}

attribute: **not_applicable_constant** value: **value** ^{Optional}

attribute: **saturated_constant** value: **value** ^{Optional}

attribute: **unknown_constant** value: **value** ^{Optional}

- **End Special_Constants**

- **End Table_Character_Field**

- **End Table_Record_Character**

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**

attribute: **last_sampling_parameter_value** value: *value*
attribute: **sampling_parameter_interval** value: *value*
attribute: **sampling_parameter_name** value: *value*
attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC ^{Optional}
attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled
- End Table_Character

- **Table_Character_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.

role: Concrete

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* ^{Optional}
attribute: **encoding_type** value: CHARACTER
attribute: **fields** value: *value*
attribute: **offset** value: *value*
attribute: **record_bytes** value: *value*
attribute: **records** value: *value*

- **Table_Record_Character_Grouped Occurs 1 Times**

description: The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.

role: Concrete

- **Table_Character_Grouped_Sequence - Occurs 1 to * Times**

description: The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.

role: Concrete

attribute: **repetitions** value: *value* ^{Optional}

- **Table_Character_Field_Sequence - Occurs 1 to * Times**

description: The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: Concrete

- **Table_Character_Grouped_Field - Occurs 0 to * Times**

description: The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.

role: Concrete

attribute: **name** value: *value*
attribute: **description** value: *value* ^{Optional}
attribute: **field_number** value: *value* ^{Optional}
attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID
attribute: **field_location** value: *value*
attribute: **field_length** value: *value*
attribute: **field_format** value: *value* ^{Optional}
attribute: **minimum_scaled_value** value: *value* ^{Optional}
attribute: **maximum_scaled_value** value: *value* ^{Optional}
attribute: **scaling_factor** value: *value* ^{Optional}
attribute: **value_offset** value: *value* ^{Optional}
attribute: **unit** value: 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 Table_Character_Grouped_Field
 - End Table_Character_Field_Sequence
 - End Table_Character_Grouped_Sequence
 - End Table_Record_Character_Grouped
 - End Table_Character_Grouped
 - End File_Area_Observational
 - End Product_Table_Binary_Grouped
-

- **Product_Table_Character**

description: **The Product Table Character class defines a product consisting of at least one character table and other associated data objects and metadata.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: **value**

attribute: **std_ref_version_id** value: **value**

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: **value**

attribute: **version_id** value: **value**

attribute: **product_class** value: **value**

attribute: **title** value: **value**

attribute: **alternate_title** value: **value** ^{Optional}

attribute: **alternate_id** value: **value** ^{Optional}

attribute: **last_modification_date_time** value: **value** ^{Optional}

attribute: **type** value: **value**

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: **value** ^{Optional}

attribute: **instrument_name** value: **value** ^{Optional}

attribute: **instrument_host_name** value: **value** ^{Optional}

attribute: **keywords** value: **value** ^{Optional}

attribute: **full_name** value: **value** ^{Optional}

attribute: **investigation_name** value: **value** ^{Optional}

attribute: **observing_system_name** value: **value** ^{Optional}

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: **value**

attribute: **name** value: **value**

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **primary_name** value: **value**

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- End Identification_Area_Product

- **Cross_Reference_Area_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**
 role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **doi** value: **value** ^{Optional}

attribute: **reference_text** value: **value** ^{Optional}

attribute: **url** value: **value** ^{Optional}

- End Bibliographic_Reference

- **Observing_System - Occurs 1 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: **value** ^{Optional}

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** ^{Optional}

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- End Reference_Entry_Observing_System_Component

- End Observing_System_Component

- End Observing_System

- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse,**

has_calibration, has_document, has_geometry, has_instrument, has_instrument_host,
has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product,
has_publication, has_resource, has_spice, has_target, has_thumbnail

- End Reference_Entry_Product
- End Cross_Reference_Area_Product

- **Observation_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission_Area - Occurs 0 to * Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- End Mission_Area

- **Node_Area - Occurs 0 to * Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- End Node_Area

attribute: **comment** value: **value** Optional

attribute: **start_date_time** value: **value**

attribute: **stop_date_time** value: **value**

attribute: **local_mean_solar_time** value: **value** Optional

attribute: **local_true_solar_time** value: **value** Optional

attribute: **mission_phase_name** value: **value** Optional

attribute: **orbit_number** value: **value** Optional

attribute: **planet_day_number** value: **value** Optional

attribute: **solar_longitude** value: **value** Optional

attribute: **spacecraft_clock_count_partition** value: **value** Optional

attribute: **spacecraft_clock_start_count** value: **value** Optional

attribute: **spacecraft_clock_stop_count** value: **value** Optional

- **Geometry_New - Occurs 0 to * Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local_identifier** value: **value**

- **Vector_New - Occurs 0 to * Times**

description: **The Vector class provides the components of either a velocity or position vector.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **name** value: **value**

attribute: **description** value: **value**

attribute: **type** value: **POSITION, VELOCITY**

attribute: **vector_components** value: **value**

- **Vector_Component - Occurs 1 to * Times**

description: **The Vector_Component class provides a component of a vector.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **sequence_number** value: **value**

attribute: **value** value: **value**

- End Vector_Component

- End Vector_New

- End Geometry_New

- End Observation_Area

- **File_Area_Observational - Occurs 1 to * Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged_data_objects contained within the file.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** ^{Optional}

attribute: **comment** value: **value** ^{Optional}

attribute: **creation_date_time** value: **value** ^{Optional}

attribute: **file_name** value: **value**

attribute: **file_size** value: **value** ^{Optional}

attribute: **maximum_record_bytes** value: **value** ^{Optional}

attribute: **md5_checksum** value: **value** ^{Optional}

attribute: **records** value: **value** ^{Optional}

- **End File**

- **Array_2D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Image class is an extension of array_base and defines a two dimensional image.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Image_2D_Display - Occurs 0 to 1 Times**

description: **The Image_2D_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**

attribute: **first_line** value: **value** ^{Optional}

attribute: **first_line_sample** value: **value** ^{Optional}

attribute: **line_display_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample_display_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image_2D_Display**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8,**

UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- End Array_Element

- **Object_Statistics - Occurs 0 to 1 Times**

description: The Object Statistics class provides a set of values that provide metrics about the object.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **maximum** value: **value** ^{Optional}

attribute: **md5_checksum** value: **value** ^{Optional}

attribute: **mean** value: **value** ^{Optional}

attribute: **median** value: **value** ^{Optional}

attribute: **minimum** value: **value** ^{Optional}

attribute: **sample_bit_mask** value: **value** ^{Optional}

attribute: **standard_deviation** value: **value** ^{Optional}

- End Object_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error_constant** value: **value** ^{Optional}

attribute: **invalid_constant** value: **value** ^{Optional}

attribute: **missing_constant** value: **value** ^{Optional}

attribute: **not_applicable_constant** value: **value** ^{Optional}

attribute: **saturated_constant** value: **value** ^{Optional}

attribute: **unknown_constant** value: **value** ^{Optional}

- End Special_Constants

- End Array_2D_Image

- **Array_2D_Map - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Map class is an extension of array_base and defines a two dimensional map.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: 2

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_2D_Map**

- **Array_2D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Spectrum class is an extension of array_base and defines a two dimensional spectrum.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 2

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_2D_Spectrum**

- **Array_3D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Image class is an extension of array_base and defines a three dimensional image.

role: **Concrete**
attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* ^{Optional}
attribute: **axes** value: 3
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_3D_Image**

- **Array_3D_Movie - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Movie class is an extension of array_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_3D_Movie**

- **Array_3D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **End Array_3D_Spectrum**

- **Header - Occurs 0 to * Times**

description: The Header class describes a data object header.

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **name** value: **value** ^{Optional}
attribute: **description** value: **value** ^{Optional}
attribute: **bytes** value: **value**
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **FITS, ISIS, ODL, VICAR**
attribute: **offset** value: **value**

- **End Header**

- **Stream_Delimited - Occurs 0 to * Times**

description: **The Stream Delimited class defines a simple spreadsheet.**
role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **CSV, OTHER**
attribute: **field_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**
attribute: **fields** value: **value**
attribute: **maximum_record_length** value: **value**
attribute: **offset** value: **value**
attribute: **record_delimiter** value: **0x0A, 0x0D, 0x0D_0x0A**
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: **name** value: **value**
attribute: **description** value: **value** ^{Optional}
attribute: **field_number** value: **value** ^{Optional}
attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** ^{Optional}
attribute: **minimum_scaled_value** value: **value** ^{Optional}
attribute: **maximum_scaled_value** value: **value** ^{Optional}
attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** value: **value** ^{Optional}
attribute: **unit** value: **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}

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **description** value: **value** ^{Optional}
attribute: **maximum** value: **value** ^{Optional}
attribute: **mean** value: **value** ^{Optional}
attribute: **median** value: **value** ^{Optional}
attribute: **minimum** value: **value** ^{Optional}
attribute: **sample_bit_mask** value: **value** ^{Optional}
attribute: **standard_deviation** value: **value** ^{Optional}

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** ^{Optional}
attribute: **invalid_constant** value: **value** ^{Optional}
attribute: **missing_constant** value: **value** ^{Optional}
attribute: **not_applicable_constant** value: **value** ^{Optional}
attribute: **saturated_constant** value: **value** ^{Optional}
attribute: **unknown_constant** value: **value** ^{Optional}

- **End Special_Constants**

- **End Stream_Delimited_Field**

- **End Stream_Delimited_Field_Sequence**

- **End Stream_Delimited_Grouped_Sequence**

- **End Stream_Delimited_Record**

- **End Stream_Delimited**

- **Stream_Text - Occurs 0 to * Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **value**
attribute: **offset** value: **value**

- **End Stream_Text**

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **encoding_type** value: **BINARY**
attribute: **fields** value: **value**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**

- **Table_Record_Binary Occurs 1 Times**

description: The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.
role: Concrete

- **Table_Binary_Field - Occurs 1 to * Times**

description: The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.
role: Concrete

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: Concrete

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: Concrete

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Table_Binary_Field**

- **End Table_Record_Binary**

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: The **Uniformly_Sampled** class provides parameters for a uniformly sampled table.

role: **Concrete**

attribute: **first_sampling_parameter_value** value: *value*

attribute: **last_sampling_parameter_value** value: *value*

attribute: **sampling_parameter_interval** value: *value*

attribute: **sampling_parameter_name** value: *value*

attribute: **sampling_parameter_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional

attribute: **sampling_parameter_unit** value: **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**

- **End Uniformly_Sampled**

- **End Table_Binary**

- **Table_Binary_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: The **Table Binary Grouped** class is an extension of table base and defines a simple binary table that allows repeating groups of fields.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding_type** value: **BINARY**

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record_bytes** value: *value*

attribute: **records** value: *value*

- **Table_Record_Binary_Grouped Occurs 1 Times**

description: The **Table Record Binary Grouped** class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.

role: **Concrete**

- **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

description: The **Table Binary Grouped Sequence** class is a component of the grouped table class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: *value* Optional

- **Table_Binary_Field_Sequence - Occurs 1 to * Times**

description: The **Table Binary Field Sequence** class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: The **Table Binary Grouped Bit Field** class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* Optional

attribute: **field_number** value: *value* Optional

attribute: **data_type** value: **Bit**

attribute: **field_location** value: *value*

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* Optional

attribute: **minimum_scaled_value** value: *value* Optional

attribute: **maximum_scaled_value** value: *value* Optional

attribute: **bit_mask** value: *value* Optional

attribute: **bits** value: *value*

attribute: **scaling_factor** value: *value* Optional

attribute: **start_bit** value: **value**
attribute: **value_offset** value: **value** Optional
attribute: **unit** value: **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 Table_Binary_Grouped_Bit_Field**

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_File_Name, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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 Table_Binary_Grouped_Field**

- **End Table_Binary_Field_Sequence**

- **End Table_Binary_Grouped_Sequence**

- **End Table_Record_Binary_Grouped**

- **End Table_Binary_Grouped**

- **Table_Character - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character class is an extension of table base and defines a simple character table.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Character Occurs 1 Times**

description: **The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.**

role: **Concrete**

- **Table_Character_Field - Occurs 1 to * Times**

description: **The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.**

role: **Concrete**

attribute: **name** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **field_number** value: **value** Optional
 attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID
 attribute: **field_location** value: **value**
 attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: 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, 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local_identifier** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **maximum** value: **value** Optional
 attribute: **mean** value: **value** Optional
 attribute: **median** value: **value** Optional
 attribute: **minimum** value: **value** Optional
 attribute: **sample_bit_mask** value: **value** Optional
 attribute: **standard_deviation** value: **value** Optional

- End Field_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error_constant** value: **value** Optional
 attribute: **invalid_constant** value: **value** Optional
 attribute: **missing_constant** value: **value** Optional
 attribute: **not_applicable_constant** value: **value** Optional
 attribute: **saturated_constant** value: **value** Optional
 attribute: **unknown_constant** value: **value** Optional

- End Special_Constants

- End Table_Character_Field

- End Table_Record_Character

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: The Uniformly_Sampled class provides parameters for a uniformly sampled table.

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**
 attribute: **last_sampling_parameter_value** value: **value**
 attribute: **sampling_parameter_interval** value: **value**
 attribute: **sampling_parameter_name** value: **value**
 attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional
 attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled
- End Table_Character

- **Table_Character_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **CHARACTER**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Character_Grouped Occurs 1 Times**

description: **The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.**

role: **Concrete**

- **Table_Character_Grouped_Sequence - Occurs 1 to * Times**

description: **The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** Optional

- **Table_Character_Field_Sequence - Occurs 1 to * Times**

description: **The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table_Character_Grouped_Field - Occurs 0 to * Times**

description: **The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional

attribute: **field_number** value: **value** Optional

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_location** value: **value**

attribute: **field_length** value: **value**

attribute: **field_format** value: **value** Optional

attribute: **minimum_scaled_value** value: **value** Optional

attribute: **maximum_scaled_value** value: **value** Optional

attribute: **scaling_factor** value: **value** Optional

attribute: **value_offset** value: **value** Optional

attribute: **unit** value: **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 Table_Character_Grouped_Field
- End Table_Character_Field_Sequence

- End Table_Character_Grouped_Sequence
 - End Table_Record_Character_Grouped
 - End Table_Character_Grouped
 - End File_Area_Observational
 - End Product_Table_Character
-

- **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**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution

- End Subject_Area

- End Identification_Area_Product

- **Cross_Reference_Area_Product Occurs 1 Times**

description: **The cross reference product area provides references to associated registered products.**

role: **Concrete**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **Observing_System - Occurs 1 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**

role: **Concrete**

attribute: **local_identifier** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry_Product - Occurs 0 to * Times**

description: **The Reference Entry Product class provides a product specific reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **curated_by_node, has_association, has_browse, has_calibration, has_document, has_geometry, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_primary_collection, has_primary_product, has_publication, has_resource, has_spice, has_target, has_thumbnail**

- **End Reference_Entry_Product**

- **End Cross_Reference_Area_Product**

- **Observation_Area Occurs 1 Times**

description: **The observation area consists of attributes that provide information about the circumstances under which the data were collected.**

role: **Concrete**

- **Mission_Area - Occurs 0 to * Times**

description: **The mission area allow the insertion of mission specific metadata.**

role: **Concrete**

- **End Mission_Area**

- **Node_Area - Occurs 0 to * Times**

description: **The node area allow the insertion of node specific metadata.**

role: **Concrete**

- **End Node_Area**

attribute: **comment** value: **value** Optional

attribute: **start_date_time** value: **value**

attribute: **stop_date_time** value: **value**

attribute: **local_mean_solar_time** value: **value** Optional

attribute: **local_true_solar_time** value: **value** Optional

attribute: **mission_phase_name** value: **value** Optional

attribute: **orbit_number** value: **value** Optional

attribute: **planet_day_number** value: **value** Optional

attribute: **solar_longitude** value: **value** Optional

attribute: **spacecraft_clock_count_partition** value: **value** Optional

attribute: **spacecraft_clock_start_count** value: **value** Optional

attribute: **spacecraft_clock_stop_count** value: **value** Optional

- **Geometry_New - Occurs 0 to * Times**

description: **The Geometry class groups objects associated with geometry information.**

role: **Concrete**

attribute: **local_identifier** value: **value**

- **Vector_New - Occurs 0 to * Times**

description: **The Vector class provides the components of either a velocity or position vector.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **name** value: **value**

attribute: **description** value: **value**

attribute: **type** value: **POSITION, VELOCITY**

attribute: **vector_components** value: **value**

- **Vector_Component - Occurs 1 to * Times**

description: **The Vector_Component class provides a component of a vector.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **sequence_number** value: **value**

attribute: **value** value: **value**

- **End Vector_Component**

- **End Vector_New**

- **End Geometry_New**

- **End Observation_Area**

- **File_Area_Observational - Occurs 1 to * Times**

description: **The File Area Observational class describes, for an observational product, a file and one or more tagged_data_objects contained within the file.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** ^{Optional}

attribute: **comment** value: **value** ^{Optional}

attribute: **creation_date_time** value: **value** ^{Optional}

attribute: **file_name** value: **value**

attribute: **file_size** value: **value** ^{Optional}

attribute: **maximum_record_bytes** value: **value** ^{Optional}

attribute: **md5_checksum** value: **value** ^{Optional}

attribute: **records** value: **value** ^{Optional}

- **End File**

- **Array_2D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Image class is an extension of array_base and defines a two dimensional image.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Image_2D_Display - Occurs 0 to 1 Times**

description: **The Image_2D_Display class provides attributes to enable the display of a 2D image.**

role: **Concrete**

attribute: **first_line** value: **value** ^{Optional}

attribute: **first_line_sample** value: **value** ^{Optional}

attribute: **line_display_direction** value: **DOWN, LEFT, RIGHT, UP**

attribute: **sample_display_direction** value: **DOWN, LEFT, RIGHT, UP**

- **End Image_2D_Display**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: **value** ^{Optional}

attribute: **value_offset** 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}

- **End Array_Element**

- **Object_Statistics - Occurs 0 to 1 Times**

description: **The Object Statistics class provides a set of values that provide metrics about the object.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** ^{Optional}

attribute: **maximum** value: **value** ^{Optional}

attribute: **md5_checksum** value: **value** ^{Optional}

attribute: **mean** value: **value** ^{Optional}

attribute: **median** value: **value** ^{Optional}

attribute: **minimum** value: **value** ^{Optional}

attribute: **sample_bit_mask** value: **value** ^{Optional}

attribute: **standard_deviation** value: **value** ^{Optional}

- **End Object_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** ^{Optional}

attribute: **invalid_constant** value: **value** ^{Optional}

attribute: **missing_constant** value: **value** ^{Optional}

attribute: **not_applicable_constant** value: **value** ^{Optional}

attribute: **saturated_constant** value: **value** ^{Optional}

attribute: **unknown_constant** value: **value** ^{Optional}

- **End Special_Constants**

- **End Array_2D_Image**

- **Array_2D_Map - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 2D Map class is an extension of array_base and defines a two dimensional map.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** ^{Optional}

attribute: **axes** value: **2**

attribute: **axis_order** value: **FIRST_INDEX_FASTEST**

attribute: **encoding_type** value: **BINARY**

attribute: **offset** value: **value**

- **Array_Axis Occurs 2 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **elements** 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 Array_Axis**

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: **IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8**

attribute: **scaling_factor** value: *value* ^{Optional}
attribute: **value_offset** 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}

- End Array_Element
- End Array_2D_Map
- **Array_2D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 2D Spectrum class is an extension of array_base and defines a two dimensional spectrum.

role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* ^{Optional}
attribute: **axes** value: 2
attribute: **axis_order** value: FIRST_INDEX_FASTEST
attribute: **encoding_type** value: BINARY
attribute: **offset** value: *value*

- **Array_Axis Occurs 2 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: *value*
attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8
attribute: **scaling_factor** value: *value* ^{Optional}
attribute: **value_offset** 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}

- End Array_Element
- End Array_2D_Spectrum
- **Array_3D_Image - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Image class is an extension of array_base and defines a three dimensional image.

role: **Concrete**

attribute: **local_identifier** value: *value*
attribute: **comment** value: *value* ^{Optional}
attribute: **axes** value: 3
attribute: **axis_order** value: FIRST_INDEX_FASTEST
attribute: **encoding_type** value: BINARY
attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Image
- **Array_3D_Movie - Occurs 0 to * Times - Base_Class:Array_Base**

description: **The Array 3D Movie class is an extension of array_base and defines a movie as a set of two dimensional images in a time series.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **axes** value: 3

attribute: **axis_order** value: FIRST_INDEX_FASTEST

attribute: **encoding_type** value: BINARY

attribute: **offset** value: *value*

- **Array_Axis Occurs 3 Times**

description: **The Array Axis class is used as a component of the array class and defines an axis of the array.**

role: **Concrete**

attribute: **name** value: *value*

attribute: **elements** 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 Array_Axis

- **Array_Element Occurs 1 Times**

description: **The Array Element class is used as a component of the array class and defines an element of the array.**

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Movie
- **Array_3D_Spectrum - Occurs 0 to * Times - Base_Class:Array_Base**

description: The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **axes** value: **3**
attribute: **axis_order** value: **FIRST_INDEX_FASTEST**
attribute: **encoding_type** value: **BINARY**
attribute: **offset** value: **value**

- **Array_Axis Occurs 3 Times**

description: The Array Axis class is used as a component of the array class and defines an axis of the array.

role: **Concrete**

attribute: **name** value: **value**
attribute: **elements** 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 Array_Axis
- **Array_Element Occurs 1 Times**

description: The Array Element class is used as a component of the array class and defines an element of the array.

role: **Concrete**

attribute: **data_type** value: IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8
attribute: **scaling_factor** value: **value** ^{Optional}
attribute: **value_offset** 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}

- End Array_Element
- End Array_3D_Spectrum
- **Header - Occurs 0 to * Times**

description: The Header class describes a data object header.

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **name** value: **value** ^{Optional}
attribute: **description** value: **value** ^{Optional}
attribute: **bytes** value: **value**
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **FITS, ISIS, ODL, VICAR**
attribute: **offset** value: **value**

- End Header

- **Stream_Delimited - Occurs 0 to * Times**

description: **The Stream Delimited class defines a simple spreadsheet.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* ^{Optional}

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **CSV, OTHER**

attribute: **field_delimiter** value: **0x09, 0x2C, 0x3B, 0x7C**

attribute: **fields** value: *value*

attribute: **maximum_record_length** value: *value*

attribute: **offset** value: *value*

attribute: **record_delimiter** value: **0x0A, 0x0D, 0x0D_0x0A**

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: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* ^{Optional}

attribute: **minimum_scaled_value** value: *value* ^{Optional}

attribute: **maximum_scaled_value** value: *value* ^{Optional}

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** value: *value* ^{Optional}

attribute: **unit** value: **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}

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics**

for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

attribute: **maximum** value: **value** Optional

attribute: **mean** value: **value** Optional

attribute: **median** value: **value** Optional

attribute: **minimum** value: **value** Optional

attribute: **sample_bit_mask** value: **value** Optional

attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional

attribute: **invalid_constant** value: **value** Optional

attribute: **missing_constant** value: **value** Optional

attribute: **not_applicable_constant** value: **value** Optional

attribute: **saturated_constant** value: **value** Optional

attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Stream_Delimited_Field**

- **End Stream_Delimited_Field_Sequence**

- **End Stream_Delimited_Grouped_Sequence**

- **End Stream_Delimited_Record**

- **End Stream_Delimited**

- **Stream_Text - Occurs 0 to * Times**

description: **The Stream text class defines a text file.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **CHARACTER**

attribute: **external_standard_id** value: **value**

attribute: **offset** value: **value**

- **End Stream_Text**

- **Table_Binary - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary class is an extension of table base and defines a simple binary table.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: **value** Optional

attribute: **encoding_type** value: **BINARY**

attribute: **fields** value: **value**

attribute: **offset** value: **value**

attribute: **record_bytes** value: **value**

attribute: **records** value: **value**

- **Table_Record_Binary Occurs 1 Times**

description: **The Table Record Binary class is a component of the table class and defines a record of the table. This extension defines a binary record.**

role: **Concrete**

- **Table_Binary_Field - Occurs 1 to * Times**

description: **The Table Binary Field class is a component of the table record class and defines a field of the record. This extension defines a binary field.**

role: **Concrete**

attribute: **name** value: **value**

attribute: **description** value: **value** Optional
 attribute: **field_number** value: **value** Optional
 attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8
 attribute: **field_location** value: **value**
 attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: 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

- **Field_Statistics - Occurs 0 to 1 Times**

description: The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.

role: **Concrete**

attribute: **local_identifier** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **maximum** value: **value** Optional
 attribute: **mean** value: **value** Optional
 attribute: **median** value: **value** Optional
 attribute: **minimum** value: **value** Optional
 attribute: **sample_bit_mask** value: **value** Optional
 attribute: **standard_deviation** value: **value** Optional

- End Field_Statistics

- **Special_Constants - Occurs 0 to 1 Times**

description: The Special Constants class provides a set of values used to indicate special cases that occur in the data.

role: **Concrete**

attribute: **error_constant** value: **value** Optional
 attribute: **invalid_constant** value: **value** Optional
 attribute: **missing_constant** value: **value** Optional
 attribute: **not_applicable_constant** value: **value** Optional
 attribute: **saturated_constant** value: **value** Optional
 attribute: **unknown_constant** value: **value** Optional

- End Special_Constants

- End Table_Binary_Field

- End Table_Record_Binary

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: The Uniformly_Sampled class provides parameters for a uniformly sampled table.

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**
 attribute: **last_sampling_parameter_value** value: **value**
 attribute: **sampling_parameter_interval** value: **value**
 attribute: **sampling_parameter_name** value: **value**
 attribute: **sampling_parameter_scale** value: EXPONENTIAL, LINEAR, LOGARITHMIC Optional
 attribute: **sampling_parameter_unit** value: 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

- End Uniformly_Sampled
- End Table_Binary
- **Table_Binary_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Binary Grouped class is an extension of table base and defines a simple binary table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** ^{Optional}
attribute: **encoding_type** value: **BINARY**
attribute: **fields** value: **value**
attribute: **offset** value: **value**
attribute: **record_bytes** value: **value**
attribute: **records** value: **value**

- **Table_Record_Binary_Grouped Occurs 1 Times**

description: **The Table Record Binary Grouped class is a component of the table class and defines a record of the table. This extension defines a binary record with grouped fields.**

role: **Concrete**

- **Table_Binary_Grouped_Sequence - Occurs 1 to * Times**

description: **The Table Binary Grouped Sequence class is a component of the grouped table class. It defines a set of fields.**

role: **Concrete**

attribute: **repetitions** value: **value** ^{Optional}

- **Table_Binary_Field_Sequence - Occurs 1 to * Times**

description: **The Table Binary Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.**

role: **Concrete**

- **Table_Binary_Grouped_Bit_Field - Occurs 0 to * Times**

description: **The Table Binary Grouped Bit Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped bit field.**

role: **Concrete**

attribute: **name** value: **value**
attribute: **description** value: **value** ^{Optional}
attribute: **field_number** value: **value** ^{Optional}
attribute: **data_type** value: **Bit**
attribute: **field_location** value: **value**
attribute: **field_length** value: **value**
attribute: **field_format** value: **value** ^{Optional}
attribute: **minimum_scaled_value** value: **value** ^{Optional}
attribute: **maximum_scaled_value** value: **value** ^{Optional}
attribute: **bit_mask** value: **value** ^{Optional}
attribute: **bits** value: **value**
attribute: **scaling_factor** value: **value** ^{Optional}
attribute: **start_bit** value: **value**
attribute: **value_offset** value: **value** ^{Optional}
attribute: **unit** value: **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 Table_Binary_Grouped_Bit_Field

- **Table_Binary_Grouped_Field - Occurs 0 to * Times**

description: The Table Binary Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a binary grouped field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* Optional

attribute: **field_number** value: *value* Optional

attribute: **data_type** value: ASCII_File_Name, Bit, ComplexB16, ComplexB8, IEEE754Double, IEEE754Single, SignedLSB16, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB16, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB16, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB16, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

attribute: **field_location** value: *value*

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* Optional

attribute: **minimum_scaled_value** value: *value* Optional

attribute: **maximum_scaled_value** value: *value* Optional

attribute: **scaling_factor** value: *value* Optional

attribute: **value_offset** value: *value* Optional

attribute: **unit** value: 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 Table_Binary_Grouped_Field**

- **End Table_Binary_Field_Sequence**

- **End Table_Binary_Grouped_Sequence**

- **End Table_Record_Binary_Grouped**

- **End Table_Binary_Grouped**

- **Table_Character - Occurs 0 to * Times - Base_Class:Table_Base**

description: The Table Character class is an extension of table base and defines a simple character table.

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding_type** value: CHARACTER

attribute: **fields** value: *value*

attribute: **offset** value: *value*

attribute: **record_bytes** value: *value*

attribute: **records** value: *value*

- **Table_Record_Character Occurs 1 Times**

description: The Table Record Character class is a component of the table class and defines a record of the table. This extension defines a character record.

role: **Concrete**

- **Table_Character_Field - Occurs 1 to * Times**

description: The Table Character Field class is a component of the table record class and defines a field of the record. This extension defines a character field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* Optional

attribute: **field_number** value: *value* Optional

attribute: **data_type** value: ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID

attribute: **field_location** value: *value*

attribute: **field_length** value: **value**
 attribute: **field_format** value: **value** Optional
 attribute: **minimum_scaled_value** value: **value** Optional
 attribute: **maximum_scaled_value** value: **value** Optional
 attribute: **scaling_factor** value: **value** Optional
 attribute: **value_offset** value: **value** Optional
 attribute: **unit** value: **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

- **Field_Statistics - Occurs 0 to 1 Times**

description: **The Field Statistics class provides a set of metrics for a column formed by a field in a repeating record.**

role: **Concrete**

attribute: **local_identifier** value: **value**
 attribute: **description** value: **value** Optional
 attribute: **maximum** value: **value** Optional
 attribute: **mean** value: **value** Optional
 attribute: **median** value: **value** Optional
 attribute: **minimum** value: **value** Optional
 attribute: **sample_bit_mask** value: **value** Optional
 attribute: **standard_deviation** value: **value** Optional

- **End Field_Statistics**

- **Special_Constants - Occurs 0 to 1 Times**

description: **The Special Constants class provides a set of values used to indicate special cases that occur in the data.**

role: **Concrete**

attribute: **error_constant** value: **value** Optional
 attribute: **invalid_constant** value: **value** Optional
 attribute: **missing_constant** value: **value** Optional
 attribute: **not_applicable_constant** value: **value** Optional
 attribute: **saturated_constant** value: **value** Optional
 attribute: **unknown_constant** value: **value** Optional

- **End Special_Constants**

- **End Table_Character_Field**

- **End Table_Record_Character**

- **Uniformly_Sampled - Occurs 0 to 1 Times**

description: **The Uniformly_Sampled class provides parameters for a uniformly sampled table.**

role: **Concrete**

attribute: **first_sampling_parameter_value** value: **value**
 attribute: **last_sampling_parameter_value** value: **value**
 attribute: **sampling_parameter_interval** value: **value**
 attribute: **sampling_parameter_name** value: **value**
 attribute: **sampling_parameter_scale** value: **EXPONENTIAL, LINEAR, LOGARITHMIC** Optional
 attribute: **sampling_parameter_unit** value: **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**

- **End Uniformly_Sampled**

- **End Table_Character**

- **Table_Character_Grouped - Occurs 0 to * Times - Base_Class:Table_Base**

description: **The Table Character Grouped class is an extension of table base and defines a simple character table that allows repeating groups of fields.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **comment** value: *value* ^{Optional}
attribute: **encoding_type** value: **CHARACTER**
attribute: **fields** value: *value*
attribute: **offset** value: *value*
attribute: **record_bytes** value: *value*
attribute: **records** value: *value*

- **Table_Record_Character_Grouped Occurs 1 Times**

description: The Table Record Character Grouped class is a component of the table class and defines a record of the table. This extension defines a character record with grouped fields.
role: **Concrete**

- **Table_Character_Grouped_Sequence - Occurs 1 to * Times**

description: The Table Character Grouped Sequence class is a component of the grouped table class. It defines a set of fields.

role: **Concrete**

attribute: **repetitions** value: *value* ^{Optional}

- **Table_Character_Field_Sequence - Occurs 1 to * Times**

description: The Table Character Field Sequence class is a component of the grouped table class. It defines a set of fields or a nested set of fields.

role: **Concrete**

- **Table_Character_Grouped_Field - Occurs 0 to * Times**

description: The Table Character Grouped Field class is a component of the table record class and defines a field of the record. This extension defines a character grouped field.

role: **Concrete**

attribute: **name** value: *value*

attribute: **description** value: *value* ^{Optional}

attribute: **field_number** value: *value* ^{Optional}

attribute: **data_type** value: **ASCII_AnyURI, ASCII_Boolean_TF, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID**

attribute: **field_location** value: *value*

attribute: **field_length** value: *value*

attribute: **field_format** value: *value* ^{Optional}

attribute: **minimum_scaled_value** value: *value* ^{Optional}

attribute: **maximum_scaled_value** value: *value* ^{Optional}

attribute: **scaling_factor** value: *value* ^{Optional}

attribute: **value_offset** value: *value* ^{Optional}

attribute: **unit** value: **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 Table_Character_Grouped_Field**

- **End Table_Character_Field_Sequence**

- **End Table_Character_Grouped_Sequence**

- **End Table_Record_Character_Grouped**

- **End Table_Character_Grouped**

- **End File_Area_Observational**

- **End Product_Table_Character_Grouped**

- **Product_Target**

description: **A target product describes a target.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: *value*
attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**
role: **Concrete**
attribute: **logical_identifier** value: *value*
attribute: **version_id** value: *value*
attribute: **product_class** value: *value*
attribute: **title** value: *value*
attribute: **alternate_title** value: *value* Optional
attribute: **alternate_id** value: *value* Optional
attribute: **last_modification_date_time** value: *value* Optional
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**
attribute: **target_name** value: *value* Optional
attribute: **instrument_name** value: *value* Optional
attribute: **instrument_host_name** value: *value* Optional
attribute: **keywords** value: *value* Optional
attribute: **full_name** value: *value* Optional
attribute: **investigation_name** value: *value* Optional
attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**
role: **Concrete**
attribute: **class_name** value: *value*
attribute: **name** value: *value*
attribute: **lidvid_reference** value: *value* Optional
attribute: **primary_name** value: *value*
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**
role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**
attribute: **lid_reference** value: *value* Optional
attribute: **lidvid_reference** value: *value* Optional
attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- End Reference_Entry_Context

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference_text** value: *value* Optional

attribute: **url** value: *value* Optional

- End Bibliographic_Reference

- End Cross_Reference_Area_Context

- **Target Occurs 1 Times**

description: **The Target class provides a description of a physical object that is the object of data collection.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value*

- End Target

- End Product_Target
-

- **Product_Target_PDS3**

description: **A target product describes a target. This product captures a reduced set of the PDS3 catalog target information.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- End Data_Standards

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional
attribute: **investigation_name** value: *value* Optional
attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: *value*

attribute: **lidvid_reference** value: *value* Optional

attribute: **primary_name** value: *value*

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area_Product**

- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**

role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: *value* Optional

attribute: **lidvid_reference** value: *value* Optional

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- **End Reference_Entry_Context**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: *value* Optional

attribute: **description** value: *value* Optional

attribute: **doi** value: *value* Optional

attribute: **reference_text** value: *value* Optional

attribute: **url** value: *value* Optional

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Context**

- **Target_PDS3 Occurs 1 Times**

description: **The Target class provides a description of a physical object that is the object of data collection. This class captures the PDS3 catalog Target information.**

role: **Concrete**

attribute: **target_name** value: *value*

attribute: **primary_body_name** value: *value*

attribute: **target_desc** value: *value*

attribute: **target_type** value: *value*

- **End Target_PDS3**

- **End Product_Target_PDS3**

- **Product_Thumbnail**

description: **The Product Thumbnail class defines a product consisting of one encoded byte stream digital object.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: *value*
attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**
role: **Concrete**
attribute: **logical_identifier** value: *value*
attribute: **version_id** value: *value*
attribute: **product_class** value: *value*
attribute: **title** value: *value*
attribute: **alternate_title** value: *value* Optional
attribute: **alternate_id** value: *value* Optional
attribute: **last_modification_date_time** value: *value* Optional
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**
attribute: **target_name** value: *value* Optional
attribute: **instrument_name** value: *value* Optional
attribute: **instrument_host_name** value: *value* Optional
attribute: **keywords** value: *value* Optional
attribute: **full_name** value: *value* Optional
attribute: **investigation_name** value: *value* Optional
attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**
role: **Concrete**
attribute: **class_name** value: *value*
attribute: **name** value: *value*
attribute: **lidvid_reference** value: *value* Optional
attribute: **primary_name** value: *value*
attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area**

- **Cross_Reference_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**
role: **Concrete**

- **Observing_System - Occurs 0 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**
role: **Concrete**
attribute: **local_identifier** value: *value* Optional
attribute: **name** value: *value* Optional
attribute: **description** value: *value*

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** ^{Optional}

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry - Occurs 0 to * Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** ^{Optional}

attribute: **lidvid_reference** value: **value** ^{Optional}

attribute: **reference_association_type** value: **has_association, member_of**

- **End Reference_Entry**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** ^{Optional}

attribute: **description** value: **value** ^{Optional}

attribute: **doi** value: **value** ^{Optional}

attribute: **reference_text** value: **value** ^{Optional}

attribute: **url** value: **value** ^{Optional}

- **End Bibliographic_Reference**

- **End Cross_Reference_Area**

- **File_Area_Encoded_Image Occurs 1 Times**

description: **The File Area Encoded Image class describes a file that contains an Encoded Image object.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** ^{Optional}

attribute: **comment** value: **value** ^{Optional}

attribute: **creation_date_time** value: **value** ^{Optional}

attribute: **file_name** value: **value**

attribute: **file_size** value: **value** ^{Optional}

attribute: **maximum_record_bytes** value: **value** ^{Optional}

attribute: **md5_checksum** value: *value* Optional
attribute: **records** value: *value* Optional

- **End File**

- **Encoded_Image Occurs 1 Times**

description: **The Encoded Image class, a subclass of Encoded Byte stream is used for ancillary images in standard formats, such as JPEG.**

role: **Concrete**

attribute: **local_identifier** value: *value*

attribute: **comment** value: *value* Optional

attribute: **encoding_type** value: **BINARY**

attribute: **external_standard_id** value: **GIF, JPEG, PDF, TIFF**

attribute: **offset** value: *value*

- **End Encoded_Image**

- **End File_Area_Encoded_Image**

- **End Product_Thumbnail**

- **Product_Update**

description: **The Product Update class defines a product consisting of update information and optional references to other products.**

role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**

role: **Concrete**

attribute: **dd_version_id** value: *value*

attribute: **std_ref_version_id** value: *value*

- **End Data_Standards**

- **Identification_Area_Product Occurs 1 Times**

description: **The product identification area consists of attributes that identify and name a data product.**

role: **Concrete**

attribute: **logical_identifier** value: *value*

attribute: **version_id** value: *value*

attribute: **product_class** value: *value*

attribute: **title** value: *value*

attribute: **alternate_title** value: *value* Optional

attribute: **alternate_id** value: *value* Optional

attribute: **last_modification_date_time** value: *value* Optional

attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**

attribute: **target_name** value: *value* Optional

attribute: **instrument_name** value: *value* Optional

attribute: **instrument_host_name** value: *value* Optional

attribute: **keywords** value: *value* Optional

attribute: **full_name** value: *value* Optional

attribute: **investigation_name** value: *value* Optional

attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: *value*

attribute: **name** value: **value**
attribute: **lidvid_reference** value: **value** Optional
attribute: **primary_name** value: **value**
attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution
- End Subject_Area
- End Identification_Area_Product
- **Cross_Reference_Area_Context Occurs 1 Times**

description: **The context cross reference area provides references to associated registered products.**
role: **Concrete**

- **Reference_Entry_Context - Occurs 0 to * Times**

description: **The Reference Entry Context class implements associations between context products. For example, an instrument is associated with an instrument_host which in turn is associated with an investigation.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_association, has_data_producer, has_data_set, has_instrument, has_instrument_host, has_investigation, has_node, has_personnel, has_publication, has_resource, has_target**

- End Reference_Entry_Context
- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- End Bibliographic_Reference
- End Cross_Reference_Area_Context

- **Update Occurs 1 Times**

description: **The Update class consists of update information.**

role: **Concrete**

attribute: **local_identifier** value: **value**

attribute: **description** value: **value** Optional

- **Update_Entry - Occurs 0 to * Times**

description: **The Update Entry class provides the date and description of an update.**

role: **Concrete**

attribute: **description** value: **value**

attribute: **date_time** value: **value**

attribute: **full_name** value: **value**

- **Reference_Entry_Generic - Occurs 0 to 1 Times**

description: **The Reference Entry Generic class provides a reference and type information about the reference. The reference is to a product.**

role: **Abstract**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **value**

- End Reference_Entry_Generic
- End Update_Entry

- End Update
 - End Product_Update
-

- **Product_XML_Schema**

description: **The Product XML Schema consists of a single text file in XML Schema encoding.**
role: **Concrete**

- **Data_Standards Occurs 1 Times**

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: *value*
attribute: **std_ref_version_id** value: *value*

- End Data_Standards

- **Identification_Area Occurs 1 Times**

description: **The identification area consists of attributes that identify and name an object.**
role: **Concrete**
attribute: **logical_identifier** value: *value*
attribute: **version_id** value: *value*
attribute: **product_class** value: *value*
attribute: **title** value: *value*
attribute: **alternate_title** value: *value* Optional
attribute: **alternate_id** value: *value* Optional
attribute: **last_modification_date_time** value: *value* Optional
attribute: **type** value: *value*

- **Subject_Area - Occurs 0 to 1 Times**

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**

role: **Concrete**
attribute: **target_name** value: *value* Optional
attribute: **instrument_name** value: *value* Optional
attribute: **instrument_host_name** value: *value* Optional
attribute: **keywords** value: *value* Optional
attribute: **full_name** value: *value* Optional
attribute: **investigation_name** value: *value* Optional
attribute: **observing_system_name** value: *value* Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**
role: **Concrete**

attribute: **class_name** value: *value*
attribute: **name** value: *value*
attribute: **lidvid_reference** value: *value* Optional
attribute: **primary_name** value: *value*
attribute: **role** value: **ALTERNATE, PRIMARY**

- End Name_Resolution

- End Subject_Area

- End Identification_Area

- **Cross_Reference_Area - Occurs 0 to 1 Times**

description: **The cross reference area provides references to associated registered products.**
role: **Concrete**

- **Observing_System - Occurs 0 to * Times**

description: **The Observing System class describes the entire suite used to collect the data.**
role: **Concrete**

attribute: **local_identifier** value: **value** Optional

attribute: **name** value: **value** Optional

attribute: **description** value: **value**

- **Observing_System_Component - Occurs 1 to * Times**

description: **The Observing System Component class references one or more subsystems used to collect data. A subsystem can be an instrument_host, instrument, or any other similar product. Each subsystem is categorized as either a sensor or a source. If the observing system includes both a sensor and a source, Observing System Component occurs twice (once for each type) otherwise it only occurs once.**

role: **Concrete**

attribute: **comment** value: **value** Optional

attribute: **name** value: **value**

attribute: **observing_system_component_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **Reference_Entry_Observing_System_Component - Occurs 0 to 1 Times**

description: **The Reference Entry Observing System Component class provides a product specific reference and type information about the reference. The references are to components of the observing system.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft**

- **End Reference_Entry_Observing_System_Component**

- **End Observing_System_Component**

- **End Observing_System**

- **Reference_Entry - Occurs 0 to * Times**

description: **The Reference Entry class provides a reference and type information about the reference. The reference is to a product.**

role: **Concrete**

attribute: **lid_reference** value: **value** Optional

attribute: **lidvid_reference** value: **value** Optional

attribute: **reference_association_type** value: **has_association, member_of**

- **End Reference_Entry**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **End Cross_Reference_Area**

- **File_Area_XML_Schema Occurs 1 Times**

description: **The File Area XML Schema class describes a file that contains an XML Schema object.**

role: **Concrete**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** Optional
attribute: **comment** value: **value** Optional
attribute: **creation_date_time** value: **value** Optional
attribute: **file_name** value: **value**
attribute: **file_size** value: **value** Optional
attribute: **maximum_record_bytes** value: **value** Optional
attribute: **md5_checksum** value: **value** Optional
attribute: **records** value: **value** Optional

- End File

- XML_Schema Occurs 1 Times

description: **The XML Schema class defines a text stream file containing XML Schema.**
role: **Concrete**
attribute: **local_identifier** value: **value**
attribute: **comment** value: **value** Optional
attribute: **encoding_type** value: **CHARACTER**
attribute: **external_standard_id** value: **XML_Schema**
attribute: **offset** value: **value**

- End XML_Schema

- End File_Area_XML_Schema

- End Product_XML_Schema

- Product_Zipped

description: **The Product_Zipped is a product with references to other products. The referenced products and all associated products and files are packaged into a single ZIP file.**
role: **Concrete**

- Data_Standards Occurs 1 Times

description: **The Data Standards class indicates the controlling standards for this product.**
role: **Concrete**
attribute: **dd_version_id** value: **value**
attribute: **std_ref_version_id** value: **value**

- End Data_Standards

- Identification_Area Occurs 1 Times

description: **The identification area consists of attributes that identify and name an object.**
role: **Concrete**
attribute: **logical_identifier** value: **value**
attribute: **version_id** value: **value**
attribute: **product_class** value: **value**
attribute: **title** value: **value**
attribute: **alternate_title** value: **value** Optional
attribute: **alternate_id** value: **value** Optional
attribute: **last_modification_date_time** value: **value** Optional
attribute: **type** value: **value**

- Subject_Area - Occurs 0 to 1 Times

description: **The Subject Area provides one or more topics associated with the identifiable using keywords, key phrases, or classification codes.**
role: **Concrete**
attribute: **target_name** value: **value** Optional
attribute: **instrument_name** value: **value** Optional
attribute: **instrument_host_name** value: **value** Optional
attribute: **keywords** value: **value** Optional
attribute: **full_name** value: **value** Optional
attribute: **investigation_name** value: **value** Optional
attribute: **observing_system_name** value: **value** Optional

- **Name_Resolution - Occurs 0 to * Times**

description: **The Name_Resolution class provides both primary and alternate names of an object.**

role: **Concrete**

attribute: **class_name** value: **value**

attribute: **name** value: **value**

attribute: **lidvid_reference** value: **value** Optional

attribute: **primary_name** value: **value**

attribute: **role** value: **ALTERNATE, PRIMARY**

- **End Name_Resolution**

- **End Subject_Area**

- **End Identification_Area**

- **File Occurs 1 Times**

description: **The File class consists of attributes that describe a file in a data store.**

role: **Concrete**

attribute: **local_identifier** value: **value** Optional

attribute: **comment** value: **value** Optional

attribute: **creation_date_time** value: **value** Optional

attribute: **file_name** value: **value**

attribute: **file_size** value: **value** Optional

attribute: **maximum_record_bytes** value: **value** Optional

attribute: **md5_checksum** value: **value** Optional

attribute: **records** value: **value** Optional

- **End File**

attribute: **container_type** value: **GZIP, LZIP, TAR, ZIP**

- **Cross_Reference_Area_Generic - Occurs 0 to 1 Times**

description: **The cross reference area generic provides references for associated products.**

role: **Abstract**

- **Bibliographic_Reference - Occurs 0 to * Times**

description: **The Bibliographic Reference class provides references to documents that are not registered with the PDS.**

role: **Concrete**

attribute: **name** value: **value** Optional

attribute: **description** value: **value** Optional

attribute: **doi** value: **value** Optional

attribute: **reference_text** value: **value** Optional

attribute: **url** value: **value** Optional

- **End Bibliographic_Reference**

- **End Cross_Reference_Area_Generic**

- **Zipped_Member_Entry - Occurs 0 to * Times**

description: **The Zipped Member Entry class provides a member reference to a product.**

role: **Concrete**

attribute: **file_specification_name** value: **value**

attribute: **lidvid_reference** value: **value**

attribute: **md5_checksum** value: **value**

attribute: **reference_association_type** value: **contained_product, manifest_product**

- **End Zipped_Member_Entry**

- **End Product_Zipped**

- **Rings_Prod_Info**

description: **This class identifies the set of elements pertinent to Rings products.**

role: **Concrete**

attribute: **node_name** value: **Planetary_Rings**

attribute: **incidence_angle** value: **value**
attribute: **maximum_ring_radius** value: **value**
attribute: **minimum_ring_radius** value: **value**
attribute: **node_id** value: **RINGS**
attribute: **occultation_type** value: **STELLAR**
attribute: **planetary_occultation_flag** value: **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 Rings_Prod_Info
-

- **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 Telemetry_Parameters
-
-

8. PDS4 Attribute Definitions - Sat Aug 27 06:57:16 PDT 2011

Generated from the PDS4 Information Model Version 0.4.1.1.f

- **abstract_desc**

steward: **ops**

name space id: **ops**:

class: **Data_Set_PDS3**

version: **0.4.1.1.f**

- description: **The abstract_desc attribute provides a summary of a text, scientific article, or document.**
- value_data_type: **ASCII_Text_Collapsed**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **acknowledgement_text**

steward: **pds**

name space id: **pds**:

class: **Document_Desc**

version: **0.4.1.1.f**

- description: **The acknowledgement_text attribute is a character string which recognizes another's contribution, authority, or right.**
- value_data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**

- maximum_characters: 2147483647

- **affiliation_type**

steward: **ops**
name space id: **ops**:
class: **PDS_Affiliate**
version: **0.4.1.1.f**

- description: **The affiliation type data attribute describes the type of relationship an individual has with the PDS.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
Manager
Technical_Staff
Data_Provider
Affiliate

- **alternate_id**

steward: **pds**
name space id: **pds**:
class: **Identification_Area**
version: **0.4.1.1.f**

- description: **The alternate_id attribute provides an additional identifier supplied by the data provider.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: 1
- maximum_characters: 255

- **alternate_telephone_number**

steward: **ops**
name space id: **ops**:
class: **PDS_Affiliate**
version: **0.4.1.1.f**

- description: **The telephone_number attribute provides a telephone number in international notation in compliance with the E.164 telephone number format recommendation.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- pattern: **(+{1}[0-9]{2})?([0-9]{3} [0-9]{3} [0-9]{4}))**

- **alternate_title**

steward: **pds**
name space id: **pds**:
class: **Identification_Area**
version: **0.4.1.1.f**

- description: **The alternate_title attribute provides an alternate title for the product.**
- value_data_type: **UTF8_Short_String_Collapsed**
- minimum_characters: 1
- maximum_characters: 255

- **application_process_id**

steward: **img**
name space id: **img**:
class: **Telemetry_Parameters**
version: **0.4.1.1.f**

- description: **The application_process_id identifies the process, or source, which created the data.**
- value_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: **0.4.1.1.f**

- description: **The application_process_name element provides the name associated with the source or process which created the data.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **256**
- permissible values
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

- **application_process_subtype_id**

steward: **img**
name space id: **img**:
class: **Telemetry_Parameters**
version: **0.4.1.1.f**

- description: **The application_process_subtype_id element identifies the source or subprocess that created the data.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **2**

- **archive_status**

steward: **ops**
name space id: **ops**:
class: **Data_Set_PDS3**
version: **0.4.1.1.f**

- description: **The ARCHIVE_STATUS attribute indicates the stage to which a data set has progressed in the archiving process, from "IN QUEUE" through "ARCHIVED". It can also take on the values "SUPERSEDED" or "SAFED", which indicate that the data set is not part of the active archive. "ACCUMULATING" can be appended to some values to indicate that the data set is incomplete and/or that not all components have reached the stage given by the root value; "ACCUMULATING" would be used, for example, when the archive is being delivered incrementally, as from a mission that lasts many months or years.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
ARCHIVED
IN_LIEN_RESOLUTION
IN_PEER_REVIEW
IN_QUEUE
LOCALLY_ARCHIVED
PRE_PEER_REVIEW
SAFED
SUPERSEDED
IN_QUEUE_ACCUMULATING
PRE_PEER_REVIEW_ACCUMULATING
IN_PEER_REVIEW_ACCUMULATING
IN_LIEN_RESOLUTION_ACCUMULATING
LOCALLY_ARCHIVED_ACCUMULATING
ARCHIVED_ACCUMULATING

- **archive_status**

steward: **ops**

name space id: **ops:**

class: **Volume_PDS3**

version: **0.4.1.1.f**

- description: **The ARCHIVE_STATUS attribute indicates the stage to which a data set has progressed in the archiving process, from "IN QUEUE" through "ARCHIVED". It can also take on the values "SUPERSEDED" or "SAFED", which indicate that the data set is not part of the active archive. "ACCUMULATING" can be appended to some values to indicate that the data set is incomplete and/or that not all components have reached the stage given by the root value; "ACCUMULATING" would be used, for example, when the archive is being delivered incrementally, as from a mission that lasts many months or years.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
ARCHIVED
IN_LIEN_RESOLUTION
IN_PEER_REVIEW
IN_QUEUE
LOCALLY_ARCHIVED
PRE_PEER_REVIEW
SAFED
SUPERSEDED
IN_QUEUE_ACCUMULATING
PRE_PEER_REVIEW_ACCUMULATING
IN_PEER_REVIEW_ACCUMULATING
IN_LIEN_RESOLUTION_ACCUMULATING
LOCALLY_ARCHIVED_ACCUMULATING
ARCHIVED_ACCUMULATING

- **archive_status_note**

steward: **ops**

name space id: **ops:**

class: **Volume_PDS3**

version: **0.4.1.1.f**

- description: **The archive status note attribute provides a comment about the archive status.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **attribute_concept**

steward: **ops**

name space id: **ops:**

class: **DD_Attribute_Full**

version: **0.4.1.1.f**

- description: **The attribute_concept attribute provides the type of information (classification) conveyed by the attribute – e.g., stop_date_time has attribute_concept = date_time.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
DEC_ADDRESS
DEC_ANGLE
DEC_ATTRIBUTE
DEC_BIT
DEC_CHECKSUM
DEC_COLLECTION
DEC_CONSTANT
DEC_COSINE
DEC_COUNT
DEC_DELIMITER
DEC_DESCRIPTION
DEC_DEVIATION
DEC_DIRECTION
DEC_DISTANCE
DEC_DOI

DEC_DURATION
DEC_FACTOR
DEC_FLAG
DEC_FORMAT
DEC_GROUP
DEC_HOME
DEC_LATITUDE
DEC_LENGTH
DEC_LIST
DEC_LOCATION
DEC_LOGICAL
DEC_LONGITUDE
DEC_MASK
DEC_MAXIMUM
DEC_MEAN
DEC_MEDIAN
DEC_MINIMUM
DEC_NAME
DEC_NOTE
DEC_NUMBER
DEC_OFFSET
DEC_ORDER
DEC_PARALLEL
DEC_PASSWORD
DEC_PATH
DEC_PATTERN
DEC_PIXEL
DEC_QUATERNION
DEC_RADIUS
DEC_RATIO
DEC_REFERENCE
DEC_RESOLUTION
DEC_ROLE
DEC_ROTATION
DEC_SCALE
DEC_SEQUENCE
DEC_SET
DEC_SIZE
DEC_STATUS
DEC_SUMMARY
DEC_SYNTAX
DEC_TEMPERATURE
DEC_TEXT
DEC_TITLE
DEC_TYPE
DEC_UNIT
DEC_VALUE
DEC_VECTOR

- **author_list**

steward: **ops**
name space id: **ops**:
class: **Software_Desc**
version: **0.4.1.1.f**

- description: **The author_list attribute lists the composers of a work.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **author_list**

steward: **pds**
name space id: **pds**:
class: **Citation**
version: **0.4.1.1.f**

- description: **The author_list attribute lists the composers of a work.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **510**

- **author_list**

steward: **pds**
name space id: **pds**:
class: **Document_Desc**
version: **0.4.1.1.f**

- description: **The author_list attribute lists the composers of a work.**
- value_data_type: **ASCII_Text_Collapsed**
- minimum_characters: **1**
- maximum_characters: **510**

- **axes**

steward: **pds**
name space id: **pds**:
class: **Array_2D**
version: **0.4.1.1.f**

- description: **The axes attribute provides a count of the axes.**
- value_data_type: **ASCII_Integer** - Enumerated
- minimum_value: **1**
- maximum_value: **16**
- permissible value
2

- **axes**

steward: **pds**
name space id: **pds**:
class: **Array_3D**
version: **0.4.1.1.f**

- description: **The axes attribute provides a count of the axes.**
- value_data_type: **ASCII_Integer** - Enumerated
- minimum_value: **1**
- maximum_value: **16**
- permissible value
3

- **axes**

steward: **pds**
name space id: **pds**:
class: **Array_Base**
version: **0.4.1.1.f**

- description: **The axes attribute provides a count of the axes.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **16**

- **axis_order**

steward: **pds**
name space id: **pds**:
class: **Array_2D_Image**
version: **0.4.1.1.f**

- description: **The axes order attribute indicates the axis index that varies the fastest with respect to axis element storage order.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
FIRST_INDEX_FASTEST

- **axis_order**

steward: **pds**
name space id: **pds**:
class: **Array_3D_Image**
version: **0.4.1.1.f**

- description: **The axis order attribute provides the axis index that varies fastest with respect to storage order.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
FIRST_INDEX_FASTEST

- **axis_order**

steward: **pds**
name space id: **pds**:
class: **Array_Base**
version: **0.4.1.1.f**

- description: **The axis order attribute provides the axis index that varies fastest with respect to storage order.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
FIRST_INDEX_FASTEST

- **a_axis_radius**

steward: **img**
name space id: **img**:
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**
- unit_of_measure_type: **UnitOfMeasure_Length**
- specified_unit_id: **m**

- **bits**

steward: **pds**
name space id: **pds**:
class: **Table_Binary_Grouped_Bit_Field**
version: **0.4.1.1.f**

- description: **The bits attribute provides the number of bits in the object.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **256**

- **bit_mask**

steward: **pds**
name space id: **pds**:
class: **Table_Binary_Grouped_Bit_Field**
version: **0.4.1.1.f**

- description: **The bit_mask element is a series of binary digits identifying the active bits in a value.**
- value_data_type: **ASCII_Numeric_Base2**

- **bytes**

steward: **pds**
name space id: **pds**:
class: **Header**
version: **0.4.1.1.f**

- description: **The bytes attribute provides the number of bytes in the object.**
- value_data_type: **ASCII_Integer**

- minimum_value: 1
- maximum_value: 2147483647

- **b_axis_radius**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**
- unit_of_measure_type: **UnitOfMeasure_Length**
- specified_unit_id: **m**

- **center_latitude**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **-90.0**
- maximum_value: **90.0**
- unit_of_measure_type: **UnitOfMeasure_Angle**
- specified_unit_id: **deg**

- **center_longitude**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **-180.0**
- maximum_value: **360.0**
- unit_of_measure_type: **UnitOfMeasure_Angle**
- specified_unit_id: **deg**

- **citation_text**

steward: **ops**
name space id: **ops:**
class: **Data_Set_PDS3**
version: **0.4.1.1.f**

- description: **The citation_text attribute provides a character string containing a literature or other citation in sufficient detail that the material could be located in PDS or elsewhere.**
- value_data_type: **ASCII_Text_Collapsed**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **citation_text**

steward: **pds**
name space id: **pds:**
class: **Citation**
version: **0.4.1.1.f**

- description: **The citation_text attribute provides a character string containing a literature or other citation in sufficient detail that the material could be located in PDS or elsewhere.**
- value_data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **class_name**

steward: **ops**
name space id: **meta**
class: **DD_Attribute_Full**
version: **0.4.1.1.f**

- description: **The class_name attribute provides the common name by which the class is identified, as well as the class within which the attribute is used.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **class_name**

steward: **pds**
name space id: **meta**
class: **Name_Resolution**
version: **0.4.1.1.f**

- description: **The class_name attribute provides the common name by which the class is identified, as well as the class within which the attribute is used.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **coefficient_1**

steward: **img**
name space id: **img:**
class: **Coefficients_Array**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-INF**
- maximum_value: **INF**

- **coefficient_2**

steward: **img**
name space id: **img:**
class: **Coefficients_Array**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-INF**
- maximum_value: **INF**

- **coefficient_3**

steward: **img**
name space id: **img:**
class: **Coefficients_Array**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-INF**
- maximum_value: **INF**

- **comment**

steward: **img**
name space id: **img:**
class: **Imaging**
version: **0.4.1.1.f**

- description: **The comment element provides an optional remark or observation about the current class.**

- value_data_type: [ASCII_Text_Preserved](#)
- minimum_characters: 1
- maximum_characters: 2147483647

- **comment**

steward: **ops**
name space id: **ops**:
class: **DD_Attribute**
version: **0.4.1.1.f**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 4096

- **comment**

steward: **ops**
name space id: **ops**:
class: **Local_DD**
version: **0.4.1.1.f**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value_data_type: [ASCII_Text_Preserved](#)
- minimum_characters: 1
- maximum_characters: 2147483647

- **comment**

steward: **pds**
name space id: **pds**:
class: **File**
version: **0.4.1.1.f**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value_data_type: [ASCII_Text_Preserved](#)
- minimum_characters: 1
- maximum_characters: 2147483647

- **comment**

steward: **pds**
name space id: **pds**:
class: **Observation_Area**
version: **0.4.1.1.f**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value_data_type: [ASCII_Text_Preserved](#)
- minimum_characters: 1
- maximum_characters: 2147483647

- **comment**

steward: **pds**
name space id: **pds**:
class: **Observing_System_Component**
version: **0.4.1.1.f**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **comment**

steward: **pds**
name space id: **pds**:
class: **TDO_Structures**
version: **0.4.1.1.f**

- description: **The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.**
- value_data_type: [ASCII_Text_Preserved](#)
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **compile_notes**

steward: **ops**
name space id: **ops**:
class: **Software_Source**
version: **0.4.1.1.f**

- description: **The compile notes attribute provides a brief statement giving particulars about the compilation of the software source.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **conceptual_domain**

steward: **ops**
name space id: **meta**
class: **DD_Value_Domain_Full**
version: **0.4.1.1.f**

- description: **The conceptual_domain attribute provides the domain to which the value has been assigned.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
CD_SHORT_STRING
CD_INTEGER
CD_TEXT
CD_TIME
CD_REAL
CD_BOOLEAN
CD_TYPE
CD_NAME
CD_NUMERIC

- **confidence_level_note**

steward: **ops**
name space id: **ops**:
class: **Data_Set_PDS3**
version: **0.4.1.1.f**

- description: **The confidence_level_note attribute is a text field which characterizes the reliability of data within a data set or the reliability of a particular programming algorithm or software component. Essentially, this note discusses the level of confidence in the accuracy of the data or in the ability of the software to produce accurate results.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **constant_value**

steward: **ops**
name space id: **ops**:
class: **DD_Association**
version: **0.4.1.1.f**

- description: **The constant value attribute provides the value to be used if an attribute is static.**
- value_data_type: [ASCII_Short_String_Collapsed](#)

- minimum_characters: 1
- maximum_characters: 255

- **container_type**

steward: **ops**
name space id: **ops:**
class: **Product_Zipped**
version: **0.4.1.1.f**

- description: **The container type attribute indicates the method used to package the components.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
ZIP
GZIP
LZIP
TAR

- **contains_primary_member**

steward: **pds**
name space id: **pds:**
class: **Identification_Area_Collection**
version: **0.4.1.1.f**

- description: **The contains_primary_member attribute indicates whether a collection contains products that are primary members of the collection.**
- value_data_type: [ASCII_Boolean_TF](#)

- **coordinate_system_name**

steward: **img**
name space id: **img:**
class: **Coordinate_System**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review. xxx TBD E. Rye xxx**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
apxs_frame
body_fixed_spherical_coords
earth-sun_line_cartes_coords
ecliptic_inertial_cart_coords
ecliptic_inertl_sphercl_coords
equatorial_inert_sphercl_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

- **coordinate_system_name**

steward: **img**
name space id: **img**:
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review. xxx TBD E. Rye xxx**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
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

- **coordinate_system_type**

steward: **img**
name space id: **img**:
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **25**
- permissible values
body-fixed_non-rotating
body-fixed_rotating
inertial

- **copyright**

steward: **pds**
name space id: **pds**:
class: **Document_Desc**
version: **0.4.1.1.f**

- description: **The copyright attribute is a character string giving information about the exclusive right to make copies, license, and otherwise exploit an object, whether physical or digital.**
- value_data_type: **ASCII_Text_Collapsed**
- minimum_characters: **1**
- maximum_characters: **510**

- **cosine**

steward: **img**
name space id: **img**:
class: **Quaternion**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

- **creation_date_time**

steward: **pds**
name space id: **pds:**
class: **File**
version: **0.4.1.1.f**

- description: **The creation_date_time attribute provides a date and time when the object was created.**
- value_data_type: **ASCII_Date_Time**

- **curating_node_id**

steward: **ops**
name space id: **ops:**
class: **Volume_PDS3**
version: **0.4.1.1.f**

- description: **The curating_node_id attribute provides the id of the node currently maintaining the data set or volume and is responsible for maintaining catalog information.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **c_axis_radius**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**
- unit_of_measure_type: **UnitOfMeasure_Length**
- specified_unit_id: **m**

- **data_set_desc**

steward: **ops**
name space id: **ops:**
class: **Data_Set_PDS3**
version: **0.4.1.1.f**

- description: **The data_set_desc attribute describes the content and type of a data set and provides information required to use the data (such as binning information).**
- value_data_type: **ASCII_Text_Collapsed**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **data_set_id**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- 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_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **40**

- **data_set_id**

steward: **ops**
name space id: **ops**:
class: **Data_Set_PDS3**
version: **0.4.1.1.f**

- description: **The data set id provides a formal name used to refer to a data set.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **data_set_name**

steward: **ops**
name space id: **ops**:
class: **Data_Set_PDS3**
version: **0.4.1.1.f**

- description: **The data_set_name attribute provides the full name given to a data set or a data product. The data_set_name typically identifies the instrument that acquired the data of that instrument Example value data_set_id. Note This attribute is defined in the AMMOS Magellan catalog as an alias for file_name to provide backward compatibility**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **data_set_release_date**

steward: **ops**
name space id: **ops**:
class: **Data_Set_PDS3**
version: **0.4.1.1.f**

- description: **The data_set_release_date attribute provides the date when a data set is released by the data producer for archive or publication. In many systems this represents the end of a proprietary or validation period. Formation rule In AMMOS identify the date at which a product may be released to the general public from proprietary access. AMMOS-related systems should apply this attribute only to proprietary data.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **data_set_terse_desc**

steward: **ops**
name space id: **ops**:
class: **Data_Set_PDS3**
version: **0.4.1.1.f**

- description: **A one line description of the data set**
- value_data_type: **ASCII_Text_Collapsed**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **data_type**

steward: **pds**
name space id: **meta**
class: **Array_Element**
version: **0.4.1.1.f**

- description: **The data_type attribute provides the hardware representation used to store a value.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **30**
- permissible values
IEEE754Single
IEEE754Double
UnsignedByte
SignedMSB2
SignedMSB4

SignedLSB4
SignedLSB2
UnsignedLSB2
UnsignedLSB4
UnsignedMSB2
UnsignedMSB4
SignedMSB8
SignedMSB16
SignedLSB16
UnsignedLSB8
UnsignedLSB16
UnsignedMSB8
UnsignedMSB16
SignedLSB8

- **data_type**

steward: **pds**
name space id: **meta**
class: **Stream_Delimited_Field**
version: **0.4.1.1.f**

- description: **The data_type attribute provides the hardware representation used to store a value.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
 - ASCII_Boolean_TF**
 - ASCII_Date_YMD**
 - ASCII_Integer**
 - ASCII_Real**
 - ASCII_AnyURI**
 - ASCII_Date_DOY**
 - ASCII_Date_Time_DOY**
 - ASCII_Date_Time_UTC**
 - ASCII_Date_Time_YMD**
 - ASCII_LID**
 - ASCII_LIDVID**
 - ASCII_MD5_Checksum**
 - ASCII_Short_String_Collapsed**
 - ASCII_Text_Preserved**
 - ASCII_Short_String_Preserved**
 - ASCII_Time**
 - ASCII_VID**
 - ASCII_DOI**
 - ASCII_Numeric_Base2**
 - ASCII_Numeric_Base16**
 - ASCII_NonNegative_Integer**
 - ASCII_File_Specification_Name**
 - ASCII_File_Name**

- **data_type**

steward: **pds**
name space id: **meta**
class: **Table_Binary_Field**
version: **0.4.1.1.f**

- description: **The data_type attribute provides the hardware representation used to store a value.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
 - Bit**
 - ComplexB16**
 - ComplexB8**
 - SignedLSB2**
 - SignedLSB4**
 - SignedLSB8**
 - SignedMSB2**
 - SignedMSB4**
 - SignedMSB8**

UnsignedByte
UnsignedLSB2
UnsignedLSB4
UnsignedMSB2
UnsignedMSB4
IEEE754Double
IEEE754Single
ASCII_File_Name
ASCII_Boolean_TF
ASCII_Date_YMD
ASCII_Integer
ASCII_Real
ASCII_AnyURI
ASCII_Date_DOY
ASCII_Date_Time_DOY
ASCII_Date_Time_UTC
ASCII_Date_Time_YMD
ASCII_LID
ASCII_LIDVID
ASCII_MD5_Checksum
ASCII_Short_String_Collapsed
ASCII_Text_Preserved
ASCII_Short_String_Preserved
ASCII_Time
ASCII_VID
ASCII_DOI
ASCII_Numeric_Base2
ASCII_Numeric_Base16
ASCII_NonNegative_Integer
ASCII_File_Specification_Name
SignedLSB16
SignedMSB16
UnsignedLSB8
UnsignedLSB16
UnsignedMSB8
UnsignedMSB16

- **data_type**

steward: **pds**
name space id: **meta**
class: **Table_Binary_Grouped_Bit_Field**
version: **0.4.1.1.f**

- description: **The data_type attribute provides the hardware representation used to store a value.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
Bit

- **data_type**

steward: **pds**
name space id: **meta**
class: **Table_Binary_Grouped_Field**
version: **0.4.1.1.f**

- description: **The data_type attribute provides the hardware representation used to store a value.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
Bit
ComplexB16
ComplexB8
SignedLSB2
SignedLSB4
SignedLSB8
SignedMSB2
SignedMSB4
SignedMSB8

UnsignedByte
UnsignedLSB2
UnsignedLSB4
UnsignedMSB2
UnsignedMSB4
IEEE754Double
IEEE754Single
ASCII_File_Name
SignedLSB16
SignedMSB16
UnsignedLSB8
UnsignedLSB16
UnsignedMSB8
UnsignedMSB16

- **data_type**

steward: **pds**
name space id: **meta**
class: **Table_Character_Field**
version: **0.4.1.1.f**

- description: **The data_type attribute provides the hardware representation used to store a value.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
 - ASCII_Boolean_TF**
 - ASCII_Date_YMD**
 - ASCII_Integer**
 - ASCII_Real**
 - ASCII_AnyURI**
 - ASCII_Date_DOY**
 - ASCII_Date_Time_DOY**
 - ASCII_Date_Time_UTC**
 - ASCII_Date_Time_YMD**
 - ASCII_LID**
 - ASCII_LIDVID**
 - ASCII_MD5_Checksum**
 - ASCII_Short_String_Collapsed**
 - ASCII_Text_Preserved**
 - ASCII_Short_String_Preserved**
 - ASCII_Time**
 - ASCII_VID**
 - ASCII_DOI**
 - ASCII_Numeric_Base2**
 - ASCII_Numeric_Base16**
 - ASCII_NonNegative_Integer**
 - ASCII_File_Specification_Name**
 - ASCII_File_Name**

- **data_type**

steward: **pds**
name space id: **meta**
class: **Table_Character_Grouped_Field**
version: **0.4.1.1.f**

- description: **The data_type attribute provides the hardware representation used to store a value.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
 - ASCII_Boolean_TF**
 - ASCII_Date_YMD**
 - ASCII_Integer**
 - ASCII_Real**
 - ASCII_AnyURI**
 - ASCII_Date_DOY**
 - ASCII_Date_Time_DOY**
 - ASCII_Date_Time_UTC**
 - ASCII_Date_Time_YMD**

ASCII_LID
ASCII_LIDVID
ASCII_MD5_Checksum
ASCII_Short_String_Collapsed
ASCII_Text_Preserved
ASCII_Short_String_Preserved
ASCII_Time
ASCII_VID
ASCII_DOI
ASCII_Numeric_Base2
ASCII_Numeric_Base16
ASCII_NonNegative_Integer
ASCII_File_Specification_Name
ASCII_File_Name

- **data_type**

steward: **pds**
name space id: **meta**
class: **Table_Field**
version: **0.4.1.1.f**

- description: **The data_type attribute provides the hardware representation used to store a value.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **data_type**

steward: **pds**
name space id: **meta**
class: **Table_Field_Checksum**
version: **0.4.1.1.f**

- description: **The data_type attribute provides the hardware representation used to store a value.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
ASCII_MD5_Checksum

- **data_type**

steward: **pds**
name space id: **meta**
class: **Table_Field_File_Specification_Name**
version: **0.4.1.1.f**

- description: **The data_type attribute provides the hardware representation used to store a value.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
ASCII_File_Specification_Name

- **data_type**

steward: **pds**
name space id: **meta**
class: **Table_Field_LID**
version: **0.4.1.1.f**

- description: **The data_type attribute provides the hardware representation used to store a value.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
ASCII_LID

- **data_type**

steward: **pds**
name space id: **meta**
class: **Table_Field_LIDVID**
version: **0.4.1.1.f**

- description: **The data_type attribute provides the hardware representation used to store a value.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
ASCII_LIDVID

- **date_time**

steward: **pds**
name space id: **pds:**
class: **Update_Entry**
version: **0.4.1.1.f**

- description: **The date_time attribute provides the date and time of an event.**
- value_data_type: **ASCII_Date_Time**

- **dd_version_id**

steward: **pds**
name space id: **pds:**
class: **Data_Standards**
version: **0.4.1.1.f**

- description: **The dd version id attribute provides provides the version identifier for the data dictionary.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **definition**

steward: **ops**
name space id: **meta**
class: **DD_Attribute**
version: **0.4.1.1.f**

- description: **The definition attribute provides a statement, picture in words, or account that defines the term.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **definition**

steward: **ops**
name space id: **meta**
class: **DD_Class**
version: **0.4.1.1.f**

- description: **The definition attribute provides a statement, picture in words, or account that defines the term.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **definition**

steward: **pds**
name space id: **meta**
class: **Terminological_Entry**
version: **0.4.1.1.f**

- description: **The definition attribute provides a statement, picture in words, or account that defines the term.**
- value_data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **description**

steward: **ops**
name space id: **ops**:
class: **Software_Desc**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: **ASCII_Text_Collapsed**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **description**

steward: **ops**
name space id: **ops**:
class: **Volume_PDS3**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: **ASCII_Text_Collapsed**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **description**

steward: **ops**
name space id: **ops**:
class: **Volume_Set_PDS3**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: **ASCII_Text_Collapsed**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **description**

steward: **pds**
name space id: **pds**:
class: **Archive_Bundle**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: **ASCII_Text_Collapsed**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **description**

steward: **pds**
name space id: **pds**:
class: **Bibliographic_Reference**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: **ASCII_Text_Collapsed**
- minimum_characters: **1**
- maximum_characters: **2147483647**

- **description**

steward: **pds**
name space id: **pds**:
class: **Document_Desc**

version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: 1
- maximum_characters: **2147483647**

- **description**

steward: **pds**
name space id: **pds:**
class: **Document_Format**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: 1
- maximum_characters: **2147483647**

- **description**

steward: **pds**
name space id: **pds:**
class: **Field_Statistics**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: **255**

- **description**

steward: **pds**
name space id: **pds:**
class: **Header**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: 1
- maximum_characters: **2147483647**

- **description**

steward: **pds**
name space id: **pds:**
class: **Object_Statistics**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: **255**

- **description**

steward: **pds**
name space id: **pds:**
class: **Reference**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: 1

- maximum_characters: 2147483647

- **description**

steward: **pds**
name space id: **pds**:
class: **Stream_Delimited_Field**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **description**

steward: **pds**
name space id: **pds**:
class: **Table_Field**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **description**

steward: **pds**
name space id: **pds**:
class: **TNDO_Context**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 2147483647

- **description**

steward: **pds**
name space id: **pds**:
class: **Update**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 2147483647

- **description**

steward: **pds**
name space id: **pds**:
class: **Update_Entry**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: [ASCII_Text_Preserved](#)
- minimum_characters: 1
- maximum_characters: 2147483647

- **description**

steward: **pds**

name space id: **pds:**
class: **Vector_Component**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

• **description**

steward: **pds**
name space id: **pds:**
class: **Vector_New**
version: **0.4.1.1.f**

- description: **The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.**
- value_data_type: **ASCII_Text_Collapsed**
- minimum_characters: **1**
- maximum_characters: **2147483647**

• **directory_path_name**

steward: **pds**
name space id: **pds:**
class: **Document_File**
version: **0.4.1.1.f**

- description: **The directory_path_name attribute provides a sequence of names that locates a directory in a hierarchy of directories.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

• **document_name**

steward: **pds**
name space id: **pds:**
class: **Document_Desc**
version: **0.4.1.1.f**

- description: **The document_title attribute provides the full name of the published document. This optional attribute is used only if the title in the identification area of the document product is not sufficient.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

• **doi**

steward: **pds**
name space id: **pds:**
class: **Bibliographic_Reference**
version: **0.4.1.1.f**

- description: **The doi attribute provides the Digital Object Identifier for an object, assigned by the appropriate DOI System Registration Agency.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

• **doi**

steward: **pds**
name space id: **pds:**
class: **Document_Desc**
version: **0.4.1.1.f**

- description: **The doi attribute provides the Digital Object Identifier for an object, assigned by the appropriate DOI System Registration Agency.**

- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **doi**

steward: **pds**
name space id: **pds:**
class: **Reference**
version: **0.4.1.1.f**

- description: **The doi attribute provides the Digital Object Identifier for an object, assigned by the appropriate DOI System Registration Agency.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **earth_received_start_time**

steward: **img**
name space id: **img:**
class: **Telemetry_Parameters**
version: **0.4.1.1.f**

- description: **The earth_received_start_time element provides the beginning time at which telemetry was received during a time period of interest.**
- value_data_type: [ASCII_Date_Time](#)

- **earth_received_stop_time**

steward: **img**
name space id: **img:**
class: **Telemetry_Parameters**
version: **0.4.1.1.f**

- description: **The earth_received_stop_time element provides the ending time for receiving telemetry during a time period of interest.**
- value_data_type: [ASCII_Date_Time](#)

- **eastern_most_longitude**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **editor_list**

steward: **pds**
name space id: **pds:**
class: **Document_Desc**
version: **0.4.1.1.f**

- description: **The editor_list attribute lists the editors of a work.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 510

- **edit_mode_id**

steward: **img**
name space id: **img:**
class: **Camera_Parameters**
version: **0.4.1.1.f**

- 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_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 100

- **electronic_mail_address**

steward: **ops**
name space id: **ops:**
class: **PDS_Affiliate**
version: **0.4.1.1.f**

- description: **The electronic mail address attribute provides a multi-part email address: the first part (the user name), which identifies a unique user, is separated by an "at sign" from the host name, which uniquely identifies the mail server.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **electronic_mail_address**

steward: **ops**
name space id: **ops:**
class: **PDS_Guest**
version: **0.4.1.1.f**

- description: **The electronic mail address attribute provides a multi-part email address: the first part (the user name), which identifies a unique user, is separated by an "at sign" from the host name, which uniquely identifies the mail server.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **elements**

steward: **pds**
name space id: **pds:**
class: **Array_Axis**
version: **0.4.1.1.f**

- description: **The elements attribute provides the count of the number of elements along an array axis.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: 1
- maximum_value: 2147483647

- **encoding_type**

steward: **pds**
name space id: **pds:**
class: **Array_Base**
version: **0.4.1.1.f**

- description: **The encoding_type attribute provides the storage format (binary or character).**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 30
- permissible value
BINARY

- **encoding_type**

steward: **pds**
name space id: **pds:**
class: **Document_File**
version: **0.4.1.1.f**

- description: **The encoding_type attribute provides the storage format (binary or character).**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1

- maximum_characters: 30
- permissible values
BINARY
CHARACTER

- **encoding_type**

steward: **pds**
name space id: **pds**:
class: **Encoded_Byte_Stream**
version: **0.4.1.1.f**

- description: **The encoding_type attribute provides the storage format (binary or character).**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 30
- permissible value
BINARY

- **encoding_type**

steward: **pds**
name space id: **pds**:
class: **Parsable_Byte_Stream**
version: **0.4.1.1.f**

- description: **The encoding_type attribute provides the storage format (binary or character).**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 30
- permissible value
CHARACTER

- **encoding_type**

steward: **pds**
name space id: **pds**:
class: **SPICE_Kernel_Text**
version: **0.4.1.1.f**

- description: **The encoding_type attribute provides the storage format (binary or character).**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 30
- permissible value
CHARACTER

- **encoding_type**

steward: **pds**
name space id: **pds**:
class: **Stream_Delimited**
version: **0.4.1.1.f**

- description: **The encoding_type attribute provides the storage format (binary or character).**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 30
- permissible value
CHARACTER

- **encoding_type**

steward: **pds**
name space id: **pds**:
class: **Table_Base_Binary**
version: **0.4.1.1.f**

- description: **The encoding_type attribute provides the storage format (binary or character).**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1

- maximum_characters: **30**
- permissible value
BINARY

- **encoding_type**

steward: **pds**
name space id: **pds**:
class: **Table_Base_Character**
version: **0.4.1.1.f**

- description: **The encoding_type attribute provides the storage format (binary or character).**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **30**
- permissible value
CHARACTER

- **encoding_type**

steward: **pds**
name space id: **pds**:
class: **TDO_Structures**
version: **0.4.1.1.f**

- description: **The encoding_type attribute provides the storage format (binary or character).**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **30**

- **encoding_type**

steward: **pds**
name space id: **pds**:
class: **XML_Schema**
version: **0.4.1.1.f**

- description: **The encoding_type attribute provides the storage format (binary or character).**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **30**
- permissible value
CHARACTER

- **enumeration_flag**

steward: **ops**
name space id: **meta**
class: **DD_Value_Domain**
version: **0.4.1.1.f**

- description: **The enumeration_flag attribute indicates whether there is an enumerated set of permissible values.**
- value_data_type: **ASCII_Boolean_TF** - Enumerated
- minimum_characters: **1**
- maximum_characters: **1**
- permissible values
T
F

- **error_constant**

steward: **pds**
name space id: **pds**:
class: **Special_Constants**
version: **0.4.1.1.f**

- description: **The error_constant attribute provides a value that indicates the stored value is in error.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **expected_packets**

steward: **img**
name space id: **img**:
class: **Telemetry_Parameters**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: **ASCII_Integer**
- minimum_value: **0**
- maximum_value: **2147483647**

- **exposure_duration**

steward: **img**
name space id: **img**:
class: **Camera_Parameters**
version: **0.4.1.1.f**

- 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_data_type: **ASCII_Real**
- minimum_value: **0.0**
- maximum_value: **INF**
- unit_of_measure_type: **UnitOfMeasure_Time**
- specified_unit_id: **s**

- **external_standard_id**

steward: **pds**
name space id: **pds**:
class: **Document_File**
version: **0.4.1.1.f**

- description: **The external_standard_id attribute provides the formal name of a standard not under PDS governance.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
PDF-A
ENCAPSULATED_POSTSCRIPT
GIF
HTML
JPG
LaTeX
MICROSOFT_WORD
PNG
POSTSCRIPT
RICH_TEXT
TEXT
TIFF
PDF

- **external_standard_id**

steward: **pds**
name space id: **pds**:
class: **Encoded_Binary**
version: **0.4.1.1.f**

- description: **The external_standard_id attribute provides the formal name of a standard not under PDS governance.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
System

- **external_standard_id**

steward: **pds**
name space id: **pds**:
class: **Encoded_Byte_Stream**
version: **0.4.1.1.f**

- description: **The external_standard_id attribute provides the formal name of a standard not under PDS governance.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **external_standard_id**

steward: **pds**
name space id: **pds**:
class: **Encoded_Image**
version: **0.4.1.1.f**

- description: **The external_standard_id attribute provides the formal name of a standard not under PDS governance.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
JPEG
GIF
TIFF
PDF

- **external_standard_id**

steward: **pds**
name space id: **pds**:
class: **File_PDF**
version: **0.4.1.1.f**

- description: **The external_standard_id attribute provides the formal name of a standard not under PDS governance.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
PDF

- **external_standard_id**

steward: **pds**
name space id: **pds**:
class: **Header**
version: **0.4.1.1.f**

- description: **The external_standard_id attribute provides the formal name of a standard not under PDS governance.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
VICAR
ODL
FITS
ISIS

- **external_standard_id**

steward: **pds**
name space id: **pds**:
class: **Parsable_Byte_Stream**
version: **0.4.1.1.f**

- description: **The external_standard_id attribute provides the formal name of a standard not under PDS governance.**

- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **external_standard_id**

steward: **pds**
name space id: **pds**:
class: **Service_Description**
version: **0.4.1.1.f**

- description: **The external_standard_id attribute provides the formal name of a standard not under PDS governance.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
WSDL
WADL

- **external_standard_id**

steward: **pds**
name space id: **pds**:
class: **SPICE_Kernel_Binary**
version: **0.4.1.1.f**

- description: **The external_standard_id attribute provides the formal name of a standard not under PDS governance.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible value
SPICE

- **external_standard_id**

steward: **pds**
name space id: **pds**:
class: **SPICE_Kernel_Text**
version: **0.4.1.1.f**

- description: **The external_standard_id attribute provides the formal name of a standard not under PDS governance.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible value
SPICE

- **external_standard_id**

steward: **pds**
name space id: **pds**:
class: **Stream_Delimited**
version: **0.4.1.1.f**

- description: **The external_standard_id attribute provides the formal name of a standard not under PDS governance.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
CSV
OTHER

- **external_standard_id**

steward: **pds**
name space id: **pds**:
class: **XML_Schema**

version: **0.4.1.1.f**

- description: **The external_standard_id attribute provides the formal name of a standard not under PDS governance.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
XML_Schema

- **fields**

steward: **pds**
name space id: **pds:**
class: **Inventory_LIDVID_Primary**
version: **0.4.1.1.f**

- description: **The fields attribute provides a count of the fields**
- value_data_type: **ASCII_Integer** - Enumerated
- minimum_value: **1**
- maximum_value: **2147483647**
- permissible value
2

- **fields**

steward: **pds**
name space id: **pds:**
class: **Inventory_LIDVID_Secondary**
version: **0.4.1.1.f**

- description: **The fields attribute provides a count of the fields**
- value_data_type: **ASCII_Integer** - Enumerated
- minimum_value: **1**
- maximum_value: **2147483647**
- permissible value
1

- **fields**

steward: **pds**
name space id: **pds:**
class: **Inventory_LID_Secondary**
version: **0.4.1.1.f**

- description: **The fields attribute provides a count of the fields**
- value_data_type: **ASCII_Integer** - Enumerated
- minimum_value: **1**
- maximum_value: **2147483647**
- permissible value
1

- **fields**

steward: **pds**
name space id: **pds**
class: **Manifest**
version: **0.4.1.1.f**

- description: **The fields attribute provides a count of the fields**
- value_data_type: **ASCII_Integer** - Enumerated
- minimum_value: **1**
- maximum_value: **2147483647**
- permissible value
2

- **fields**

steward: **pds**
name space id: **pds:**
class: **Stream_Delimited**

version: **0.4.1.1.f**

- description: **The fields attribute provides a count of the fields**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **fields**

steward: **pds**
name space id: **pds:**
class: **Table_Base**
version: **0.4.1.1.f**

- description: **The fields attribute provides a count of the fields**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **field_delimiter**

steward: **pds**
name space id: **pds:**
class: **Stream_Delimited**
version: **0.4.1.1.f**

- description: **The field_delimiter attribute provides the character or characters that indicate the end of a character string.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **2**
- maximum_characters: **255**
- permissible values
0x09
0x3B
0x7C
0x2C

- **field_format**

steward: **pds**
name space id: **pds:**
class: **Stream_Delimited_Field**
version: **0.4.1.1.f**

- description: **The field_format attribute gives the magnitude and precision of the data value, providing a display format.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **field_format**

steward: **pds**
name space id: **pds:**
class: **Table_Field**
version: **0.4.1.1.f**

- description: **The field_format attribute gives the magnitude and precision of the data value, providing a display format.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **field_format**

steward: **pds**
name space id: **pds:**
class: **Table_Field_Extended**
version: **0.4.1.1.f**

- description: **The field_format attribute gives the magnitude and precision of the data value, providing a display**

- **format.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **field_format**

steward: **pds**
name space id: **pds**:
class: **Table_Field_File_Specification_Name**
version: **0.4.1.1.f**

- description: **The field_format attribute gives the magnitude and precision of the data value, providing a display format.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible value
dir1/dir2/file_name.file_extension

- **field_format**

steward: **pds**
name space id: **pds**:
class: **Table_Field_LID**
version: **0.4.1.1.f**

- description: **The field_format attribute gives the magnitude and precision of the data value, providing a display format.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible value
urn:nasa:pds:xxxx

- **field_format**

steward: **pds**
name space id: **pds**:
class: **Table_Field_LIDVID**
version: **0.4.1.1.f**

- description: **The field_format attribute gives the magnitude and precision of the data value, providing a display format.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255

- **field_length**

steward: **pds**
name space id: **pds**:
class: **Stream_Delimited_Field**
version: **0.4.1.1.f**

- description: **The field_length attribute sets an upper, inclusive bound on the number of bytes in the field**
- value_data_type: [ASCII_Integer](#)
- minimum_value: 1
- maximum_value: **2147483647**

- **field_length**

steward: **pds**
name space id: **pds**:
class: **Table_Field**
version: **0.4.1.1.f**

- description: **The field_length attribute sets an upper, inclusive bound on the number of bytes in the field**
- value_data_type: [ASCII_Integer](#)
- minimum_value: 1
- maximum_value: **2147483647**

- **field_length**

steward: **pds**
name space id: **pds**:
class: **Table_Field_File_Specification_Name**
version: **0.4.1.1.f**

- description: **The field_length attribute sets an upper, inclusive bound on the number of bytes in the field**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **field_length**

steward: **pds**
name space id: **pds**:
class: **Table_Field_LIDVID**
version: **0.4.1.1.f**

- description: **The field_length attribute sets an upper, inclusive bound on the number of bytes in the field**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **field_location**

steward: **pds**
name space id: **pds**:
class: **Table_Character_Field**
version: **0.4.1.1.f**

- description: **The field_location attribute provides the starting position for a field within a record, counting from 1.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **field_location**

steward: **pds**
name space id: **pds**:
class: **Table_Field**
version: **0.4.1.1.f**

- description: **The field_location attribute provides the starting position for a field within a record, counting from 1.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **field_location**

steward: **pds**
name space id: **pds**:
class: **Table_Field_File_Specification_Name**
version: **0.4.1.1.f**

- description: **The field_location attribute provides the starting position for a field within a record, counting from 1.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **field_location**

steward: **pds**
name space id: **pds**:
class: **Table_Field_LID**
version: **0.4.1.1.f**

- description: **The field_location attribute provides the starting position for a field within a record, counting from 1.**
- value_data_type: **ASCII_Integer** - Enumerated

- minimum_value: 1
- maximum_value: 2147483647
- permissible value
1

- **field_location**

steward: **pds**
name space id: **pds**:
class: **Table_Field_LIDVID**
version: **0.4.1.1.f**

- description: **The field_location attribute provides the starting position for a field within a record, counting from 1.**
- value_data_type: **ASCII_Integer** - Enumerated
- minimum_value: 1
- maximum_value: 2147483647
- permissible value
1

- **field_number**

steward: **pds**
name space id: **pds**:
class: **Stream_Delimited_Field**
version: **0.4.1.1.f**

- description: **The field_number attribute provides the position of a field, within a series of fields, counting from 1.**
- value_data_type: **ASCII_Integer**
- minimum_value: 1
- maximum_value: 2147483647

- **field_number**

steward: **pds**
name space id: **pds**:
class: **Table_Field**
version: **0.4.1.1.f**

- description: **The field_number attribute provides the position of a field, within a series of fields, counting from 1.**
- value_data_type: **ASCII_Integer**
- minimum_value: 1
- maximum_value: 2147483647

- **field_number**

steward: **pds**
name space id: **pds**:
class: **Table_Field_Checksum**
version: **0.4.1.1.f**

- description: **The field_number attribute provides the position of a field, within a series of fields, counting from 1.**
- value_data_type: **ASCII_Integer** - Enumerated
- minimum_value: 1
- maximum_value: 2147483647
- permissible value
2

- **field_number**

steward: **pds**
name space id: **pds**:
class: **Table_Field_File_Specification_Name**
version: **0.4.1.1.f**

- description: **The field_number attribute provides the position of a field, within a series of fields, counting from 1.**
- value_data_type: **ASCII_Integer** - Enumerated
- minimum_value: 1
- maximum_value: 2147483647
- permissible value
2

- **field_number**

steward: **pds**
name space id: **pds:**
class: **Table_Field_LID**
version: **0.4.1.1.f**

- description: **The field_number attribute provides the position of a field, within a series of fields, counting from 1.**
- value_data_type: **ASCII_Integer** - Enumerated
- minimum_value: **1**
- maximum_value: **2147483647**
- permissible value
1

- **field_number**

steward: **pds**
name space id: **pds:**
class: **Table_Field_LIDVID**
version: **0.4.1.1.f**

- description: **The field_number attribute provides the position of a field, within a series of fields, counting from 1.**
- value_data_type: **ASCII_Integer** - Enumerated
- minimum_value: **1**
- maximum_value: **2147483647**
- permissible value
1

- **files**

steward: **ops**
name space id: **ops:**
class: **Software_Binary**
version: **0.4.1.1.f**

- description: **The files attribute provides the number of files.**
- value_data_type: **ASCII_Integer**
- minimum_value: **-2147483648**
- maximum_value: **2147483647**

- **files**

steward: **ops**
name space id: **ops:**
class: **Software_Format**
version: **0.4.1.1.f**

- description: **The files attribute provides the number of files.**
- value_data_type: **ASCII_Integer**
- minimum_value: **-2147483648**
- maximum_value: **2147483647**

- **files**

steward: **ops**
name space id: **ops:**
class: **Software_Script**
version: **0.4.1.1.f**

- description: **The files attribute provides the number of files.**
- value_data_type: **ASCII_Integer**
- minimum_value: **-2147483648**
- maximum_value: **2147483647**

- **files**

steward: **ops**
name space id: **ops:**
class: **Software_Source**
version: **0.4.1.1.f**

- description: **The files attribute provides the number of files.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: **-2147483648**
- maximum_value: **2147483647**

- **file_name**

steward: **pds**
name space id: **pds:**
class: **File**
version: **0.4.1.1.f**

- description: **The file_name attribute provides the name of a file.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **file_size**

steward: **pds**
name space id: **pds:**
class: **File**
version: **0.4.1.1.f**

- description: **The file_size attribute provides the size of the file.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: **-2147483648**
- maximum_value: **2147483647**

- **file_specification_name**

steward: **pds**
name space id: **pds:**
class: **Bundle_Member_Entry**
version: **0.4.1.1.f**

- description: **The file_specification_name attribute provides the file_name prepended by the directory_path to the file.**
- value_data_type: [ASCII_File_Specification_Name](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **file_specification_name**

steward: **pds**
name space id: **pds:**
class: **Zipped_Member_Entry**
version: **0.4.1.1.f**

- description: **The file_specification_name attribute provides the file_name prepended by the directory_path to the file.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **filter_id**

steward: **img**
name space id: **img:**
class: **Camera_Parameters**
version: **0.4.1.1.f**

- description: **(Old filter_number) This element provides the unique identifier of an instrument filter through which an image or measurement was acquired or which is associated with a given instrument mode.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
0
1

2
3
4
5
6
7
8
A
B
C1
C2
C3
D
HFM1
LFM1

- **filter_name**

steward: **img**

name space id: **img:**

class: **Camera_Parameters**

version: **0.4.1.1.f**

- 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_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **100**
- permissible values

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

- **first_line**

steward: **pds**
name space id: **pds:**
class: **Image_2D_Display**
version: **0.4.1.1.f**

- description: **The first_line attribute provides the line within a source image that corresponds to the first line in a sub-image.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **first_line_sample**

steward: **pds**
name space id: **pds:**
class: **Image_2D_Display**
version: **0.4.1.1.f**

- description: **The first_line_sample attribute provides the sample within a source image line that corresponds to the first line in a sub-image.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **first_sampling_parameter_value**

steward: **pds**
name space id: **pds:**
class: **Uniformly_Sampled**
version: **0.4.1.1.f**

- description: **The first_sampling_parameter_value element provides the first value in an ascending series and is therefore the minimum value at which a given data item was sampled.**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

- **first_standard_parallel**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **-90.0**
- maximum_value: **90.0**
- unit_of_measure_type: **UnitOfMeasure_Angle**
- specified_unit_id: **deg**

- **formation_rule**

steward: **ops**
name space id: **meta**
class: **DD_Value_Domain**
version: **0.4.1.1.f**

- description: **The formation_rule attribute provides a 'user friendly' instruction for forming values.**
- value_data_type: **ASCII_Short_String_Collapsed**

- minimum_characters: 1
- maximum_characters: 255

- **format_type**

steward: **pds**
name space id: **pds:**
class: **Document_Format**
version: **0.4.1.1.f**

- description: **The format type attribute indicates the digital format used.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
HTML
TEXT
PDF-A

- **full_name**

steward: **ops**
name space id: **ops:**
class: **Local_DD**
version: **0.4.1.1.f**

- description: **The full_name attribute provides the complete name for a person performing the role of lexicographer.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: 1
- maximum_characters: 255

- **full_name**

steward: **pds**
name space id: **pds:**
class: **Subject_Area**
version: **0.4.1.1.f**

- description: **The full_name attribute provides the complete name for a person and includes titles and suffixes.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: 1
- maximum_characters: 255

- **full_name**

steward: **pds**
name space id: **pds:**
class: **Update_Entry**
version: **0.4.1.1.f**

- description: **The full_name attribute provides the complete name for a person and includes titles and suffixes.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: 1
- maximum_characters: 255

- **gain_mode_id**

steward: **img**
name space id: **img:**
class: **Camera_Parameters**
version: **0.4.1.1.f**

- 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_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 100
- permissible values
100K
10K

400K
40K
HIGH
LOW

- **home**

steward: **ops**
name space id: **ops**
class: **Identification_Area_System**
version: **0.4.1.1.f**

- description: **The home attribute indicates where an object resides. It provides sufficient information to be able to access the object.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **horizontal_framelet_offset**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **1.0**
- maximum_value: **INF**

- **image_id**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_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: **0.4.1.1.f**

- description: **The incidence_angle element provides a measure of the lighting condition at the intercept point. Incidence angle is the angle between the local vertical at the intercept point (surface) and a vector from the intercept point to the sun. The incidence_angle varies from 0 degrees when the intercept point coincides with the sub_solar point to 90 degrees when the intercept point is at the terminator (i.e., in the shadowed or dark portion of the target body). Thus, higher values of incidence_angle indicate the existence of a greater number of surface shadows. Note: In PDS labels for Magellan's altimetry and radiometry products, incidence_angle is defined as the value of the angle between the local vertical and the spacecraft direction, measured at the center of the radiometer footprint at rad_spacecraft_epoch_time.**
- value_data_type: **ASCII_Real**
- minimum_value: **0.0**
- maximum_value: **180.0**
- unit_of_measure_type: **UnitOfMeasure_Angle**
- specified_unit_id: **deg**

- **install_notes**

steward: **ops**
name space id: **ops:**
class: **Software_Script**
version: **0.4.1.1.f**

- description: **The install notes attribute provides a brief statement giving particulars about the installation of the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **institution_name**

steward: **ops**
name space id: **ops**:
class: **Node**
version: **0.4.1.1.f**

- description: **The institution_name attribute provides the name of the associated institution.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255
- pattern: `[a-zA-Z]{1}([-/, _a-zA-Z0-9]*)`

- **institution_name**

steward: **ops**
name space id: **ops**:
class: **PDS_Affiliate**
version: **0.4.1.1.f**

- description: **The institution_name attribute provides the name of the associated institution.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255
- pattern: `[a-zA-Z]{1}([-/, _a-zA-Z0-9]*)`

- **instrument_desc**

steward: **ops**
name space id: **ops**:
class: **Instrument_PDS3**
version: **0.4.1.1.f**

- description: **The instrument_desc attribute describes a given instrument.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 2147483647

- **instrument_host_desc**

steward: **ops**
name space id: **ops**:
class: **Instrument_Host_PDS3**
version: **0.4.1.1.f**

- description: **The instrument_host_desc provides a description of an instrument host**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 2147483647

- **instrument_host_id**

steward: **ops**
name space id: **ops**:
class: **Instrument_Host_PDS3**
version: **0.4.1.1.f**

- description: **The instrument_host_id attribute provides a unique identifier for the host on which an instrument is located. This host can be either a spacecraft or an earth base (e.g. earth).**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
24COL

A12A
A12C
A12L
A14A
A14C
A14L
A15A
A15C
A15L
A15S
AAO
AMON
APO35M
ARCB
ASTR
AUSTC14
BUGLAB
C130
C154
CFHT
CH1-ORB
CLEM1
CO
CON
CTIO
CTIO15
CTIO15M
CTIOPPT
DAWN
DIF
DII
DS1
ECAS
ER-2
ESO
ESO1M
ESO22M
FEXP
GDSCC
GEMGB
GIO
GO
GP
GSR
GSSR
HAY
HP
HST
HSTK
ICE
IRAS
IRSN
IRTF
IUE
KECK1
KP36
KP50
KP84
LAB510
LCROSS
LICK1M
LO72
LOWELL
LP
LRO
LSPN
M10
MCD21
MCD27
MCD27M
MDM
MER1
MER2

MESS
MEX
MGN
MGS
MK88
MKO
MKOPPT
MKOUH22M
MMTO
MO
MODEL
MPFL
MPFR
MR6
MR7
MR9
MRO
MRO24M
MSN
MSSSO
MSX
MTBG61
MTSC14
N/A
NDC8
NEAR
NH
NNSN
NRAO
O325T1
O325T2
O376T1
O376T3
O413T2
OAO
OBS007T1
OBS055T3
OBS055T4
OBS055T6
OBS056T2
OBS056T3
OBS056T6
OBS056T9
OBS060T2
OBS157T4
OBS211T1
OBS211T2
OBS240T1
OBS270T7
OBS288T5
OBS295T3
OBS320T13
OBS321T1
OBS321T3
OBS321T4
OBS325T1
OBS325T2
OBS326T2
OBS327T1
OBS333T1
OBS333T2
OBS3340T1
OBS347T3
OBS376T1
OBS376T2
OBS376T3
OBS378T2
OBS413T2
OBS445T3
OBS4701T1
OBS4702T1
OBS4703T1
ODY

P10
P11
P12
PAL
PAL200
PEDB
PGD
PHB2
PHX
PPN
PUBLIT
PVO
REUNIC14
RL
RO
RSN
S229
SAKIG
SDU
SOHO
SPEC
SUISEI
TRRLAB
UH
ULY
UNK
VARGBTEL
VEGA1
VEGA2
VEX
VG1
VG2
VL1
VL2
VO1
VO2
VTH
WFF
WHT
WIYN

- **instrument_host_name**

steward: **ops**
name space id: **ops**:
class: **Instrument_Host_PDS3**
version: **0.4.1.1.f**

- description: **The instrument_host_name attribute provides the full name of the platform or facility upon which an instrument or other device is mounted. For example, the host can be a spacecraft, a ground-based telescope, or a laboratory.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **instrument_host_name**

steward: **pds**
name space id: **pds**:
class: **Subject_Area**
version: **0.4.1.1.f**

- description: **The instrument_host_name attribute provides the full name of the platform or facility upon which an instrument or other device is mounted. For example, the host can be a spacecraft, a ground-based telescope, or a laboratory.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **instrument_host_type**

steward: **ops**
name space id: **ops**:
class: **Instrument_Host_PDS3**
version: **0.4.1.1.f**

- description: **The instrument_host_type attribute provides the type of host on which an instrument is based. For example instrument is located on a spacecraft instrument_host_type attribute would have the value SPACECRAFT.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
data_base
earth_based
n/a
rover
spacecraft
unk

- **instrument_id**

steward: **ops**
name space id: **ops**:
class: **Instrument_PDS3**
version: **0.4.1.1.f**

- description: **The instrument id provides a formal name used to refer to an instrument.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
2cp
8cps
a-star
accel
acp
ames-gcm
ampg
amsp
amvis
api
apph
aps
apxs
asar
asas
asi
asimet
astr
avir
awnd
b&c
b-star
cam1
cam2
caps

- **instrument_name**

steward: **ops**
name space id: **ops**:
class: **Instrument_PDS3**
version: **0.4.1.1.f**

- description: **The instrument_name attribute provides a unique name for an instrument.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **instrument_name**

steward: **pds**
name space id: **pds**:
class: **Subject_Area**
version: **0.4.1.1.f**

- description: **The instrument_name attribute provides a unique name for an instrument.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **instrument_serial_number**

steward: **ops**
name space id: **ops**:
class: **Instrument_PDS3**
version: **0.4.1.1.f**

- description: **TBD_description**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **instrument_type**

steward: **ops**
name space id: **ops**:
class: **Instrument_PDS3**
version: **0.4.1.1.f**

- description: **The instrument_type attribute identifies the type of an instrument. Example values: POLARIMETER SPECTROMETER**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
3-color_pushbroom_imager
abrader
accelerometer
acoustic_sensor
anemometer
antennae
atmospheric_profiler
attitude_control_system
barometer
beta_detector
bolometer
calorimeter/spectrometer
camera
ccd
ccd_camera
ccd/spectrograph
charged_particle_analyzer
charged_particle_telescope
computation
cosmic_dust_analyzer
cosmic_ray_detector
detector_array
dosimeter
drill
dust_detector
dust_impact_detector
dust_sample_collector
electrode_collector
electron_reflectometer
electron_spectrometer
electronics
electrostatic_analyzer
energetic_particle_detector
energetic_particles_detector
eye
faraday_cup
fluxgate_magnetometer

fluxgate_sensor
framing_camera
gamma_ray_spectrometer
gamma-ray_burst_detector
gas_detector
high_energy_particle_detector
housekeeping
hygrometer
imager
imaging_camera
imaging_science_subsystem
imaging_spectrometer
in_situ_meteorology
inertial_measurement_unit
infrared_imager
infrared_imaging_device
infrared_imaging_spectrometer
infrared_interferometer
infrared_photometer
infrared_polarimeter
infrared_spectrometer
ion_mass_spectrometer
laser_altimeter
laser_rangefinder
lidar
linear_array_camera
low-frequency_radio_array
magnetometer
magnetometer_electron_reflecto
magnetospheric_imaging
mass_spectrometer
material_property_sensor
meteorology
microscope
n/a
nephelometer
neutral_particle_detector
neutron_spectrometer
optical_scanning_radiometer
optical_spectrograph
optical_telescope
particle_counter
particle_detector
particle_telescope
photoelectric_photometer
photometer
photomultiplier
photopolarimeter
photopolarimeter_radiometer
plasma_experiment
plasma_instrument
plasma_wave
plasma_wave_spectrometer
polarimeter
probe
quadrapole_mass_spectrometer
quadrupole_mass_spectrometer
radar
radar_antenna
radar_mapper
radar_transmitter/receiver
radio_and_plasma_wave_science
radio_science
radio_science_transponder
radio_spectrometer
radio_telescope
radiometer
radiometer-spectrophotometer
reference_data
reflectance_spectrometer
retarding_potential_analyzer
robotic_arm
scanning_probe_microscope

spectral_imager
spectrograph
spectrometer
spectrometric_coronagraph
spectroreflectometer
star_scanner
synthesized_array
telescope
thermal_infrared_spectrometer
thermistor
thermometer
total_power_detector
ultraviolet_spectrometer
unk
unknown
uv/visible_spectrometer
vidicon_camera
visible_spectrometer
visual_count
wide_field_camera
wide_field_planetary_camera_2
xray_spectrometer

- **instrument_version_id**

steward: **ops**
name space id: **ops:**
class: **Instrument_PDS3**
version: **0.4.1.1.f**

- description: **TBD_description**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
bb
em
fm

- **invalid_constant**

steward: **pds**
name space id: **pds:**
class: **Special_Constants**
version: **0.4.1.1.f**

- description: **The invalid_constant attribute provides a value that indicates the original value was invalid.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **investigation_name**

steward: **pds**
name space id: **pds:**
class: **Subject_Area**
version: **0.4.1.1.f**

- description: **The investigation_name attribute provides a unique name for an investigation.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **kernel_type**

steward: **pds**
name space id: **pds:**
class: **SPICE_Kernel_Binary**
version: **0.4.1.1.f**

- description: **The kernel_type attribute identifies the type of SPICE kernel.**

- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
 - SPK**
 - PCK**
 - CK**
 - EK**
 - DSK**
 - DBK**

- **kernel_type**

steward: **pds**
 name space id: **pds**:
 class: **SPICE_Kernel_Text**
 version: **0.4.1.1.f**

- description: **The kernel_type attribute identifies the type of SPICE kernel.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
 - LSK**
 - SCLK**
 - PCK**
 - EK**
 - IK**
 - FK**
 - MK**

- **keywords**

steward: **pds**
 name space id: **pds**:
 class: **Subject_Area**
 version: **0.4.1.1.f**

- description: **The keywords attribute provides one or more words to be used for keyword search.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **language**

steward: **pds**
 name space id: **meta**
 class: **Terminological_Entry**
 version: **0.4.1.1.f**

- description: **The language attribute provides the language used for definition and designation of the term.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible value
 - English**

- **last_modification_date_time**

steward: **ops**
 name space id: **ops**:
 class: **Local_DD**
 version: **0.4.1.1.f**

- description: **The last_modification_date_time attribute gives the most recent date and time that a change was made.**
- value_data_type: [ASCII_Date_Time](#)

- **last_modification_date_time**

steward: **pds**
name space id: **pds:**
class: **Identification_Area**
version: **0.4.1.1.f**

- description: **The last_modification_date_time attribute gives the most recent date and time that a change was made.**
- value_data_type: **ASCII_Date_Time**

- **last_sampling_parameter_value**

steward: **pds**
name space id: **pds:**
class: **Uniformly_Sampled**
version: **0.4.1.1.f**

- description: **The last_sampling_parameter_value element provides the last value in an ascending series and is therefore the maximum value at which a given data item was sampled.**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

- **lidvid_reference**

steward: **pds**
name space id: **pds:**
class: **Bundle_Member_Entry**
version: **0.4.1.1.f**

- description: **The lidvid_reference attribute provides the logical_identifier plus version_id, which uniquely identify another product.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **lidvid_reference**

steward: **pds**
name space id: **pds:**
class: **Name_Resolution**
version: **0.4.1.1.f**

- description: **The lidvid_reference attribute provides the unique identifier for the product that describes the object.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**
- pattern: **urn:nasa:pds:{1}[a-zA-Z]{1}([^x20][⁻/₋ a-zA-Z0-9])(^{*})([0-9]*)([?])([0-9]*)**

- **lidvid_reference**

steward: **pds**
name space id: **pds:**
class: **Reference_Entry_Generic**
version: **0.4.1.1.f**

- description: **The lidvid_reference attribute provides the logical_identifier plus version_id, which uniquely identify another product.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**
- pattern: **urn:nasa:pds:{1}[a-zA-Z]{1}([^x20][⁻/₋ a-zA-Z0-9])(^{*})([0-9]*)([?])([0-9]*)**

- **lidvid_reference**

steward: **pds**
name space id: **pds:**
class: **Zipped_Member_Entry**
version: **0.4.1.1.f**

- description: **The lidvid_reference attribute provides the logical_identifier plus version_id, which uniquely identify**

- **another product.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255
- pattern: `urn:nasa:pds:{1}[a-zA-Z]{1}([^\x20][-/ _a-zA-Z0-9])(:*)([0-9]*)(. ?)([0-9]*)`

- **lid_reference**

steward: **pds**
name space id: **pds:**
class: **Bundle_Member_Entry**
version: **0.4.1.1.f**

- description: **The lid_reference attribute provides the logical identifier for another product, referenced from this one.**
- value_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: **0.4.1.1.f**

- description: **The lid_reference attribute provides the logical identifier for another product, referenced from this one.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **line_display_direction**

steward: **pds**
name space id: **pds:**
class: **Image_2D_Display**
version: **0.4.1.1.f**

- description: **The line_display_direction attribute provides the preferred direction for displaying image lines on a display device. The default value is down, meaning lines are displayed top to bottom. When used, line_display_direction must be accompanied by sample_display_direction which gives the order of sample display within each line.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
RIGHT
UP
LEFT
DOWN

- **line_first_pixel**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: 0
- maximum_value: 2147483647

- **line_last_pixel**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: **0**
- maximum_value: **2147483647**

- **line_projection_offset**

steward: **img**
name space id: **img**:
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-INF**
- maximum_value: **INF**
- unit_of_measure_type: **UnitOfMeasure_Misc**
- specified_unit_id: **pixel**

- **local_identifier**

steward: **img**
name space id: **img**:
class: **Imaging**
version: **0.4.1.1.f**

- 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_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **local_identifier**

steward: **ops**
name space id: **ops**:
class: **DD_Association**
version: **0.4.1.1.f**

- description: **The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **local_identifier**

steward: **ops**
name space id: **ops**:
class: **DD_Class**
version: **0.4.1.1.f**

- description: **The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **local_identifier**

steward: **pds**
name space id: **pds**:
class: **File**
version: **0.4.1.1.f**

- description: **The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **local_identifier**

steward: **pds**
name space id: **pds:**
class: **Observing_System**
version: **0.4.1.1.f**

- description: **The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **local_identifier**

steward: **pds**
name space id: **pds:**
class: **TDO_Structures**
version: **0.4.1.1.f**

- description: **The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **local_identifier**

steward: **pds**
name space id: **pds:**
class: **TNDO_Supplemental**
version: **0.4.1.1.f**

- description: **The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **local_mean_solar_time**

steward: **pds**
name space id: **pds:**
class: **Observation_Area**
version: **0.4.1.1.f**

- description: **The local_mean_solar_time attribute provides the hour angle of the fictitious mean Sun at a fixed point on a rotating solar system body.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **8**
- maximum_characters: **255**

- **local_true_solar_time**

steward: **pds**
name space id: **pds:**
class: **Observation_Area**
version: **0.4.1.1.f**

- description: **The local_true_solar_time (LTST) attribute provides the local time on a rotating solar system body where LTST is 12 h at the sub-solar point (SSP) and increases 1 h for each 15 degree increase in east longitude away from the SSP for prograde rotation.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **8**
- maximum_characters: **255**

- **logical_identifier**

steward: **pds**
name space id: **pds:**

class: **Identification_Area**
version: **0.4.1.1.f**

- description: **A logical identifier identifies the set of all versions of an object. It is an object identifier without a version.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **map_projection_name**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **(Old map_projection_type). This element identifies the type of projection characteristic of a given map.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
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

- **map_projection_rotation**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **0.0**
- maximum_value: **180.0**
- unit_of_measure_type: **UnitOfMeasure_Angle**
- specified_unit_id: **deg**

- **map_resolution**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **0.0**
- maximum_value: **INF**

- unit_of_measure_type: **UnitOfMeasure_Scale**
- specified_unit_id: **pixel/deg**

- **map_scale**

steward: **img**
name space id: **img**:
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**
- unit_of_measure_type: **UnitOfMeasure_Scale**
- specified_unit_id: **km/pixel**

- **maximum**

steward: **pds**
name space id: **pds**:
class: **Field_Statistics**
version: **0.4.1.1.f**

- description: **The maximum attribute provides the largest stored value which actually appears in the (repeating) field; empty and Special_Constant field values are excluded.**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

- **maximum**

steward: **pds**
name space id: **pds**:
class: **Object_Statistics**
version: **0.4.1.1.f**

- description: **The maximum attribute provides the largest stored value which actually appears in the (repeating) field; empty and Special_Constant field values are excluded.**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

- **maximum_characters**

steward: **ops**
name space id: **meta**
class: **DD_Value_Domain**
version: **0.4.1.1.f**

- description: **The maximum_characters attribute provides the upper, inclusive bound on the number of characters.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **maximum_latitude**

steward: **img**
name space id: **img**:
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **-90.0**
- maximum_value: **90.0**
- unit_of_measure_type: **UnitOfMeasure_Angle**
- specified_unit_id: **deg**

- **maximum_occurrences**

steward: **ops**
name space id: **ops**:
class: **DD_Association**
version: **0.4.1.1.f**

- description: **The maximum occurrences attribute indicates the number of times something may occur and is also called the maximum cardinality.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **maximum_record_bytes**

steward: **pds**
name space id: **pds**:
class: **File**
version: **0.4.1.1.f**

- description: **The maximum_record_bytes attribute provides the maximum number of bytes that may be contained in a record.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **maximum_record_length**

steward: **pds**
name space id: **pds**:
class: **Stream_Delimited**
version: **0.4.1.1.f**

- description: **The maximum_record_length attribute provides the upper, inclusive bound on the length of a record, including any record delimiter.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **maximum_ring_radius**

steward: **rings**
name space id: **rings**:
class: **Rings_Prod_Info**
version: **0.4.1.1.f**

- description: **The maximum_ring_radius element indicates the maximum (outermost) radial location of an area within a planetary ring system. Radii are measured from the center of the planet along the nominal ring plane.**
- value_data_type: **ASCII_Real**
- minimum_value: **0.0**
- maximum_value: **INF**
- unit_of_measure_type: **UnitOfMeasure_Length**
- specified_unit_id: **m**

- **maximum_scaled_value**

steward: **pds**
name space id: **pds**:
class: **Stream_Delimited_Field**
version: **0.4.1.1.f**

- description: **The maximum_scaled_value attribute provides the maximum value after application of "scaling_factor" and "offset".**
- value_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: **0.4.1.1.f**

- description: **The maximum_scaled_value attribute provides the maximum value after application of "scaling_factor" and "offset".**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **maximum_value**

steward: **ops**
name space id: **meta**
class: **DD_Value_Domain**
version: **0.4.1.1.f**

- description: **The maximum_value attribute provides the upper, inclusive bound on the value.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **md5_checksum**

steward: **pds**
name space id: **pds:**
class: **File**
version: **0.4.1.1.f**

- description: **The md5_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **32**
- maximum_characters: **32**
- pattern: **{[a-f0-9]{32}}**

- **md5_checksum**

steward: **pds**
name space id: **pds:**
class: **Object_Statistics**
version: **0.4.1.1.f**

- description: **The md5_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **32**
- maximum_characters: **32**
- pattern: **{[a-f0-9]{32}}**

- **md5_checksum**

steward: **pds**
name space id: **pds:**
class: **Zipped_Member_Entry**
version: **0.4.1.1.f**

- description: **The md5_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **32**
- maximum_characters: **32**
- pattern: **{[a-f0-9]{32}}**

- **mean**

steward: **pds**
name space id: **pds:**
class: **Field_Statistics**
version: **0.4.1.1.f**

- description: **The mean attribute provides the sum of the field values divided by the number of values (empty or Special_Constants values in the repeating fields are excluded).**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-INF**
- maximum_value: **INF**

- **mean**

steward: **pds**
name space id: **pds:**
class: **Object_Statistics**
version: **0.4.1.1.f**

- description: **The mean attribute provides the sum of the field values divided by the number of values (empty or Special_Constants values in the repeating fields are excluded).**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-INF**
- maximum_value: **INF**

- **median**

steward: **pds**
name space id: **pds:**
class: **Field_Statistics**
version: **0.4.1.1.f**

- description: **The median attribute provides the number separating the higher half of field values from the lower half; empty and Special_Constants values in the repeating fields are excluded.**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-INF**
- maximum_value: **INF**

- **median**

steward: **pds**
name space id: **pds:**
class: **Object_Statistics**
version: **0.4.1.1.f**

- description: **The median attribute provides the number separating the higher half of field values from the lower half; empty and Special_Constants values in the repeating fields are excluded.**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-INF**
- maximum_value: **INF**

- **medium_type**

steward: **ops**
name space id: **ops:**
class: **NSSDC**
version: **0.4.1.1.f**

- description: **The medium_type attribute identifies the physical storage medium for a data volume. Examples: CD-ROM, CARTRIDGE TAPE.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **medium_type**

steward: **ops**
name space id: **ops:**
class: **Volume_PDS3**
version: **0.4.1.1.f**

- description: **The medium_type attribute identifies the physical storage medium for a data volume. Examples: CD-ROM, CARTRIDGE TAPE.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **minimum**

steward: **pds**
name space id: **pds:**
class: **Field_Statistics**
version: **0.4.1.1.f**

- description: **The minimum attribute provides the largest stored value which actually appears in the (repeating) field; empty and Special_Constant field values are excluded.**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-INF**
- maximum_value: **INF**

- **minimum**

steward: **pds**
name space id: **pds:**
class: **Object_Statistics**
version: **0.4.1.1.f**

- description: **The minimum attribute provides the largest stored value which actually appears in the (repeating) field; empty and Special_Constant field values are excluded.**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-INF**
- maximum_value: **INF**

- **minimum_characters**

steward: **ops**
name space id: **meta**
class: **DD_Value_Domain**
version: **0.4.1.1.f**

- description: **The minimum_characters attribute provides the lower, inclusive bound on the number of characters.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **minimum_latitude**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-90.0**
- maximum_value: **90.0**
- unit_of_measure_type: **UnitOfMeasure_Angle**
- specified_unit_id: **deg**

- **minimum_occurrences**

steward: **ops**
name space id: **ops:**
class: **DD_Association**
version: **0.4.1.1.f**

- description: **The minimum occurrences attribute indicates the number of times something may occur and is also called the minimum cardinality.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **minimum_ring_radius**

steward: **rings**
name space id: **rings:**
class: **Rings_Prod_Info**

version: **0.4.1.1.f**

- description: **The minimum_ring_radius element indicates the minimum (innermost) radial location of an area within a planetary ring system. Radii are measured from the center of the planet along the nominal ring plane.**
- value_data_type: [ASCII_Real](#)
- minimum_value: **0.0**
- maximum_value: **INF**
- unit_of_measure_type: **UnitOfMeasure_Length**
- specified_unit_id: **m**

- **minimum_scaled_value**

steward: **pds**
name space id: **pds**:
class: **Stream_Delimited_Field**
version: **0.4.1.1.f**

- description: **The minimum_scaled_value attribute provides the minimum value after application of "scaling_factor" and "offset".**
- value_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: **0.4.1.1.f**

- description: **The minimum_scaled_value attribute provides the minimum value after application of "scaling_factor" and "offset".**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **minimum_value**

steward: **ops**
name space id: **meta**
class: **DD_Value_Domain**
version: **0.4.1.1.f**

- description: **The minimum_value attribute provides the lower inclusive bound on the value.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **missing_constant**

steward: **pds**
name space id: **pds**:
class: **Special_Constants**
version: **0.4.1.1.f**

- description: **The missing_constant attribute provides a value that indicates the original value was missing.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **mission_desc**

steward: **ops**
name space id: **ops**:
class: **Mission_PDS3**
version: **0.4.1.1.f**

- description: **The mission_desc attribute summarizes major aspects of a planetary mission or project, including the number and type of spacecraft, the target body or bodies and major accomplishments.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: **1**

- maximum_characters: 2147483647

- **mission_name**

steward: ops

name space id: ops:

class: Mission_PDS3

version: 0.4.1.1.f

- description: The mission_name attribute identifies a major planetary mission or project. A given planetary mission may be associated with one or more spacecraft.
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
 - 2001_mars_odyssey
 - apollo_12
 - apollo_14
 - apollo_15
 - asteroid_observations
 - cassini-huygens
 - cassini-huygens_mission_to_saturn_and_titan
 - chandrayaan-1
 - comet_sl9/jupiter_collision
 - contour_mission
 - dawn
 - dawn_mission_to_vesta_and_ceres
 - deep_impact
 - deep_space_1
 - deep_space_program_science_experiment
 - epoxi
 - galileo
 - geologic_remote_sensing_field_experiment
 - giotto
 - giotto_extended_mission
 - ground_based_atmospheric_observations
 - hayabusa
 - hst
 - ihw
 - infrared_astronomical_satellite
 - international_cometary_explorer
 - international_halley_watch
 - international_rosetta_mission
 - international_ultraviolet_explorer
 - iue
 - lunar_crater_observation_and_sensing_satellite
 - lunar_prospector
 - lunar_reconnaissance_orbiter
 - magellan
 - mariner_10
 - mariner69
 - mariner71
 - mars_environmental_survey_(mesur_pathfinder)
 - mars_exploration_rover
 - mars_express
 - mars_global_surveyor
 - mars_observer
 - mars_pathfinder
 - mars_reconnaissance_orbiter
 - messenger
 - midcourse_space_experiment
 - n/a
 - near_earth_asteroid_rendezvous
 - new_horizons
 - phobos_2
 - phoenix
 - pioneer
 - pioneer_10
 - pioneer_11
 - pioneer_venus
 - pre-magellan
 - sakigake

saturn_occultation_of_28_sagittarius_1989
saturn_ring_plane_crossing_1995
saturn_small_satellite_astrometry
solar_and_heliospheric_observatory
stardust
suisei
support_archives
ulysses
vega_1
vega_2
venus_express
viking
voyager

- **mission_objectives_summary**

steward: **ops**
name space id: **ops**:
class: **Mission_PDS3**
version: **0.4.1.1.f**

- description: **The mission_objectives_summary attribute describes the major scientific objectives of a planetary mission or project.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **mission_phase_name**

steward: **pds**
name space id: **pds**:
class: **Observation_Area**
version: **0.4.1.1.f**

- description: **The mission_phase_name attribute provides the commonly recognized name for a mission phase.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **mission_start_date**

steward: **ops**
name space id: **ops**:
class: **Mission_PDS3**
version: **0.4.1.1.f**

- description: **The mission_start_date attribute provides the date of the beginning of a mission in UTC system format.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **mission_stop_date**

steward: **ops**
name space id: **ops**:
class: **Mission_PDS3**
version: **0.4.1.1.f**

- description: **The mission_stop_date attribute provides the date of the end of a mission in UTC system format.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **naif_host_id**

steward: **pds**
name space id: **pds**:
class: **Instrument_Host**
version: **0.4.1.1.f**

- description: **The naif_instrument_id element provides the numeric ID used within the SPICE system to identify the spacecraft, spacecraft structure or science instrument.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **naif_instrument_id**

steward: **pds**
name space id: **pds:**
class: **Instrument**
version: **0.4.1.1.f**

- description: **The naif_instrument_id element provides the numeric ID used within the SPICE system to identify the spacecraft, spacecraft structure or science instrument.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **name**

steward: **ops**
name space id: **ops:**
class: **DD_Attribute**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **name**

steward: **ops**
name space id: **ops:**
class: **DD_Attribute_Full**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **name**

steward: **ops**
name space id: **ops:**
class: **DD_Class**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **name**

steward: **ops**
name space id: **ops:**
class: **Software_Desc**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **name**

steward: **pds**

name space id: **pds**:
class: **Array_Axis**
version: **0.4.1.1.f**

- description: **The name attribute indicates the label or significance of the dimension.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **61**

• **name**

steward: **pds**
name space id: **pds**:
class: **Bibliographic_Reference**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

• **name**

steward: **pds**
name space id: **pds**:
class: **Header**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **61**

• **name**

steward: **pds**
name space id: **pds**:
class: **Name_Resolution**
version: **0.4.1.1.f**

- description: **The name attribute provides a title for the object.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **61**

• **name**

steward: **pds**
name space id: **pds**:
class: **Observing_System_Component**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

• **name**

steward: **pds**
name space id: **pds**:
class: **Stream_Delimited_Field**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

• **name**

steward: **pds**
name space id: **pds**:
class: **Table_Binary_Field**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

• **name**

steward: **pds**
name space id: **pds**:
class: **Table_Field**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

• **name**

steward: **pds**
name space id: **pds**:
class: **Table_Field_Checksum**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
MD5_checksum

• **name**

steward: **pds**
name space id: **pds**:
class: **Table_Field_File_Specification_Name**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
file_specification_name

• **name**

steward: **pds**
name space id: **pds**:
class: **Table_Field_LID**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
LID

• **name**

steward: **pds**
name space id: **pds**:
class: **Table_Field_LIDVID**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible value
LIDVID

- **name**

steward: **pds**
name space id: **pds**
class: **Terminological_Entry**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **name**

steward: **pds**
name space id: **pds**
class: **TNDO_Context**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **name**

steward: **pds**
name space id: **pds**
class: **Vector_Component**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **name**

steward: **pds**
name space id: **pds**
class: **Vector_New**
version: **0.4.1.1.f**

- description: **The name attribute provides a word or combination of words by which the object is known.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **name_space_id**

steward: **ops**
name space id: **meta**
class: **DD_Attribute**
version: **0.4.1.1.f**

- description: **The name_space_id attribute provides the abbreviation of the XML schema namespace container for this logical grouping of classes and attributes. It is assigned by the steward.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **name_space_id**

steward: **ops**
name space id: **meta**
class: **DD_Attribute_Full**
version: **0.4.1.1.f**

- description: **The name_space_id attribute provides the abbreviation of the XML schema namespace container for this logical grouping of classes and attributes. It is assigned by the steward.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **name_space_id**

steward: **ops**
name space id: **meta**
class: **DD_Class**
version: **0.4.1.1.f**

- description: **The name_space_id attribute provides the abbreviation of the XML schema namespace container for this logical grouping of classes and attributes. It is assigned by the steward.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **node_id**

steward: **rings**
name space id: **rings:**
class: **Rings_Prod_Info**
version: **0.4.1.1.f**

- description: **The node_id element provides the node id assigned to a science community node.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **12**
- permissible value
RINGS

- **node_name**

steward: **ops**
name space id: **ops:**
class: **Node**
version: **0.4.1.1.f**

- description: **The node_name attribute provides the name of a PDS Node.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
Geosciences
Imaging
Navigation_Ancillary_Information_Facility
Planetary_Atmospheres
Planetary_Plasma_Interactions
Planetary_Rings
Radio_Science
Small_Bodies
Engineering

- **node_name**

steward: **ops**
name space id: **ops:**
class: **PDS_Affiliate**
version: **0.4.1.1.f**

- description: **The node_name attribute provides the name of a PDS Node.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**

- permissible values
Engineering
Geosciences
Imaging
Navigation_Ancillary_Information_Facility
Planetary_Atmospheres
Planetary_Plasma_Interactions
Planetary_Rings
Radio_Science
Small_Bodies
unk
HQ
National_Space_Science_Data_Center
PDS_Management

- **node_name**

steward: **rings**
name space id: **rings**:
class: **Rings_Prod_Info**
version: **0.4.1.1.f**

- description: **The node_name element provides the officially recognized name of a PDS Node.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
Planetary_Rings

- **not_applicable_constant**

steward: **pds**
name space id: **pds**:
class: **Special_Constants**
version: **0.4.1.1.f**

- description: **The not_applicable_constant attribute provides a value that indicates the original value was not applicable.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **nssdc_collection_id**

steward: **ops**
name space id: **ops**:
class: **NSSDC**
version: **0.4.1.1.f**

- description: **An NSSDC Collection ID is an NSSDC assigned identifier for a collection of PDS datasets.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **observing_system_component_type**

steward: **pds**
name space id: **pds**:
class: **Observing_System_Component**
version: **0.4.1.1.f**

- description: **The Observing System Component Type attribute indicates the type of the observing system component'.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
Analyst
Ground-based_Laboratory
Ground-based_Observatory
Ground-based_Telescope

Instrument
Literature_Search
PDS_Archived_Data
Spacecraft
Artificial_Illumination

- **observing_system_name**

steward: **pds**
name space id: **pds**:
class: **Subject_Area**
version: **0.4.1.1.f**

- description: **The observing_system_name attribute provides a unique name for an observing system.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **occultation_type**

steward: **rings**
name space id: **rings**:
class: **Rings_Prod_Info**
version: **0.4.1.1.f**

- description: **The occultation type element distinguishes between two types of occultation experiments, stellar and radio. Stellar occultations involve observing a star as a targeted ring or body passes in front, as seen from either a spacecraft or Earth-based observatory. Radio occultations typically involve observing the continuous-wave radio transmissions from a spacecraft as it passes behind the target as seen from a radio telescope on Earth.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **10**
- permissible value
STELLAR

- **offset**

steward: **pds**
name space id: **pds**:
class: **Array_Base**
version: **0.4.1.1.f**

- description: **The offset attribute provides the displacement of the object starting position from the beginning of the parent structure (file, record, etc.). If there is no displacement, offset=0.**
- value_data_type: **ASCII_Integer**
- minimum_value: **0**
- maximum_value: **2147483647**
- unit_of_measure_type: **UnitOfMeasure_Storage**
- specified_unit_id: **byte**

- **offset**

steward: **pds**
name space id: **pds**:
class: **Encoded_Byte_Stream**
version: **0.4.1.1.f**

- description: **The offset attribute provides the displacement of the object starting position from the beginning of the parent structure (file, record, etc.). If there is no displacement, offset=0.**
- value_data_type: **ASCII_Integer**
- minimum_value: **0**
- maximum_value: **2147483647**
- unit_of_measure_type: **UnitOfMeasure_Storage**
- specified_unit_id: **byte**

- **offset**

steward: **pds**
name space id: **pds**:

class: **Parsable_Byte_Stream**
version: **0.4.1.1.f**

- description: **The offset attribute provides the displacement of the object starting position from the beginning of the parent structure (file, record, etc.). If there is no displacement, offset=0.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: **0**
- maximum_value: **2147483647**
- unit_of_measure_type: **UnitOfMeasure_Storage**
- specified_unit_id: **byte**

- **offset**

steward: **pds**
name space id: **pds:**
class: **Table_Base**
version: **0.4.1.1.f**

- description: **The offset attribute provides the displacement of the object starting position from the beginning of the parent structure (file, record, etc.). If there is no displacement, offset=0.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: **0**
- maximum_value: **2147483647**
- unit_of_measure_type: **UnitOfMeasure_Storage**
- specified_unit_id: **byte**

- **orbit_number**

steward: **pds**
name space id: **pds:**
class: **Observation_Area**
version: **0.4.1.1.f**

- description: **The orbit_number attribute provides the number of the orbital revolution of one body around another.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: **0**
- maximum_value: **2147483647**

- **os_version**

steward: **ops**
name space id: **ops:**
class: **Software_Binary**
version: **0.4.1.1.f**

- description: **The OS version attribute indicates the version of an operating system.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **os_version**

steward: **ops**
name space id: **ops:**
class: **Software_Source**
version: **0.4.1.1.f**

- description: **The OS version attribute indicates the version of an operating system.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **packet_map_mask**

steward: **img**
name space id: **img:**
class: **Telemetry_Parameters**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**

- value_data_type: [ASCII_Numeric_Base2](#)

- **pattern**

steward: **ops**
name space id: **meta**
class: **DD_Value_Domain**
version: **0.4.1.1.f**

- description: **The pattern attribute provides a symbolic instruction for forming values.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **pds4_merge_flag**

steward: **ops**
name space id: **ops:**
class: **Local_DD**
version: **0.4.1.1.f**

- description: **The PDS4 merge flag attribute indicates that the local data dictionary should be merged with the PDS4 data dictionary and accept the PDS as the data dictionary's registration authority. The merge process requires validation that the local data dictionary conforms to PDS data standards.**
- value_data_type: [ASCII_Boolean_TF](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 1
- permissible values
T
F

- **phone_book_flag**

steward: **ops**
name space id: **ops:**
class: **PDS_Affiliate**
version: **0.4.1.1.f**

- description: **The phone_book_flag attribute indicates whether or not this person should be included in the phone book.**
- value_data_type: [ASCII_Boolean_TF](#)
- minimum_characters: 1
- maximum_characters: 1

- **planetary_occultation_flag**

steward: **rings**
name space id: **rings:**
class: **Rings_Prod_Info**
version: **0.4.1.1.f**

- description: **The planetary_occultation_flag element is a yes-or-no flag hat indicates whether a ring occultation track also intersects the planet.**
- value_data_type: [ASCII_Boolean_TF](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 1
- permissible values
n
y

- **planet_day_number**

steward: **pds**
name space id: **pds:**
class: **Observation_Area**
version: **0.4.1.1.f**

- description: **The planet_day_number attribute provides the number of solar days (sols) on a rotating solar system body since a reference event, such as the landing of a spacecraft. The day of landing is usually defined as planet_day_number=0.**
- value_data_type: [ASCII_Integer](#)

- minimum_value: 0
- maximum_value: 2147483647

- **positive_azimuth_direction**

steward: **img**
name space id: **img**:
class: **Az_el_coordinate_system**
version: **0.4.1.1.f**

- 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_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
clockwise
counterclockwise

- **positive_elevation_direction**

steward: **img**
name space id: **img**:
class: **Az_el_coordinate_system**
version: **0.4.1.1.f**

- description: **TBD_description**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 10
- permissible values
down
nadir
up
zenith

- **positive_longitude_direction**

steward: **img**
name space id: **img**:
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 4
- permissible values
east
west

- **postal_address_text**

steward: **ops**
name space id: **ops**:
class: **PDS_Affiliate**
version: **0.4.1.1.f**

- description: **The postal address text attribute provides a mailing address.**
- value_data_type: **ASCII_Text_Preserved**
- minimum_characters: 1
- maximum_characters: 2147483647

- **preferred_flag**

steward: **ops**
name space id: **ops**:
class: **Terminological_Entry**

version: **0.4.1.1.f**

- description: **The preferred_flag** indicates whether this entry is preferred over all other entries.
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **primary_body_name**

steward: **ops**
name space id: **ops**:
class: **Target_PDS3**
version: **0.4.1.1.f**

- description: **The primary_body_name** attribute identifies the primary body with which a given target body is associated as a secondary body.
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **primary_name**

steward: **pds**
name space id: **pds**:
class: **Name_Resolution**
version: **0.4.1.1.f**

- description: **The primary_name** attribute provides the name that anchors a list of additional names for an object.
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **processing_level_id**

steward: **pds**
name space id: **pds**:
class: **Collection_Data**
version: **0.4.1.1.f**

- description: **The processing_level_id** attribute provides the state to which data have been processed.
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
RAW
RDC
CLB
DRV

- **producer_full_name**

steward: **ops**
name space id: **ops**:
class: **Data_Set_PDS3**
version: **0.4.1.1.f**

- 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_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **product_class**

steward: **pds**
name space id: **pds**:
class: **Identification_Area**
version: **0.4.1.1.f**

- description: **The product_class** attribute provides the class of the product.
- value_data_type: [ASCII_Short_String_Collapsed](#)

- minimum_characters: 1
- maximum_characters: 255

- **programmers_manual_identifier**

steward: **ops**
name space id: **ops**:
class: **Software_Desc**
version: **0.4.1.1.f**

- description: **The programmers manual identifier attribute provides an identifier to a document giving instruction about the programming of the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **program_notes_identifier**

steward: **ops**
name space id: **ops**:
class: **Software_Binary**
version: **0.4.1.1.f**

- description: **The program notes identifier attribute provides an identifier to a brief statement giving particulars about a software program.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **program_notes_identifier**

steward: **ops**
name space id: **ops**:
class: **Software_Source**
version: **0.4.1.1.f**

- description: **The program notes identifier attribute provides an identifier to a brief statement giving particulars about a software program.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **publication_date**

steward: **ops**
name space id: **ops**:
class: **Volume_PDS3**
version: **0.4.1.1.f**

- description: **The publication_date attribute provides the date on which an item was published.**
- value_data_type: [ASCII_Date_YMD](#)
- minimum_characters: 4
- maximum_characters: 10

- **publication_date**

steward: **pds**
name space id: **pds**:
class: **Document_Desc**
version: **0.4.1.1.f**

- description: **The publication_date attribute provides the date on which an item was published.**
- value_data_type: [ASCII_Date_YMD](#)
- minimum_characters: 1
- maximum_characters: 10

- **radial_resolution**

steward: **rings**
name space id: **rings**:

class: **Rings_Prod_Info**
version: **0.4.1.1.f**

- description: **The radial_resolution element indicates the nominal radial distance over which changes in ring properties can be detected within a data product. Note: this value may be larger than the radial_sampling_interval value, since many data products are over-sampled.**
- value_data_type: **ASCII_Real**
- minimum_value: **0.0**
- maximum_value: **INF**
- unit_of_measure_type: **UnitOfMeasure_Length**
- specified_unit_id: **m**

- **received_packets**

steward: **img**
name space id: **img**
class: **Telemetry_Parameters**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: **ASCII_Integer**
- minimum_value: **0**
- maximum_value: **2147483647**

- **records**

steward: **pds**
name space id: **pds**
class: **File**
version: **0.4.1.1.f**

- description: **The records attribute provides a count of records.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **records**

steward: **pds**
name space id: **pds**
class: **Stream_Delimited**
version: **0.4.1.1.f**

- description: **The records attribute provides a count of records.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **records**

steward: **pds**
name space id: **pds**
class: **Table_Base**
version: **0.4.1.1.f**

- description: **The records attribute provides a count of records.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**
- maximum_value: **2147483647**

- **record_bytes**

steward: **pds**
name space id: **pds**
class: **Table_Base**
version: **0.4.1.1.f**

- description: **The record_bytes attribute provides a count of the bytes in a record, including a record delimiter, if present.**
- value_data_type: **ASCII_Integer**
- minimum_value: **1**

- maximum_value: 2147483647

- **record_delimiter**

steward: **pds**
name space id: **pds**:
class: **Stream_Delimited**
version: **0.4.1.1.f**

- description: **The record delimiter attribute provides the character or characters used to indicate the end of a record.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
0x0A
0x0D
0x0D_0x0A

- **reference_association_type**

steward: **ops**
name space id: **ops**:
class: **DD_Association**
version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
subclass_of
attribute_of

- **reference_association_type**

steward: **pds**
name space id: **pds**:
class: **Bundle_Member_Entry**
version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
has_miscellaneous_collection
has_browse_collection
has_calibration_collection
has_data_collection
has_document_collection
has_geometry_collection
has_spice_collection
has_xml_schema_collection
has_member_collection
has_context_collection

- **reference_association_type**

steward: **pds**
name space id: **pds**:
class: **Inventory_LIDVID_Primary**
version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
has_member_LIDVID_Primary

- **reference_association_type**

steward: **pds**
name space id: **pds**:
class: **Inventory_LIDVID_Secondary**
version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
has_member_LIDVID_Secondary

- **reference_association_type**

steward: **pds**
name space id: **pds**:
class: **Inventory_LID_Secondary**
version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
has_member_LID_Secondary

- **reference_association_type**

steward: **pds**
name space id: **pds**
class: **Manifest**
version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
has_member

- **reference_association_type**

steward: **pds**
name space id: **pds**:
class: **Reference_Entry**
version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
has_association
member_of

- **reference_association_type**

steward: **pds**
name space id: **pds**:
class: **Reference_Entry_Collection**
version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
has_update_collection
has_associated_collection

has_investigation_collection
has_node_collection
has_publication_collection
has_target_collection

- **reference_association_type**

steward: **pds**
name space id: **pds**:
class: **Reference_Entry_Context**
version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
has_instrument_host
has_instrument
has_investigation
has_node
has_personnel
has_publication
has_resource
has_target
has_association
has_data_producer
has_data_set

- **reference_association_type**

steward: **pds**
name space id: **pds**:
class: **Reference_Entry_Generic**
version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **reference_association_type**

steward: **pds**
name space id: **pds**:
class: **Reference_Entry_Observing_System_Component**
version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
Analyst
Ground-based_Laboratory
Ground-based_Observatory
Ground-based_Telescope
Instrument
Literature_Search
PDS_Archived_Data
Spacecraft
Artificial_Illumination

- **reference_association_type**

steward: **pds**
name space id: **pds**:
class: **Reference_Entry_Product**
version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**

- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
 - has_browse**
 - has_calibration**
 - has_publication**
 - has_geometry**
 - has_personnel**
 - has_spice**
 - has_target**
 - has_thumbnail**
 - curated_by_node**
 - has_association**
 - has_document**
 - has_investigation**
 - has_node**
 - has_instrument**
 - has_instrument_host**
 - has_primary_collection**
 - has_resource**
 - has_primary_product**

- **reference_association_type**

steward: **pds**
 name space id: **pds**:
 class: **Zipped_Member_Entry**
 version: **0.4.1.1.f**

- description: **The reference_association_type attribute describes the type of association.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
 - manifest_product**
 - contained_product**

- **reference_coordinate_system_name**

steward: **img**
 name space id: **img**:
 class: **Az_el_coordinate_system**
 version: **0.4.1.1.f**

- 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_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: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-90.0**
- maximum_value: **90.0**
- unit_of_measure_type: **UnitOfMeasure_Angle**
- specified_unit_id: **deg**

- **reference_longitude**

steward: **img**

name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **-180.0**
- maximum_value: **360.0**
- unit_of_measure_type: **UnitOfMeasure_Angle**
- specified_unit_id: **deg**

• **reference_text**

steward: **pds**
name space id: **pds:**
class: **Bibliographic_Reference**
version: **0.4.1.1.f**

- description: **The reference_text attribute provides a complete bibliographic citation for a published work.**
- value_data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**
- maximum_characters: **2147483647**

• **reference_text**

steward: **pds**
name space id: **pds:**
class: **Reference**
version: **0.4.1.1.f**

- description: **The reference_text attribute provides a complete bibliographic citation for a published work.**
- value_data_type: **ASCII_Text_Preserved**
- minimum_characters: **1**
- maximum_characters: **2147483647**

• **registered_by**

steward: **ops**
name space id: **meta**
class: **DD_Attribute_Full**
version: **0.4.1.1.f**

- description: **The registered_by attribute provides the name of the person or organization that registered the object.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

• **registration_authority_id**

steward: **ops**
name space id: **meta**
class: **DD_Attribute_Full**
version: **0.4.1.1.f**

- description: **The registration_authority_id attribute provides the name of the organization that registered the object.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible value
0001_NASA_PDS_1

• **registration_date**

steward: **ops**
name space id: **ops:**
class: **Personnel**
version: **0.4.1.1.f**

- description: **The registration_date attribute provides the date of registration within the PDS system.**

- value_data_type: [ASCII_Date_YMD](#)
- minimum_characters: 1
- maximum_characters: 10

- **repetitions**

steward: **pds**
name space id: **pds**:
class: **Stream_Delimited_Grouped_Sequence**
version: **0.4.1.1.f**

- description: **The repetitions attribute indicates the number of occurrences.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: 1
- maximum_value: **2147483647**

- **repetitions**

steward: **pds**
name space id: **pds**:
class: **Table_Binary_Grouped_Sequence**
version: **0.4.1.1.f**

- description: **The repetitions attribute indicates the number of occurrences.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: 1
- maximum_value: **2147483647**

- **repetitions**

steward: **pds**
name space id: **pds**:
class: **Table_Character_Grouped_Sequence**
version: **0.4.1.1.f**

- description: **The repetitions attribute indicates the number of occurrences.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: 1
- maximum_value: **2147483647**

- **revision_id**

steward: **pds**
name space id: **pds**:
class: **Document_Desc**
version: **0.4.1.1.f**

- description: **The revision_id attribute provides the revision level of a document, which may be set outside PDS and may be different from its version_id**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: **255**

- **ring_event_start_time**

steward: **rings**
name space id: **rings**:
class: **Rings_Prod_Info**
version: **0.4.1.1.f**

- description: **The ring_event_start_time element indicates the starting instant of a data product as measured at the ring plane. This element differs from the observation start time because it allows for light travel time.**
- value_data_type: [ASCII_Date_Time](#)

- **ring_event_stop_time**

steward: **rings**
name space id: **rings**:
class: **Rings_Prod_Info**
version: **0.4.1.1.f**

- description: **The ring_event_stop_time element indicates the stopping instant of a data product as measured at the ring plane. This element differs from the observation stop time because it allows for light travel time.**
- value_data_type: [ASCII_Date_Time](#)

- **ring_occultation_direction**

steward: **rings**
name space id: **rings:**
class: **Rings_Prod_Info**
version: **0.4.1.1.f**

- description: **The ring_occultation_direction element indicates the radial direction of a ring occultation track.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **20**
- permissible values
both
egress
ingress
multiple

- **role**

steward: **pds**
name space id: **pds:**
class: **Name_Resolution**
version: **0.4.1.1.f**

- description: **The role attribute indicates the role performed by this class.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
PRIMARY
ALTERNATE

- **sample_bit_mask**

steward: **pds**
name space id: **pds:**
class: **Field_Statistics**
version: **0.4.1.1.f**

- description: **The sample_bit_mask attribute identifies the active bits in a sample. Note: In the PDS, the domain of sample_bit_mask is dependent upon the currently-described value in the sample_bits attribute and only applies to integer values. For an 8-bit sample where all bits are active the sample_bit_mask would be 2#11111111#.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **sample_bit_mask**

steward: **pds**
name space id: **pds:**
class: **Object_Statistics**
version: **0.4.1.1.f**

- description: **The sample_bit_mask attribute identifies the active bits in a sample. Note: In the PDS, the domain of sample_bit_mask is dependent upon the currently-described value in the sample_bits attribute and only applies to integer values. For an 8-bit sample where all bits are active the sample_bit_mask would be 2#11111111#.**
- value_data_type: [ASCII_Numeric_Base2](#)

- **sample_display_direction**

steward: **pds**
name space id: **pds:**
class: **Image_2D_Display**
version: **0.4.1.1.f**

- description: **The sample_display_direction attribute provides the preferred orientation of samples within a line**

for viewing on a display device. The default is right, meaning samples are viewed from left to right on the display. `sample_display_direction` must be used with `line_display_direction`.

- `value_data_type`: [ASCII_Short_String_Collapsed](#) - Enumerated
- `minimum_characters`: 1
- `maximum_characters`: 255
- permissible values
RIGHT
DOWN
LEFT
UP

- **sample_first_pixel**

steward: **img**
name space id: **img**:
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- `value_data_type`: [ASCII_Integer](#)
- `minimum_value`: 0
- `maximum_value`: 2147483647

- **sample_last_pixel**

steward: **img**
name space id: **img**:
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- `value_data_type`: [ASCII_Integer](#)
- `minimum_value`: 0
- `maximum_value`: 2147483647

- **sample_projection_offset**

steward: **img**
name space id: **img**:
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- `value_data_type`: [ASCII_Real](#)
- `minimum_value`: -INF
- `maximum_value`: INF
- `unit_of_measure_type`: [UnitOfMeasure_Misc](#)
- `specified_unit_id`: **pixel**

- **sampling_parameter_interval**

steward: **pds**
name space id: **pds**:
class: **Uniformly_Sampled**
version: **0.4.1.1.f**

- description: **The `sampling_parameter_interval` element identifies the spacing of points at which data are sampled and at which a value for an instrument or dataset parameter is available. This sampling interval can be either the original (raw) sampling or the result of some resampling process. For example, in 48-second magnetometer data the sampling interval is 48. The sampling parameter (time, in the example) is identified by the `sampling_parameter_name` element.**
- `value_data_type`: [ASCII_Real](#)
- `minimum_value`: -INF
- `maximum_value`: INF

- **sampling_parameter_name**

steward: **pds**
name space id: **pds**:
class: **Uniformly_Sampled**

version: 0.4.1.1.f

- description: The **sampling_parameter_name** element provides the name of the parameter which determines the **sampling interval of a particular instrument or dataset parameter**. For example, magnetic field intensity is **sampled in time increments**, and a spectrum is **sampled in wavelength or frequency**.
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 255

- **sampling_parameter_scale**

steward: pds

name space id: pds:

class: **Uniformly_Sampled**

version: 0.4.1.1.f

- description: The **sampling_parameter_scale** element specifies whether the sampling interval is **linear or something other such as logarithmic**.
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
LINEAR
LOGARITHMIC
EXPONENTIAL

- **sampling_parameter_unit**

steward: pds

name space id: pds:

class: **Uniformly_Sampled**

version: 0.4.1.1.f

- description: The **sampling_parameter_unit** element specifies the unit of measure of associated data sampling parameters.
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
mol
arcmin
arcsec
deg
hr
mrاد
rad
deg/day
deg/s
rad/s
m2**
hz
AU
Angstrom
cm
km
m
micrometer
mm
nm
g
kg
DN
pixel
none
airmass
Pa
bar
hPa
mbar
W*m-2*sr**-1**
counts/bin
kilobits/s

electron/DN
km/pixel
m/pixel
mm/pixel
pixel/deg
sr
byte
K
degC
day
microseconds
min
ms
s
yr
cm/s
km/s
m/s
V
mV
L
m**3

• **saturated_constant**

steward: **pds**
name space id: **pds:**
class: **Special_Constants**
version: **0.4.1.1.f**

- description: **The saturated_constant attribute provides a value that indicates the original value was saturated.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

• **scaling_factor**

steward: **pds**
name space id: **pds:**
class: **Array_Element**
version: **0.4.1.1.f**

- 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_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

• **scaling_factor**

steward: **pds**
name space id: **pds:**
class: **Stream_Delimited_Field**
version: **0.4.1.1.f**

- 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_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

• **scaling_factor**

steward: **pds**
name space id: **pds:**
class: **Table_Field_Extended**
version: **0.4.1.1.f**

- 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_data_type: [ASCII_Real](#)
- minimum_value: **-INF**
- maximum_value: **INF**

- **scan_mode_id**

steward: **img**
name space id: **img**:
class: **Camera_Parameters**
version: **0.4.1.1.f**

- description: **This element identifies one of several internal rates for data acquisition by an instrument.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **100**
- permissible values
.055
4.0
epf
long
short

- **second_standard_parallel**

steward: **img**
name space id: **img**:
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: [ASCII_Real](#)
- minimum_value: **-90.0**
- maximum_value: **90.0**
- unit_of_measure_type: **UnitOfMeasure_Angle**
- specified_unit_id: **deg**

- **sequence_number**

steward: **pds**
name space id: **pds**:
class: **Array_Axis**
version: **0.4.1.1.f**

- description: **The sequence_number attribute provides a number that is used to order axes in an array.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: **1**
- maximum_value: **16**

- **sequence_number**

steward: **pds**
name space id: **pds**:
class: **Vector_Component**
version: **0.4.1.1.f**

- description: **The sequence_number attribute provides a number that is used to order axes in an array.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: **1**
- maximum_value: **2147483647**

- **serial_number**

steward: **pds**
name space id: **pds**:
class: **Instrument**
version: **0.4.1.1.f**

- description: **The serial_number element provides the assigned manufacturer's serial number.**

- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **serial_number**

steward: **pds**
name space id: **pds**:
class: **Instrument_Host**
version: **0.4.1.1.f**

- description: **TBD_description**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **shutter_mode_id**

steward: **img**
name space id: **img**:
class: **Camera_Parameters**
version: **0.4.1.1.f**

- 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_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 100
- permissible values
BODARK
BOSIM
BSIMAN
NADARK
NAONLY
WADARK
WAONLY

- **software_dialect**

steward: **ops**
name space id: **ops**:
class: **Software_Source**
version: **0.4.1.1.f**

- description: **The software dialect attribute indicates the variety of a language used to write the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **software_id**

steward: **ops**
name space id: **ops**:
class: **Software_Desc**
version: **0.4.1.1.f**

- description: **The software id attribute provides a formal name used to refer to the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **software_language**

steward: **ops**
name space id: **ops**:
class: **Software_Source**
version: **0.4.1.1.f**

- description: **The software language attribute identifies the language used to write the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)

- minimum_characters: 1
- maximum_characters: 255

- **software_type**

steward: **ops**
name space id: **ops**:
class: **Software_Desc**
version: **0.4.1.1.f**

- description: **The software type attribute identifies the class of which the software is a member.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
n/a
unk

- **solar_longitude**

steward: **pds**
name space id: **pds**:
class: **Observation_Area**
version: **0.4.1.1.f**

- description: **The solar_longitude attribute provides the angle between the body-Sun line at the time of interest and the body-Sun line at its vernal equinox.**
- value_data_type: **ASCII_Real**
- minimum_value: 0
- maximum_value: 360

- **sort_name**

steward: **ops**
name space id: **ops**:
class: **Personnel**
version: **0.4.1.1.f**

- description: **The sort name attribute provides a string to be used in ordering. For people, the last name (surname) is typically first, followed by a comma and then other names.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: 1
- maximum_characters: 255
- pattern: **[a-zA-Z]{1}([- ,_a-zA-Z0-9]*)**

- **spacecraft_clock_count_partition**

steward: **pds**
name space id: **pds**:
class: **Observation_Area**
version: **0.4.1.1.f**

- description: **The spacecraft_clock_count_partition attribute provides the clock partition active for spacecraft_clock_start_count and spacecraft_clock_stop_count.**
- value_data_type: **ASCII_Integer**
- minimum_value: 0
- maximum_value: 2147483647

- **spacecraft_clock_start_count**

steward: **pds**
name space id: **pds**:
class: **Observation_Area**
version: **0.4.1.1.f**

- description: **The spacecraft clock start count attribute provides the value of the spacecraft clock at the beginning of a time period of interest.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: 1
- maximum_characters: 255

- **spacecraft_clock_stop_count**

steward: **pds**
name space id: **pds:**
class: **Observation_Area**
version: **0.4.1.1.f**

- description: **The spacecraft clock stop count attribute provides the value of the spacecraft clock at the end of a time period of interest.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **specified_unit_id**

steward: **ops**
name space id: **meta**
class: **DD_Value_Domain**
version: **0.4.1.1.f**

- description: **The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **spice_file_name**

steward: **img**
name space id: **img:**
class: **Telemetry_Parameters**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **180**

- **standard_deviation**

steward: **pds**
name space id: **pds:**
class: **Field_Statistics**
version: **0.4.1.1.f**

- description: **The standard_deviation attribute provides the standard deviation of values in the associated object; empty and Special_Constants values are excluded.**
- value_data_type: [ASCII_Real](#)
- minimum_value: **0**
- maximum_value: **INF**

- **standard_deviation**

steward: **pds**
name space id: **pds:**
class: **Object_Statistics**
version: **0.4.1.1.f**

- description: **The standard_deviation attribute provides the standard deviation of values in the repeating field; empty and Special_Constants field values are excluded.**
- value_data_type: [ASCII_Real](#)
- minimum_value: **0.0**
- maximum_value: **INF**

- **starting_point_identifier**

steward: **pds**
name space id: **pds:**
class: **Document_Format**
version: **0.4.1.1.f**

- description: **The starting_point attribute provides the local_identifier of the object to be accessed first.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **start_bit**

steward: **pds**
name space id: **pds:**
class: **Table_Binary_Grouped_Bit_Field**
version: **0.4.1.1.f**

- description: **The start_bit attribute provides the position of the first bit within an ordered sequence of bits.**
- value_data_type: [ASCII_Integer](#)
- minimum_value: 1
- maximum_value: 2147483647

- **start_date**

steward: **pds**
name space id: **pds:**
class: **Investigation**
version: **0.4.1.1.f**

- description: **The start_date attribute provides the date when an activity began.**
- value_data_type: [ASCII_Date_YMD](#)
- minimum_characters: 1
- maximum_characters: 10

- **start_date_time**

steward: **ops**
name space id: **ops:**
class: **Data_Set_PDS3**
version: **0.4.1.1.f**

- description: **The start_date_time attribute provides the date and time at the beginning of a time interval of interest.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **start_date_time**

steward: **pds**
name space id: **pds:**
class: **Archive_Bundle**
version: **0.4.1.1.f**

- description: **The start_date_time attribute provides the date and time at the beginning of a time interval of interest.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **start_date_time**

steward: **pds**
name space id: **pds:**
class: **Observation_Area**
version: **0.4.1.1.f**

- description: **The start_date_time attribute provides the date and time at the beginning of a time interval of interest.**
- value_data_type: [ASCII_Date_Time](#)

- **star_name**

steward: **rings**

name space id: **rings**:
class: **Rings_Prod_Info**
version: **0.4.1.1.f**

- description: **The star_name element provides the identifying name of star, including the catalog name if necessary. Examples include 'sigma Sgr' and 'SAO 123456' (for star number 123456 in the Smithsonian Astrophysical Observatory catalog).**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **40**

- **std_ref_version_id**

steward: **pds**
name space id: **pds**:
class: **Data_Standards**
version: **0.4.1.1.f**

- description: **The std ref version id attribute provides the version identifier for the standard reference document.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **steward_id**

steward: **ops**
name space id: **meta**
class: **DD_Attribute**
version: **0.4.1.1.f**

- description: **The steward_id attribute provides the abbreviation of the organization that manages the set of registered attributes and classes.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
pds
atm
geo
img
naif
ppi
rings
rs
sbn
ops

- **steward_id**

steward: **ops**
name space id: **meta**
class: **DD_Attribute_Full**
version: **0.4.1.1.f**

- description: **The steward attribute indicates the person or organization who manages a set of registered attributes and classes.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
pds
atm
geo
img
naif
ppi
rings
rs
sbn
ops

- **steward_id**

steward: **ops**
name space id: **meta**
class: **DD_Class**
version: **0.4.1.1.f**

- description: **The steward_id attribute provides the abbreviation of the organization that manages the set of registered attributes and classes.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
pds
atm
geo
img
naif
ppi
rings
rs
sbn
ops

- **stop_date**

steward: **pds**
name space id: **pds:**
class: **Investigation**
version: **0.4.1.1.f**

- description: **The stop_date attribute provides the date when an activity ended.**
- value_data_type: **ASCII_Date_YMD**
- minimum_characters: **1**
- maximum_characters: **10**

- **stop_date_time**

steward: **ops**
name space id: **ops:**
class: **Data_Set_PDS3**
version: **0.4.1.1.f**

- description: **The stop_date_time attribute provides the date and time at the end of a time interval of interest.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **stop_date_time**

steward: **pds**
name space id: **pds:**
class: **Archive_Bundle**
version: **0.4.1.1.f**

- description: **The stop_date_time attribute provides the date and time at the end of a time interval of interest.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **stop_date_time**

steward: **pds**
name space id: **pds:**
class: **Observation_Area**
version: **0.4.1.1.f**

- description: **The stop_date_time attribute provides the date and time at the end of a time interval of interest.**
- value_data_type: **ASCII_Date_Time**

- **submitter_id**

steward: **ops**
name space id: **meta**
class: **DD_Attribute**
version: **0.4.1.1.f**

- description: **The submitter_id attribute provides the name of the author, who submits the item to the steward.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **submitter_id**

steward: **ops**
name space id: **meta**
class: **DD_Attribute_Full**
version: **0.4.1.1.f**

- description: **The submitter_id attribute provides the name of the author, who submits the item to the steward.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **supported_architecture**

steward: **ops**
name space id: **ops:**
class: **Software_Binary**
version: **0.4.1.1.f**

- description: **The supported architecture attribute identifies the hardware architecture that can process the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **supported_architecture**

steward: **ops**
name space id: **ops:**
class: **Software_Source**
version: **0.4.1.1.f**

- description: **The supported architecture attribute identifies the hardware architecture that can process the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **supported_environment**

steward: **ops**
name space id: **ops:**
class: **Software_Script**
version: **0.4.1.1.f**

- description: **The supported environment attribute identifies the environment that can process the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: **1**
- maximum_characters: **255**

- **supported_os**

steward: **ops**
name space id: **ops:**
class: **Software_Binary**
version: **0.4.1.1.f**

- description: **The supported OS attribute identifies the Operating System that supports the software.**

- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **supported_os**

steward: **ops**
name space id: **ops**:
class: **Software_Source**
version: **0.4.1.1.f**

- description: **The supported OS attribute identifies the Operating System that supports the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **sw_format_type**

steward: **ops**
name space id: **ops**:
class: **Software_Binary**
version: **0.4.1.1.f**

- description: **The sw format type attribute classifies the format of the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **sw_format_type**

steward: **ops**
name space id: **ops**:
class: **Software_Source**
version: **0.4.1.1.f**

- description: **The sw format type attribute classifies the format of the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **system_requirements**

steward: **ops**
name space id: **ops**:
class: **Software_Binary**
version: **0.4.1.1.f**

- description: **The system requirements attribute identifies what is necessary to process the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **system_requirements**

steward: **ops**
name space id: **ops**:
class: **Software_Format**
version: **0.4.1.1.f**

- description: **The system requirements attribute identifies what is necessary to process the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **system_requirements**

steward: **ops**
name space id: **ops**:
class: **Software_Script**
version: **0.4.1.1.f**

- description: **The system requirements attribute identifies what is necessary to process the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **system_requirements**

steward: **ops**
name space id: **ops**:
class: **Software_Source**
version: **0.4.1.1.f**

- description: **The system requirements attribute identifies what is necessary to process the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **target_desc**

steward: **ops**
name space id: **ops**:
class: **Target_PDS3**
version: **0.4.1.1.f**

- description: **The target_desc attribute describes the characteristics of a particular target.**
- value_data_type: [ASCII_Text_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 2147483647

- **target_name**

steward: **ops**
name space id: **ops**:
class: **Target_PDS3**
version: **0.4.1.1.f**

- description: **The target name attribute provides a name by which the target is formally known.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **target_name**

steward: **pds**
name space id: **pds**:
class: **Subject_Area**
version: **0.4.1.1.f**

- description: **The target name attribute provides a name by which the target is formally known.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **target_type**

steward: **ops**
name space id: **ops**:
class: **Target_PDS3**
version: **0.4.1.1.f**

- description: **The target_type attribute identifies the type of a named target.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **telemetry_provider_id**

steward: **img**
name space id: **img**:

class: **Telemetry_Parameters**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
ssw_mer_dp
ttacs

• **telemetry_source_name**

steward: **img**
name space id: **img**:
class: **Telemetry_Parameters**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_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: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
data_product
sfd

• **telephone_number**

steward: **ops**
name space id: **ops**:
class: **PDS_Affiliate**
version: **0.4.1.1.f**

- description: **The telephone_number attribute provides a telephone number in international notation in compliance with the E.164 telephone number format recommendation.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- pattern: **(+{1}[0-9]{2})?([0-9]{3} [0-9]{3} [0-9]{4}))**

• **title**

steward: **pds**
name space id: **pds**:
class: **Identification_Area**
version: **0.4.1.1.f**

- description: **The name given to the resource. Typically, a Title will be a name by which the resource is formally known. - Dublin Core - The title is used to refer to an object in a version independent manner.**
- value_data_type: **UTF8_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

• **type**

steward: **pds**
name space id: **pds**:
class: **Identification_Area**
version: **0.4.1.1.f**

- description: **The type attribute provides a classification for the resource.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **type**

steward: **pds**
name space id: **pds:**
class: **Vector_New**
version: **0.4.1.1.f**

- description: **The type attribute provides a classification for the resource.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
POSITION
VELOCITY

- **unit**

steward: **pds**
name space id: **pds:**
class: **Array_Axis**
version: **0.4.1.1.f**

- description: **The unit attribute provides the unit of measurement.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
mol
arcmin
arcsec
deg
hr
mrاد
rad
deg/day
deg/s
rad/s
m2**
hz
AU
Angstrom
cm
km
m
micrometer
mm
nm
g
kg
DN
pixel
none
airmass
Pa
bar
hPa
mbar
W*m-2*sr**-1**
counts/bin
kilobits/s
electron/DN
km/pixel
m/pixel
mm/pixel
pixel/deg
sr

byte
K
degC
day
microseconds
min
ms
s
yr
cm/s
km/s
m/s
V
mV
L
m**3

- **unit**

steward: **pds**
name space id: **pds:**
class: **Array_Element**
version: **0.4.1.1.f**

- description: **The unit attribute provides the unit of measurement.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values

mol
arcmin
arcsec
deg
hr
mrاد
rad
deg/day
deg/s
rad/s
m2**
hz
AU
Angstrom
cm
km
m
micrometer
mm
nm
g
kg
DN
pixel
none
airmass
Pa
bar
hPa
mbar
W*m-2*sr**-1**
counts/bin
kilobits/s
electron/DN
km/pixel
m/pixel
mm/pixel
pixel/deg
sr
byte
K
degC
day

microseconds
min
ms
s
yr
cm/s
km/s
m/s
V
mV
L
m**3

- **unit**

steward: **pds**

name space id: **pds:**

class: **Stream_Delimited_Field**

version: **0.4.1.1.f**

- description: **The unit attribute provides the unit of measurement.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values

mol
arcmin
arcsec
deg
hr
mrad
rad
deg/day
deg/s
rad/s
m**2
hz
AU
Angstrom
cm
km
m
micrometer
mm
nm
g
kg
DN
pixel
none
airmass
Pa
bar
hPa
mbar
W*m**-2*sr**-1
counts/bin
kilobits/s
electron/DN
km/pixel
m/pixel
mm/pixel
pixel/deg
sr
byte
K
degC
day
microseconds
min
ms
s

yr
cm/s
km/s
m/s
V
mV
L
m**3

- **unit**

steward: **pds**

name space id: **pds:**

class: **Table_Field_Extended**

version: **0.4.1.1.f**

- description: **The unit attribute provides the unit of measurement.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values

mol
arcmin
arcsec
deg
hr
mrad
rad
deg/day
deg/s
rad/s
m**2
hz
AU
Angstrom
cm
km
m
micrometer
mm
nm
g
kg
DN
pixel
none
airmass
Pa
bar
hPa
mbar
W*m**-2*sr**-1
counts/bin
kilobits/s
electron/DN
km/pixel
m/pixel
mm/pixel
pixel/deg
sr
byte
K
degC
day
microseconds
min
ms
s
yr
cm/s
km/s
m/s

V
mV
L
m**3

- **unit_of_measure_type**

steward: **ops**
name space id: **meta**
class: **DD_Value_Domain**
version: **0.4.1.1.f**

- description: **The unit_of_measure_type attribute provides the named grouping of units to be used for this attribute - for example UnitofMeasure_Length and UnitofMeasure_Time.**
- value_data_type: **ASCII_Short_String_Collapsed** - Enumerated
- minimum_characters: **1**
- maximum_characters: **255**
- permissible values
UnitOfMeasure_AmountOfSubstance
UnitOfMeasure_Angle
UnitOfMeasure_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

- **unknown_constant**

steward: **pds**
name space id: **pds:**
class: **Special_Constants**
version: **0.4.1.1.f**

- description: **The unknown_constant attribute provides a value that indicates the original value was unknown.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **url**

steward: **pds**
name space id: **pds:**
class: **Bibliographic_Reference**
version: **0.4.1.1.f**

- description: **The url attribute provides a Uniform Resource Identifier (URI) that specifies where a resource is available and the mechanism for retrieving it.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **url**

steward: **pds**
name space id: **pds:**
class: **Resource**
version: **0.4.1.1.f**

- description: **The url attribute provides a Uniform Resource Identifier (URI) that specifies where a resource is available and the mechanism for retrieving it.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **users_manual_identifier**

steward: **ops**
name space id: **ops:**
class: **Software_Desc**
version: **0.4.1.1.f**

- description: **The users manual identifier attribute provides a formal name used to refer to a manual that describes how to use the software.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **value**

steward: **ops**
name space id: **meta**
class: **DD_Permissible_Value**
version: **0.4.1.1.f**

- description: **The value attribute provides a single, allowed numerical or character string value.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **value**

steward: **pds**
name space id: **meta**
class: **Vector_Component**
version: **0.4.1.1.f**

- description: **The value attribute provides a single, allowed numerical or character string value.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **value_begin_date**

steward: **ops**
name space id: **meta**
class: **DD_Permissible_Value**
version: **0.4.1.1.f**

- description: **The value_begin_date attribute provides the first date on which the permissible value is in effect.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **value_data_type**

steward: **ops**
name space id: **ops:**
class: **DD_Value_Domain**
version: **0.4.1.1.f**

- description: **The value_data_type attribute provides the data type used to represent the value.**
- value_data_type: [ASCII_Short_String_Collapsed](#) - Enumerated
- minimum_characters: 1
- maximum_characters: 255
- permissible values
ASCII_Boolean_TF
ASCII_Date_YMD
ASCII_Integer

ASCII_Real
ASCII_AnyURI
ASCII_Date_DOY
ASCII_Date_Time_UTC
ASCII_Date_Time_YMD
ASCII_LID
ASCII_LIDVID
ASCII_MD5_Checksum
ASCII_Short_String_Collapsed
ASCII_Text_Preserved
ASCII_Short_String_Preserved
ASCII_Time
ASCII_VID
ASCII_DOI
ASCII_Numeric_Base2
ASCII_Numeric_Base16
ASCII_NonNegative_Integer
ASCII_File_Specification_Name

- **value_end_date**

steward: **ops**
name space id: **meta**
class: **DD_Permissible_Value**
version: **0.4.1.1.f**

- description: **The value_end_date attribute provides the last date on which the permissible value is in effect.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **value_meaning**

steward: **ops**
name space id: **meta**
class: **DD_Permissible_Value**
version: **0.4.1.1.f**

- description: **The value_meaning attribute provides the meaning, or semantic content, of the associated permissible value.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **value_offset**

steward: **pds**
name space id: **pds:**
class: **Array_Element**
version: **0.4.1.1.f**

- description: **The value_offset attribute provides the fixed value to be added to each stored value (Sv) in order to recover the original observation value (Ov), as follows: $Ov = (Sv * scaling_factor) + value_offset$.**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

- **value_offset**

steward: **pds**
name space id: **pds:**
class: **Stream_Delimited_Field**
version: **0.4.1.1.f**

- description: **The value_offset attribute provides the fixed value to be added to each stored value (Sv) in order to recover the original observation value (Ov), as follows: $Ov = (Sv * scaling_factor) + value_offset$.**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

- **value_offset**

steward: **pds**
name space id: **pds**:
class: **Table_Field_Extended**
version: **0.4.1.1.f**

- description: **The value_offset attribute provides the fixed value to be added to each stored value (Sv) in order to recover the original observation value (Ov), as follows: $Ov = (Sv * scaling_factor) + value_offset$.**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

- **vector_components**

steward: **pds**
name space id: **pds**:
class: **Vector_New**
version: **0.4.1.1.f**

- description: **The vector_components attribute provides a count of vector components.**
- value_data_type: **ASCII_Integer**
- minimum_value: **-2147483648**
- maximum_value: **2147483647**

- **version_id**

steward: **ops**
name space id: **ops**:
class: **DD_Attribute**
version: **0.4.1.1.f**

- description: **The version_id attribute provides the version**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **version_id**

steward: **ops**
name space id: **ops**:
class: **DD_Attribute_Full**
version: **0.4.1.1.f**

- description: **The version_id attribute provides the version**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **version_id**

steward: **ops**
name space id: **ops**:
class: **DD_Class**
version: **0.4.1.1.f**

- description: **The version_id attribute provides the version**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **version_id**

steward: **ops**
name space id: **ops**:
class: **Software_Desc**
version: **0.4.1.1.f**

- description: **The version_id attribute provides the version**
- value_data_type: **ASCII_Short_String_Collapsed**

- minimum_characters: 1
- maximum_characters: 255

- **version_id**

steward: **pds**
name space id: **pds:**
class: **Identification_Area**
version: **0.4.1.1.f**

- description: **The version_id attribute provides the version**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: 1
- maximum_characters: 255
- pattern: **([-_a-zA-Z0-9]*)**

- **version_id**

steward: **pds**
name space id: **pds:**
class: **Instrument**
version: **0.4.1.1.f**

- description: **The version_id attribute provides the version**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: 1
- maximum_characters: 255

- **version_id**

steward: **pds**
name space id: **pds:**
class: **Instrument_Host**
version: **0.4.1.1.f**

- description: **The version_id attribute provides the version**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: 1
- maximum_characters: 255

- **vertical_framelet_offset**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Real**
- minimum_value: **1.0**
- maximum_value: **INF**

- **volumes**

steward: **ops**
name space id: **ops:**
class: **Volume_Set_PDS3**
version: **0.4.1.1.f**

- description: **The volumes element provides the number of physical data volumes contained in a volume set.**
- value_data_type: **ASCII_Integer**
- minimum_value: **0**
- maximum_value: **2147483647**

- **volume_de_fullname**

steward: **ops**
name space id: **ops:**
class: **Volume_PDS3**
version: **0.4.1.1.f**

- description: **The volume_de_fullname attribute provide the full name of the data engineer.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **volume_format**

steward: **ops**
name space id: **ops**:
class: **Volume_PDS3**
version: **0.4.1.1.f**

- description: **The volume_format attribute identifies the logical format used in writing a data volume.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **volume_id**

steward: **ops**
name space id: **ops**:
class: **Volume_PDS3**
version: **0.4.1.1.f**

- description: **The volume_id attribute provides a unique identifier for a data volume. Example: MG_1001.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **volume_name**

steward: **ops**
name space id: **ops**:
class: **Volume_PDS3**
version: **0.4.1.1.f**

- description: **The volume_name attribute contains the name of a data volume.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **volume_series_name**

steward: **ops**
name space id: **ops**:
class: **Volume_Set_PDS3**
version: **0.4.1.1.f**

- description: **The volume_series_name element provides a full, formal name that describes a broad categorization of data products or data sets related to a planetary body or a research campaign (e.g. International Halley Watch). A volume series consists of one or more volume sets that represent data from one or more missions or campaigns.**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **volume_set_id**

steward: **ops**
name space id: **ops**:
class: **Volume_PDS3**
version: **0.4.1.1.f**

- description: **The volume_set_id attribute identifies a data volume or a set of volumes. Volume sets are normally considered as a single orderable entity. Examples: USA_NASA_PDS_MG_1001, USA_NASA_PDS_GR_0001_TO_GR_0009**
- value_data_type: [ASCII_Short_String_Collapsed](#)
- minimum_characters: 1
- maximum_characters: 255

- **volume_set_id**

steward: **ops**
name space id: **ops:**
class: **Volume_Set_PDS3**
version: **0.4.1.1.f**

- description: **The volume_set_id attribute identifies a data volume or a set of volumes. Volume sets are normally considered as a single orderable entity. Examples: USA_NASA_PDS_MG_1001, USA_NASA_PDS_GR_0001_TO_GR_0009**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **volume_set_name**

steward: **ops**
name space id: **ops:**
class: **Volume_Set_PDS3**
version: **0.4.1.1.f**

- description: **The volume_set_name element provides the full, formal name of one or more data volumes containing a single data set or a collection of related data sets. Volume sets are normally considered as a single orderable entity.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **volume_size**

steward: **ops**
name space id: **ops:**
class: **Volume_PDS3**
version: **0.4.1.1.f**

- description: **The volume size attribute provide the number of bytes in the volume.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **volume_version_id**

steward: **ops**
name space id: **ops:**
class: **Volume_PDS3**
version: **0.4.1.1.f**

- description: **The volume_version_id attribute indentifies the version of a data volume. All original volumes should use a volume_version_id of 'Version 1'.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **western_most_longitude**

steward: **img**
name space id: **img:**
class: **Image_Map_Projection**
version: **0.4.1.1.f**

- description: **This attribute is used in the image map projection. Under review.**
- value_data_type: **ASCII_Short_String_Collapsed**
- minimum_characters: **1**
- maximum_characters: **255**

- **x**

steward: **img**
name space id: **img:**
class: **Quaternion**

version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

• **x**

steward: **img**
name space id: **img:**
class: **Vector**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

• **y**

steward: **img**
name space id: **img:**
class: **Quaternion**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

• **y**

steward: **img**
name space id: **img:**
class: **Vector**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

• **z**

steward: **img**
name space id: **img:**
class: **Quaternion**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

• **z**

steward: **img**
name space id: **img:**
class: **Vector**
version: **0.4.1.1.f**

- description: **xxx TBD E. Rye xxx**
- value_data_type: **ASCII_Real**
- minimum_value: **-INF**
- maximum_value: **INF**

• **CD_BOOLEAN**

version_identifier: **0.4.1.1.f**

definition: The values true and false, such that true is not equal to false. - ISO/IEC 11404

- **CD_CHARACTER**

version_identifier: 0.4.1.1.f

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: 0.4.1.1.f

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: 0.4.1.1.f

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: 0.4.1.1.f

definition: Mathematically, the infinite ring produced from the additive identity (0) and the multiplicative identity (1) by requiring $0 = 1$ and $\text{Add}(x,1) = y$ for any $y = x + 1$. That is: ..., -2, -1, 0, 1, 2, ... (a denumerably infinite list). - ISO/IEC 11404

- **CD_OCTET**

version_identifier: 0.4.1.1.f

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: 0.4.1.1.f

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: 0.4.1.1.f

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: 0.4.1.1.f

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: 0.4.1.1.f

definition: All values which are integral multiples of one radix ^ (-factor) unit of the specified timeunit. - ISO/IEC 11404

- **CD_VOID**

version_identifier: 0.4.1.1.f

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: 0.4.1.1.f
definition: **A numeric value indicating a current total or tally.**

- **DEC_DATE**

version_identifier: 0.4.1.1.f
definition: **A representation of time in which the smallest unit of measure is a day.**

- **DEC_DATE_TIME**

version_identifier: 0.4.1.1.f
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: 0.4.1.1.f
definition: **A free-form, unlimited-length character string that provides a description of the item identified.**

- **DEC_DIRECTION**

version_identifier: 0.4.1.1.f
definition: **TBD**

- **DEC_FLAG**

version_identifier: 0.4.1.1.f
definition: **A boolean condition indicator, limited to two states.**

- **DEC_FORMAT**

version_identifier: 0.4.1.1.f
definition: **A specified or predetermined arrangement of data within a file or on a storage medium.**

- **DEC_GROUP**

version_identifier: 0.4.1.1.f
definition: **Names a collection or aggregation of elements. Example: ALT FLAG GROUP**

- **DEC_GUID**

version_identifier: 0.4.1.1.f
definition: **A globally unique, immutable, and opaque product identifier.**

- **DEC_ID**

version_identifier: 0.4.1.1.f
definition: **A shorthand alphanumeric identifier.**

- **DEC_IDENTIFIER**

version_identifier: 0.4.1.1.f
definition: **A shorthand alphanumeric identifier.**

- **DEC_LOCAL_IDENTIFIER**

version_identifier: 0.4.1.1.f
definition: **An identifier unique within a product label. When appended to the LID, it provides a global identifier for a component of a product.**

- **DEC_LOGICAL_IDENTIFIER**

version_identifier: 0.4.1.1.f
definition: **A unique product identifier without the version. It identifies the set of all versions of a product.**

- **DEC_MASK**

version_identifier: 0.4.1.1.f

definition: **An unsigned numeric value representing the bit positions within a value.**

- **DEC_NAME**

version_identifier: 0.4.1.1.f

definition: **A literal value representing the common term used to identify an element.**

- **DEC_NOTE**

version_identifier: 0.4.1.1.f

definition: **A textual expression of opinion, an observation, or a criticism; a remark.**

- **DEC_NUMBER**

version_identifier: 0.4.1.1.f

definition: **A quantity.**

- **DEC_QUATERNION**

version_identifier: 0.4.1.1.f

definition: **TBD**

- **DEC_RATIO**

version_identifier: 0.4.1.1.f

definition: **The relation between two quantities with respect to the number of times the first contains the second.**

- **DEC_SEQUENCE**

version_identifier: 0.4.1.1.f

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: 0.4.1.1.f

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: 0.4.1.1.f

definition: **An abridged description.**

- **DEC_TEXT**

version_identifier: 0.4.1.1.f

definition: **A free-form, unlimited length character string.**

- **DEC_TYPE**

version_identifier: 0.4.1.1.f

definition: **A literal that indicates membership in a predefined class.**

- **DEC_UNIT**

version_identifier: 0.4.1.1.f

definition: **A determinate quantity adopted as a standard of measurement.**

- **DEC_VALUE**

version_identifier: 0.4.1.1.f

definition: **The default class word for data element names not terminated with a class word.**

- **DEC_VECTOR**

version_identifier: **0.4.1.1.f**

definition: **A quantity that has both length and direction which are independent of both the units and of the coordinate system in which each are measured. The vector direction is uniquely defined in terms of an ordered set of components with respect to the particular coordinate system for which those components have been defined.**

- **AdministrationRecord**

identifier: **Beta_DD_0.4.1.1.f**

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_0.4.1.1.f**

explanatory_comment: This is a test load of a ISO/IEC 11179 Data Dictionary from the PDS4 master model.

- **Steward**

identifier: **Steward_PDS**

label: **Steward_PDS**

contact: **Elizabeth_Rye**

organization: **RA_0001_NASA_PDS_1**

- **Submitter**

identifier: **Submitter_PDS**

label: **Submitter_PDS**

contact: **Elizabeth_Rye**

organization: **RA_0001_NASA_PDS_1**

- **RegistrationAuthority**

Identifier: **RA_0001_NASA_PDS_1**

organization_mailing_address: **4800 Oak Grove Drive, Pasadena, CA 91109**

organization_name: **NASA Planetary Data System**

label: **RA_0001_NASA_PDS_1**

documentation_language_identifier: **LI_English**

language_used: **LI_English**

registrar: **PDS_Registrar**

registration_authority_identifier: **0001_NASA_PDS_1**

9. **PDS4 Data Type Definitions Sat Aug 27 06:57:16 PDT 2011**

Generated from the PDS4 Information Model Version 0.4.1.1.f

- **Data Type:ASCII_AnyURI**

description: **The ASCII AnyURI class indicates a URI or its subclasses URN and URL.**

minimum_characters: **1**

maximum_characters: **255**

xml_schema_base_type: **xsd:anyURI**

enumeration_flag: **F**

character_constraint: **ASCII**

character_encoding: **UTF-8**

- **Data Type:ASCII_Boolean_TF**

description: **The ASCII Boolean_TF class indicates a boolean with a permissible value of either T or F.**

minimum_characters: **1**

maximum_characters: **1**

xml_schema_base_type: **xsd:string**

enumeration_flag: T
character_constraint: ASCII
character_encoding: UTF-8

- **Data Type:ASCII_DOI**

description: **The ASCII DOI class indicates a digital object identifier (DOI).**
minimum_characters: 1
maximum_characters: 255
xml_schema_base_type: xsd:string
enumeration_flag: F
character_constraint: ASCII
formation_rule: nn.nnnn/nnn
character_encoding: UTF-8

- **Data Type:ASCII_Date_DOY**

description: **The ASCII_Date_DOY class indicates a date in DOY format constrained to the ASCII encoding.**
minimum_characters: 1
maximum_characters: 8
xml_schema_base_type: xsd:string
enumeration_flag: F
character_constraint: ASCII
formation_rule: yyyy-doy
character_encoding: UTF-8

- **Data Type:ASCII_Date_Time**

description: **The ASCII_Date_Time class indicates a date in either YMD or DOY format and time constrained to the ASCII encoding.**
minimum_characters: 1
maximum_characters: 30
xml_schema_base_type: xsd:string
enumeration_flag: F
character_constraint: ASCII
formation_rule: yyyy-mm-ddThh:mm:ss.sss/yyyy-doyThh:mm:ss.sss
character_encoding: UTF-8

- **Data Type:ASCII_Date_Time_DOY**

description: **The ASCII_Date_Time_DOY class indicates a date in DOY format and time constrained to the ASCII encoding.**
minimum_characters: 1
maximum_characters: 30
xml_schema_base_type: xsd:string
enumeration_flag: F
character_constraint: ASCII
formation_rule: yyyy-doyThh:mm:ss.sss
character_encoding: UTF-8

- **Data Type:ASCII_Date_Time_UTC**

description: **The ASCII_Date_Time_UTC class indicates a date and time in UTC format constrained to the ASCII encoding.**
minimum_characters: 1
maximum_characters: 30
xml_schema_base_type: xsd:string
enumeration_flag: F
character_constraint: ASCII
formation_rule: yyyy-mm-ddThh:mm:ss.sssZ
character_encoding: UTF-8

- **Data Type:ASCII_Date_Time_YMD**

description: **The ASCII_Date_Time_YMD class indicates a date in YMD format and time constrained to the ASCII encoding.**
minimum_characters: 1
maximum_characters: 30
xml_schema_base_type: xsd:string
enumeration_flag: F

character_constraint: **ASCII**
formation_rule: **yyyy-mm-ddThh:mm:ss.sss**
character_encoding: **UTF-8**

- **Data Type:ASCII_Date_YMD**

description: **The ASCII_Date_YMD class indicates a date in YMD format constrained to the ASCII encoding.**
minimum_characters: **1**
maximum_characters: **10**
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**
character_constraint: **ASCII**
formation_rule: **yyyy-mm-dd**
character_encoding: **UTF-8**

- **Data Type:ASCII_Directory_Path_Name**

description: **The ASCII Directory Path Name class indicates a system directory path constrained to the ASCII encoding.**
minimum_characters: **1**
maximum_characters: **255**
xml_schema_base_type: **xsd:token**
enumeration_flag: **F**
character_constraint: **ASCII**
formation_rule: **dir1/dir2/**
character_encoding: **UTF-8**

- **Data Type:ASCII_File_Name**

description: **The ASCII File Name class indicates a system file name constrained to the ASCII encoding.**
minimum_characters: **1**
maximum_characters: **255**
xml_schema_base_type: **xsd:token**
enumeration_flag: **F**
character_constraint: **ASCII**
formation_rule: **file_name.file_extension**
character_encoding: **UTF-8**

- **Data Type:ASCII_File_Specification_Name**

description: **The ASCII File Specification Name class indicates a system file including directory path, file name, and file extension constrained to the ASCII encoding.**
minimum_characters: **1**
maximum_characters: **255**
xml_schema_base_type: **xsd:token**
enumeration_flag: **F**
character_constraint: **ASCII**
formation_rule: **dir1/dir2/file_name.file_extension**
character_encoding: **UTF-8**

- **Data Type:ASCII_Identifier**

description: **The ASCII_Identifier class indicates a identifier constrained to the ASCII encoding.**
minimum_characters: **1**
maximum_characters: **100**
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**
character_constraint: **ASCII**
character_encoding: **UTF-8**

- **Data Type:ASCII_Integer**

description: **The ASCII_Integer class indicates an integer constrained to the ASCII encoding.**
maximum_value: **2147483647**
xml_schema_base_type: **xsd:integer**
enumeration_flag: **F**
minimum_value: **-2147483648**
character_encoding: **UTF-8**

- **Data Type:ASCII_LID**

description: **The ASCII_LID class indicates a logical identifier constrained to the ASCII encoding.**
minimum_characters: **14**
maximum_characters: **255**
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**
character_constraint: **ASCII**
formation_rule: **urn:nasa:pds:xxxx**
character_encoding: **UTF-8**

- **Data Type:ASCII_LIDVID**

description: **The ASCII_LIDVID class indicates a logical identifier and version identifier constrained to the ASCII encoding.**
minimum_characters: **14**
maximum_characters: **255**
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**
character_constraint: **ASCII**
formation_rule: **urn:nasa:pds:xxxx::M.n**
character_encoding: **UTF-8**

- **Data Type:ASCII_MD5_Checksum**

description: **The ASCII MD5 Checksum class indicates a checksum computed by the Message-Digest algorithm 5 (MD5).**
minimum_characters: **32**
maximum_characters: **32**
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**
character_constraint: **ASCII**
formation_rule: **0123456789abcdef**
character_encoding: **UTF-8**

- **Data Type:ASCII_Mask**

description: **The ASCII_Mask class indicates a binary mask using either binary, octal, or hexadecimal notation.**
minimum_characters: **1**
maximum_characters: **255**
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**
character_constraint: **ASCII**
character_encoding: **UTF-8**

- **Data Type:ASCII_NonNegative_Integer**

description: **The ASCII_NonNegative_Integer class indicates a non-negative integer constrained to the ASCII encoding.**
maximum_value: **4294967295**
xml_schema_base_type: **xsd:integer**
enumeration_flag: **F**
minimum_value: **0**
character_constraint: **ASCII**
character_encoding: **UTF-8**

- **Data Type:ASCII_Numeric_Base16**

description: **The ASCII Numeric Base16 class indicates a ASCII encoded string constrained to hexadecimal digits.**
minimum_characters: **1**
maximum_characters: **255**
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**
character_constraint: **ASCII**
character_encoding: **UTF-8**

- **Data Type:ASCII_Numeric_Base2**

description: **The ASCII Numeric Base2 class indicates a ASCII encoded string constrained to binary digits.**
minimum_characters: **1**
maximum_characters: **255**
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**

character_constraint: **ASCII**
character_encoding: **UTF-8**

- **Data Type:ASCII_Real**

description: **The ASCII_Real class indicates a real constrained to the ASCII encoding.**
maximum_value: **INF**
xml_schema_base_type: **xsd:float**
enumeration_flag: **F**
minimum_value: **-INF**
character_encoding: **UTF-8**

- **Data Type:ASCII_Short_String_Collapsed**

description: **The ASCII_Short_String_Collapsed class indicates a limited length, whitespace-collapsed string constrained to the ASCII character encoding.**
minimum_characters: **1**
maximum_characters: **255**
xml_schema_base_type: **xsd:token**
enumeration_flag: **F**
character_constraint: **ASCII**
character_encoding: **UTF-8**

- **Data Type:ASCII_Short_String_Preserved**

description: **The ASCII_Short_String_Preserved class indicates a limited length, whitespace-preserved string constrained to the ASCII character encoding.**
minimum_characters: **1**
maximum_characters: **255**
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**
character_constraint: **ASCII**
character_encoding: **UTF-8**

- **Data Type:ASCII_Text_Collapsed**

description: **The ASCII_Text_Collapsed class indicates an unlimited length, whitespace-collapsed text string constrained to the ASCII character encoding.**
minimum_characters: **1**
maximum_characters: **2147483647**
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**
character_constraint: **ASCII**
character_encoding: **UTF-8**

- **Data Type:ASCII_Text_Preserved**

description: **The ASCII_Text_Preserved class indicates an unlimited length, whitespace-preserved text string constrained to the ASCII character encoding.**
minimum_characters: **1**
maximum_characters: **2147483647**
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**
character_constraint: **ASCII**
character_encoding: **UTF-8**

- **Data Type:ASCII_Time**

description: **The ASCII_Time class indicates a time value constrained to the ASCII encoding.**
minimum_characters: **1**
maximum_characters: **20**
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**
character_constraint: **ASCII**
formation_rule: ***hh:mm:ss.sss ***
character_encoding: **UTF-8**

- **Data Type:ASCII_VID**

description: **The ASCII_VID class indicates a version identifier constrained to the ASCII encoding.**
minimum_characters: 3
maximum_characters: 100
xml_schema_base_type: **xsd:string**
enumeration_flag: **F**
character_constraint: **ASCII**
formation_rule: **M.m**
character_encoding: **UTF-8**

- **Data Type:Bit**

description: **A single binary digit.**
enumeration_flag: **TRUE**

- **Data Type:ComplexB16**

description: **Complex number consisting of two 8 byte decimal reals.**
enumeration_flag: **FALSE**

- **Data Type:ComplexB8**

description: **Complex number consisting of two 4 byte decimal reals.**
enumeration_flag: **FALSE**

- **Data Type:IEEE754Double**

description: **IEEE 754 double precision floating point**
enumeration_flag: **FALSE**

- **Data Type:IEEE754Single**

description: **IEEE 754 single precision floating point**
enumeration_flag: **FALSE**

- **Data Type:SignedLSB16**

description: **Signed 2's-complement LSB 16-byte integer**
enumeration_flag: **FALSE**

- **Data Type:SignedLSB2**

description: **Signed 2's-complement LSB 2-byte integer**
enumeration_flag: **FALSE**

- **Data Type:SignedLSB4**

description: **Signed 2's-complement LSB 4-byte integer**
enumeration_flag: **FALSE**

- **Data Type:SignedLSB8**

description: **Signed 2's-complement LSB 8-byte integer**
enumeration_flag: **FALSE**

- **Data Type:SignedMSB16**

description: **Signed 2's-complement MSB 16-byte integer**
enumeration_flag: **FALSE**

- **Data Type:SignedMSB2**

description: **Signed 2's-complement MSB 2-byte integer**
enumeration_flag: **FALSE**

- **Data Type:SignedMSB4**

description: **Signed 2's-complement MSB 4-byte integer**

enumeration_flag: FALSE

- **Data Type:SignedMSB8**

description: **Signed 2's-complement MSB 8-byte integer**
enumeration_flag: FALSE

- **Data Type:UTF8_Short_String_Collapsed**

description: **The UTF8_Short_String_Collapsed class indicates a limited length, whitespace-collapsed string constrained to the UTF-8 character encoding.**
minimum_characters: 1
maximum_characters: 255
xml_schema_base_type: **xsd:token**
enumeration_flag: F
character_encoding: **UTF-8**

- **Data Type:UTF8_Short_String_Preserved**

description: **The UTF8_Short_String_Preserved class indicates a limited length, whitespace-preserved string constrained to the UTF-8 character encoding.**
minimum_characters: 1
maximum_characters: 255
xml_schema_base_type: **xsd:string**
enumeration_flag: F
character_encoding: **UTF-8**

- **Data Type:UTF8_Text_Preserved**

description: **The UTF8_Text_Preserved class indicates an unlimited length, whitespace-preserved text string constrained to the UTF-8 character encoding.**
minimum_characters: 1
maximum_characters: **2147483647**
xml_schema_base_type: **xsd:string**
enumeration_flag: F
character_encoding: **UTF-8**

- **Data Type:UnsignedByte**

description: **Unsigned 8-bit MSb bytes**
enumeration_flag: FALSE

- **Data Type:UnsignedLSB16**

description: **Unsigned 2's-complement LSB 16-byte integer**
enumeration_flag: FALSE

- **Data Type:UnsignedLSB2**

description: **Unsigned 2's-complement LSB 2-byte integer**
enumeration_flag: FALSE

- **Data Type:UnsignedLSB4**

description: **Unsigned 2's-complement LSB 4-byte integer**
enumeration_flag: FALSE

- **Data Type:UnsignedLSB8**

description: **Unsigned 2's-complement LSB 8-byte integer**
enumeration_flag: FALSE

- **Data Type:UnsignedMSB16**

description: **Unsigned 2's-complement MSB 16-byte integer**
enumeration_flag: FALSE

- **Data Type:UnsignedMSB2**

description: **Unsigned 2's-complement MSB 2-byte integer**
enumeration_flag: **FALSE**

- **Data Type:UnsignedMSB4**

description: **Unsigned 2's-complement MSB 4-byte integer**
enumeration_flag: **FALSE**

- **Data Type:UnsignedMSB8**

description: **Unsigned 2's-complement MSB 8-byte integer**
enumeration_flag: **FALSE**

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 - **encoding_type** - **encoding_type** in pds:Array_Base, **encoding_type** in pds:Document_File, **encoding_type** in pds:Encoded_Byte_Stream, **encoding_type** in pds:Parsable_Byte_Stream, **encoding_type** in pds:SPICE_Kernel_Text, **encoding_type** in pds:Stream_Delimited, **encoding_type** in pds:Table_Base_Binary, **encoding_type** in pds:Table_Base_Character, **encoding_type** in pds:TDO_Structures, **encoding_type** in pds:XML_Schema
 - **enumeration_flag** - **enumeration_flag** in ops:DD_Value_Domain, **enumeration_flag** in pds:ASCII_AnyURI, **enumeration_flag** in pds:ASCII_Boolean_TF, **enumeration_flag** in pds:ASCII_Date_DOY, **enumeration_flag** in pds:ASCII_Date_Time, **enumeration_flag** in pds:ASCII_Date_Time_DOY, **enumeration_flag** in pds:ASCII_Date_Time_UTC, **enumeration_flag** in pds:ASCII_Date_Time_YMD, **enumeration_flag** in pds:ASCII_Date_YMD, **enumeration_flag** in pds:ASCII_Directory_Path_Name, **enumeration_flag** in pds:ASCII_DOI, **enumeration_flag** in pds:ASCII_File_Name, **enumeration_flag** in pds:ASCII_File_Specification_Name, **enumeration_flag** in pds:ASCII_Identifier, **enumeration_flag** in pds:ASCII_Integer, **enumeration_flag** in pds:ASCII_LID, **enumeration_flag** in pds:ASCII_LIDVID, **enumeration_flag** in pds:ASCII_Mask, **enumeration_flag** in pds:ASCII_MD5_Checksum, **enumeration_flag** in pds:ASCII_NonNegative_Integer, **enumeration_flag** in pds:ASCII_Numeric_Base16, **enumeration_flag** in pds:ASCII_Numeric_Base2, **enumeration_flag** in pds:ASCII_Real, **enumeration_flag** in pds:ASCII_Short_String_Collapsed, **enumeration_flag** in pds:ASCII_Short_String_Preserved, **enumeration_flag** in pds:ASCII_Text_Collapsed, **enumeration_flag** in pds:ASCII_Text_Preserved, **enumeration_flag** in pds:ASCII_Time, **enumeration_flag** in pds:ASCII_VID, **enumeration_flag** in pds:Boolean, **enumeration_flag** in pds:Complex, **enumeration_flag** in pds>Data_Type, **enumeration_flag** in pds:Decimal_Integer, **enumeration_flag** in pds:Decimal_Real, **enumeration_flag** in pds:UTF8_Short_String_Collapsed, **enumeration_flag** in pds:UTF8_Short_String_Preserved, **enumeration_flag** in pds:UTF8_Text_Preserved
 - **error_constant** - **error_constant** in pds:Special_Constants
 - **expected_packets** - **expected_packets** in img:Telemetry_Parameters
 - **exposure_duration** - **exposure_duration** in img:Camera_Parameters
 - **external_standard_id** - **external_standard_id** in pds:Document_File, **external_standard_id** in pds:Encoded_Binary, **external_standard_id** in pds:Encoded_Byte_Stream, **external_standard_id** in pds:Encoded_Image, **external_standard_id** in pds:File_PDF, **external_standard_id** in pds:Header, **external_standard_id** in pds:Parsable_Byte_Stream, **external_standard_id** in pds:Service_Description, **external_standard_id** in pds:SPICE_Kernel_Binary, **external_standard_id** in pds:SPICE_Kernel_Text, **external_standard_id** in pds:Stream_Delimited, **external_standard_id** in pds:XML_Schema
-
- **fields** - **fields** in pds:Inventory_LIDVID_Primary, **fields** in pds:Inventory_LIDVID_Secondary, **fields** in pds:Inventory_LID_Secondary, **fields** in ops:Manifest, **fields** in pds:Stream_Delimited, **fields** in pds:Table_Base

- **field_delimiter** - **field_delimiter** in pds:Stream_Delimited
 - **field_format** - **field_format** in pds:Stream_Delimited_Field, **field_format** in pds:Table_Field, **field_format** in pds:Table_Field_Extended, **field_format** in pds:Table_Field_File_Specification_Name, **field_format** in pds:Table_Field_LID, **field_format** in pds:Table_Field_LIDVID
 - **field_length** - **field_length** in pds:Stream_Delimited_Field, **field_length** in pds:Table_Field, **field_length** in pds:Table_Field_File_Specification_Name, **field_length** in pds:Table_Field_LIDVID
 - **field_location** - **field_location** in pds:Table_Character_Field, **field_location** in pds:Table_Field, **field_location** in pds:Table_Field_File_Specification_Name, **field_location** in pds:Table_Field_LID, **field_location** in pds:Table_Field_LIDVID
 - **field_number** - **field_number** in pds:Stream_Delimited_Field, **field_number** in pds:Table_Field, **field_number** in pds:Table_Field_Checksum, **field_number** in pds:Table_Field_File_Specification_Name, **field_number** in pds:Table_Field_LID, **field_number** in pds:Table_Field_LIDVID
 - **files** - **files** in ops:Software_Binary, **files** in ops:Software_Format, **files** in ops:Software_Script, **files** in ops:Software_Source
 - **file_name** - **file_name** in pds:File
 - **file_size** - **file_size** in pds:File
 - **file_specification_name** - **file_specification_name** in pds:Bundle_Member_Entry, **file_specification_name** in pds:Zipped_Member_Entry
 - **filter_id** - **filter_id** in img:Camera_Parameters
 - **filter_name** - **filter_name** in img:Camera_Parameters
 - **first_line** - **first_line** in pds:Image_2D_Display
 - **first_line_sample** - **first_line_sample** in pds:Image_2D_Display
 - **first_sampling_parameter_value** - **first_sampling_parameter_value** in pds:Uniformly_Sampled
 - **first_standard_parallel** - **first_standard_parallel** in pds:Image_Map_Projection
 - **formation_rule** - **formation_rule** in ops:DD_Value_Domain, **formation_rule** in pds:ASCII_Date_DOY, **formation_rule** in pds:ASCII_Date_Time, **formation_rule** in pds:ASCII_Date_Time_DOY, **formation_rule** in pds:ASCII_Date_Time_UTC, **formation_rule** in pds:ASCII_Date_Time_YMD, **formation_rule** in pds:ASCII_Date_YMD, **formation_rule** in pds:ASCII_Directory_Path_Name, **formation_rule** in pds:ASCII_DOI, **formation_rule** in pds:ASCII_File_Name, **formation_rule** in pds:ASCII_File_Specification_Name, **formation_rule** in pds:ASCII_LID, **formation_rule** in pds:ASCII_LIDVID, **formation_rule** in pds:ASCII_MD5_Checksum, **formation_rule** in pds:ASCII_Time, **formation_rule** in pds:ASCII_VID, **formation_rule** in pds:Data_Type
 - **format_type** - **format_type** in pds:Document_Format
 - **full_name** - **full_name** in ops:Local_DD, **full_name** in pds:Subject_Area, **full_name** in pds:Update_Entry
-
- **gain_mode_id** - **gain_mode_id** in img:Camera_Parameters
-
- **home** - **home** in pds:Identification_Area_System
 - **horizontal_framelet_offset** - **horizontal_framelet_offset** in img:Image_Map_Projection
-
- **image_id** - **image_id** in img:Image_Map_Projection
 - **incidence_angle** - **incidence_angle** in rings:Rings_Prod_Info
 - **install_notes** - **install_notes** in ops:Software_Script
 - **institution_name** - **institution_name** in ops:Node, **institution_name** in ops:PDS_Affiliate
 - **instrument_desc** - **instrument_desc** in ops:Instrument_PDS3
 - **instrument_host_desc** - **instrument_host_desc** in ops:Instrument_Host_PDS3
 - **instrument_host_id** - **instrument_host_id** in ops:Instrument_Host_PDS3
 - **instrument_host_name** - **instrument_host_name** in ops:Instrument_Host_PDS3, **instrument_host_name** in pds:Subject_Area
 - **instrument_host_type** - **instrument_host_type** in ops:Instrument_Host_PDS3
 - **instrument_id** - **instrument_id** in ops:Instrument_PDS3
 - **instrument_name** - **instrument_name** in ops:Instrument_PDS3, **instrument_name** in pds:Subject_Area
 - **instrument_serial_number** - **instrument_serial_number** in ops:Instrument_PDS3
 - **instrument_type** - **instrument_type** in ops:Instrument_PDS3
 - **instrument_version_id** - **instrument_version_id** in ops:Instrument_PDS3
 - **invalid_constant** - **invalid_constant** in pds:Special_Constants
 - **investigation_name** - **investigation_name** in pds:Subject_Area
-
- **kernel_type** - **kernel_type** in pds:SPICE_Kernel_Binary, **kernel_type** in pds:SPICE_Kernel_Text
 - **keywords** - **keywords** in pds:Subject_Area
-
- **language** - **language** in ops:Terminological_Entry
 - **last_modification_date_time** - **last_modification_date_time** in ops:Local_DD, **last_modification_date_time** in pds:Identification_Area
 - **last_sampling_parameter_value** - **last_sampling_parameter_value** in pds:Uniformly_Sampled
 - **lidvid_reference** - **lidvid_reference** in pds:Bundle_Member_Entry, **lidvid_reference** in pds:Name_Resolution, **lidvid_reference** in pds:Reference_Entry_Generic, **lidvid_reference** in pds:Zipped_Member_Entry
 - **lid_reference** - **lid_reference** in pds:Bundle_Member_Entry, **lid_reference** in pds:Reference_Entry_Generic
 - **line_display_direction** - **line_display_direction** in pds:Image_2D_Display
 - **line_first_pixel** - **line_first_pixel** in img:Image_Map_Projection
 - **line_last_pixel** - **line_last_pixel** in img:Image_Map_Projection
 - **line_projection_offset** - **line_projection_offset** in img:Image_Map_Projection
 - **local_identifier** - **local_identifier** in img:Imaging, **local_identifier** in ops:DD_Association, **local_identifier** in ops:DD_Class, **local_identifier** in pds:File, **local_identifier** in pds:Observing_System, **local_identifier** in pds:TDO_Structures, **local_identifier** in pds:TNDOSupplemental
 - **local_mean_solar_time** - **local_mean_solar_time** in pds:Observation_Area

- **local_true_solar_time** - **local_true_solar_time** in pds:Observation_Area
- **logical_identifier** - **logical_identifier** in pds:Identification_Area
- **map_projection_name** - **map_projection_name** in img:Image_Map_Projection
- **map_projection_rotation** - **map_projection_rotation** in img:Image_Map_Projection
- **map_resolution** - **map_resolution** in img:Image_Map_Projection
- **map_scale** - **map_scale** in img:Image_Map_Projection
- **maximum** - **maximum** in pds:Field_Statistics, **maximum** in pds:Object_Statistics
- **maximum_characters** - **maximum_characters** in ops:DD_Value_Domain, **maximum_characters** in pds:ASCII_AnyURI, **maximum_characters** in pds:ASCII_Boolean_TF, **maximum_characters** in pds:ASCII_Date_DOY, **maximum_characters** in pds:ASCII_Date_Time, **maximum_characters** in pds:ASCII_Date_Time_DOY, **maximum_characters** in pds:ASCII_Date_Time_UTC, **maximum_characters** in pds:ASCII_Date_Time_YMD, **maximum_characters** in pds:ASCII_Date_YMD, **maximum_characters** in pds:ASCII_Directory_Path_Name, **maximum_characters** in pds:ASCII_DOI, **maximum_characters** in pds:ASCII_File_Name, **maximum_characters** in pds:ASCII_File_Specification_Name, **maximum_characters** in pds:ASCII_Identifier, **maximum_characters** in pds:ASCII_Integer, **maximum_characters** in pds:ASCII_LID, **maximum_characters** in pds:ASCII_LIDVID, **maximum_characters** in pds:ASCII_Mask, **maximum_characters** in pds:ASCII_MD5_Checksum, **maximum_characters** in pds:ASCII_NonNegative_Integer, **maximum_characters** in pds:ASCII_Numeric_Base16, **maximum_characters** in pds:ASCII_Numeric_Base2, **maximum_characters** in pds:ASCII_Real, **maximum_characters** in pds:ASCII_Short_String_Collapsed, **maximum_characters** in pds:ASCII_Short_String_Preserved, **maximum_characters** in pds:ASCII_Text_Collapsed, **maximum_characters** in pds:ASCII_Text_Preserved, **maximum_characters** in pds:ASCII_Time, **maximum_characters** in pds:ASCII_VID, **maximum_characters** in pds>Data_Type, **maximum_characters** in pds:UTF8_Short_String_Collapsed, **maximum_characters** in pds:UTF8_Short_String_Preserved, **maximum_characters** in pds:UTF8_Text_Preserved
- **maximum_latitude** - **maximum_latitude** in img:Image_Map_Projection
- **maximum_occurrences** - **maximum_occurrences** in ops:DD_Association
- **maximum_record_bytes** - **maximum_record_bytes** in pds:File
- **maximum_record_length** - **maximum_record_length** in pds:Stream_Delimited
- **maximum_ring_radius** - **maximum_ring_radius** in rings:Rings_Prod_Info
- **maximum_scaled_value** - **maximum_scaled_value** in pds:Stream_Delimited_Field, **maximum_scaled_value** in pds:Table_Field_Extended
- **maximum_value** - **maximum_value** in ops:DD_Value_Domain, **maximum_value** in pds:ASCII_Date_Time, **maximum_value** in pds:ASCII_Date_Time_DOY, **maximum_value** in pds:ASCII_Date_Time_UTC, **maximum_value** in pds:ASCII_Date_Time_YMD, **maximum_value** in pds:ASCII_Identifier, **maximum_value** in pds:ASCII_Integer, **maximum_value** in pds:ASCII_LID, **maximum_value** in pds:ASCII_NonNegative_Integer, **maximum_value** in pds:ASCII_Numeric_Base16, **maximum_value** in pds:ASCII_Numeric_Base2, **maximum_value** in pds:ASCII_Real, **maximum_value** in pds:ASCII_Short_String_Collapsed, **maximum_value** in pds:ASCII_Short_String_Preserved, **maximum_value** in pds:ASCII_Text_Preserved, **maximum_value** in pds:ASCII_Time, **maximum_value** in pds:ASCII_VID, **maximum_value** in pds>Data_Type, **maximum_value** in pds:UTF8_Short_String_Collapsed, **maximum_value** in pds:UTF8_Short_String_Preserved, **maximum_value** in pds:UTF8_Text_Preserved
- **md5_checksum** - **md5_checksum** in pds:File, **md5_checksum** in pds:Object_Statistics, **md5_checksum** in pds:Zipped_Member_Entry
- **mean** - **mean** in pds:Field_Statistics, **mean** in pds:Object_Statistics
- **median** - **median** in pds:Field_Statistics, **median** in pds:Object_Statistics
- **medium_type** - **medium_type** in ops:NSSDC, **medium_type** in ops:Volume_PDS3
- **minimum** - **minimum** in pds:Field_Statistics, **minimum** in pds:Object_Statistics
- **minimum_characters** - **minimum_characters** in ops:DD_Value_Domain, **minimum_characters** in pds:ASCII_AnyURI, **minimum_characters** in pds:ASCII_Boolean_TF, **minimum_characters** in pds:ASCII_Date_DOY, **minimum_characters** in pds:ASCII_Date_Time, **minimum_characters** in pds:ASCII_Date_Time_DOY, **minimum_characters** in pds:ASCII_Date_Time_UTC, **minimum_characters** in pds:ASCII_Date_Time_YMD, **minimum_characters** in pds:ASCII_Date_YMD, **minimum_characters** in pds:ASCII_Directory_Path_Name, **minimum_characters** in pds:ASCII_DOI, **minimum_characters** in pds:ASCII_File_Name, **minimum_characters** in pds:ASCII_File_Specification_Name, **minimum_characters** in pds:ASCII_Identifier, **minimum_characters** in pds:ASCII_Integer, **minimum_characters** in pds:ASCII_LID, **minimum_characters** in pds:ASCII_LIDVID, **minimum_characters** in pds:ASCII_Mask, **minimum_characters** in pds:ASCII_MD5_Checksum, **minimum_characters** in pds:ASCII_NonNegative_Integer, **minimum_characters** in pds:ASCII_Numeric_Base16, **minimum_characters** in pds:ASCII_Numeric_Base2, **minimum_characters** in pds:ASCII_Real, **minimum_characters** in pds:ASCII_Short_String_Collapsed, **minimum_characters** in pds:ASCII_Short_String_Preserved, **minimum_characters** in pds:ASCII_Text_Collapsed, **minimum_characters** in pds:ASCII_Text_Preserved, **minimum_characters** in pds:ASCII_Time, **minimum_characters** in pds:ASCII_VID, **minimum_characters** in pds>Data_Type, **minimum_characters** in pds:UTF8_Short_String_Collapsed, **minimum_characters** in pds:UTF8_Short_String_Preserved, **minimum_characters** in pds:UTF8_Text_Preserved
- **minimum_latitude** - **minimum_latitude** in img:Image_Map_Projection
- **minimum_occurrences** - **minimum_occurrences** in ops:DD_Association
- **minimum_ring_radius** - **minimum_ring_radius** in rings:Rings_Prod_Info
- **minimum_scaled_value** - **minimum_scaled_value** in pds:Stream_Delimited_Field, **minimum_scaled_value** in pds:Table_Field_Extended
- **minimum_value** - **minimum_value** in ops:DD_Value_Domain, **minimum_value** in pds:ASCII_Date_Time, **minimum_value** in pds:ASCII_Date_Time_DOY, **minimum_value** in pds:ASCII_Date_Time_UTC, **minimum_value** in pds:ASCII_Date_Time_YMD, **minimum_value** in pds:ASCII_Identifier, **minimum_value** in pds:ASCII_Integer, **minimum_value** in pds:ASCII_LID, **minimum_value** in pds:ASCII_NonNegative_Integer, **minimum_value** in pds:ASCII_Numeric_Base16, **minimum_value** in pds:ASCII_Numeric_Base2, **minimum_value** in pds:ASCII_Real, **minimum_value** in pds:ASCII_Short_String_Collapsed, **minimum_value** in pds:ASCII_Short_String_Preserved, **minimum_value** in pds:ASCII_Text_Preserved, **minimum_value** in pds:ASCII_Time, **minimum_value** in pds:ASCII_VID, **minimum_value** in pds>Data_Type, **minimum_value** in pds:UTF8_Short_String_Collapsed, **minimum_value** in pds:UTF8_Short_String_Preserved, **minimum_value** in pds:UTF8_Text_Preserved

- pds:ASCII_Time, **minimum_value** in pds:ASCII_VID, **minimum_value** in pds:Data_Type, **minimum_value** in pds:UTF8_Short_String_Collapsed, **minimum_value** in pds:UTF8_Short_String_Preserved, **minimum_value** in pds:UTF8_Text_Preserved
- **missing_constant** - **missing_constant** in pds:Special_Constants
 - **mission_desc** - **mission_desc** in ops:Mission_PDS3
 - **mission_name** - **mission_name** in ops:Mission_PDS3
 - **mission_objectives_summary** - **mission_objectives_summary** in ops:Mission_PDS3
 - **mission_phase_name** - **mission_phase_name** in pds:Observation_Area
 - **mission_start_date** - **mission_start_date** in ops:Mission_PDS3
 - **mission_stop_date** - **mission_stop_date** in ops:Mission_PDS3
- **naif_host_id** - **naif_host_id** in pds:Instrument_Host
 - **naif_instrument_id** - **naif_instrument_id** in pds:Instrument
 - **name** - **name** in ops:DD_Attribute, **name** in ops:DD_Attribute_Full, **name** in ops:DD_Class, **name** in ops:Software_Desc, **name** in pds:Array_Axis, **name** in pds:Bibliographic_Reference, **name** in pds:Header, **name** in pds:Name_Resolution, **name** in pds:Observing_System_Component, **name** in pds:Stream_Delimited_Field, **name** in pds:Table_Binary_Field, **name** in pds:Table_Field, **name** in pds:Table_Field_Checksum, **name** in pds:Table_Field_File_Specification_Name, **name** in pds:Table_Field_LID, **name** in pds:Table_Field_LIDVID, **name** in ops:Terminological_Entry, **name** in pds:TNDO_Context, **name** in pds:Vector_Component, **name** in pds:Vector_New
 - **name_space_id** - **name_space_id** in ops:DD_Attribute, **name_space_id** in ops:DD_Attribute_Full, **name_space_id** in ops:DD_Class
 - **node_id** - **node_id** in rings:Rings_Prod_Info
 - **node_name** - **node_name** in ops:Node, **node_name** in ops:PDS_Affiliate, **node_name** in rings:Rings_Prod_Info
 - **not_applicable_constant** - **not_applicable_constant** in pds:Special_Constants
 - **nssdc_collection_id** - **nssdc_collection_id** in ops:NSSDC
- **observing_system_component_type** - **observing_system_component_type** in pds:Observing_System_Component
 - **observing_system_name** - **observing_system_name** in pds:Subject_Area
 - **occultation_type** - **occultation_type** in rings:Rings_Prod_Info
 - **offset** - **offset** in pds:Array_Base, **offset** in pds:Encoded_Byte_Stream, **offset** in pds:Parsable_Byte_Stream, **offset** in pds:Table_Base
 - **orbit_number** - **orbit_number** in pds:Observation_Area
 - **os_version** - **os_version** in ops:Software_Binary, **os_version** in ops:Software_Source
- **packet_map_mask** - **packet_map_mask** in img:Telemetry_Parameters
 - **pattern** - **pattern** in ops:DD_Value_Domain, **pattern** in pds:ASCII_Boolean_TF, **pattern** in pds:ASCII_Date_DOY, **pattern** in pds:ASCII_Date_Time_DOY, **pattern** in pds:ASCII_Date_Time_YMD, **pattern** in pds:ASCII_Date_YMD, **pattern** in pds:ASCII_DOI, **pattern** in pds:ASCII_Identifier, **pattern** in pds:ASCII_LID, **pattern** in pds:ASCII_MD5_Checksum, **pattern** in pds:ASCII_Numeric_Base16, **pattern** in pds:ASCII_Numeric_Base2, **pattern** in pds:ASCII_Time, **pattern** in pds:ASCII_VID, **pattern** in pds:Data_Type
 - **pds4_merge_flag** - **pds4_merge_flag** in ops:Local_DD
 - **phone_book_flag** - **phone_book_flag** in ops:PDS_Affiliate
 - **planetary_occultation_flag** - **planetary_occultation_flag** in rings:Rings_Prod_Info
 - **planet_day_number** - **planet_day_number** in pds:Observation_Area
 - **positive_azimuth_direction** - **positive_azimuth_direction** in img:Az_el_coordinate_system
 - **positive_elevation_direction** - **positive_elevation_direction** in img:Az_el_coordinate_system
 - **positive_longitude_direction** - **positive_longitude_direction** in img:Image_Map_Projection
 - **postal_address_text** - **postal_address_text** in ops:PDS_Affiliate
 - **preferred_flag** - **preferred_flag** in ops:Terminological_Entry
 - **primary_body_name** - **primary_body_name** in ops:Target_PDS3
 - **primary_name** - **primary_name** in pds:Name_Resolution
 - **processing_level_id** - **processing_level_id** in pds:Collection_Data
 - **producer_full_name** - **producer_full_name** in ops:Data_Set_PDS3
 - **product_class** - **product_class** in pds:Identification_Area
 - **programmers_manual_identifier** - **programmers_manual_identifier** in ops:Software_Desc
 - **program_notes_identifier** - **program_notes_identifier** in ops:Software_Binary, **program_notes_identifier** in ops:Software_Source
 - **publication_date** - **publication_date** in ops:Volume_PDS3, **publication_date** in pds:Document_Desc
- **radial_resolution** - **radial_resolution** in rings:Rings_Prod_Info
 - **received_packets** - **received_packets** in img:Telemetry_Parameters
 - **records** - **records** in pds:File, **records** in pds:Stream_Delimited, **records** in pds:Table_Base
 - **record_bytes** - **record_bytes** in pds:Table_Base
 - **record_delimiter** - **record_delimiter** in pds:Stream_Delimited
 - **reference_association_type** - **reference_association_type** in ops:DD_Association, **reference_association_type** in pds:Bundle_Member_Entry, **reference_association_type** in pds:Inventory_LIDVID_Primary, **reference_association_type** in pds:Inventory_LIDVID_Secondary, **reference_association_type** in pds:Inventory_LID_Secondary, **reference_association_type** in ops:Manifest, **reference_association_type** in pds:Reference_Entry, **reference_association_type** in pds:Reference_Entry_Collection, **reference_association_type** in pds:Reference_Entry_Context, **reference_association_type** in pds:Reference_Entry_Generic, **reference_association_type** in pds:Reference_Entry_Product, **reference_association_type** in pds:Reference_Entry_Observing_System_Component, **reference_association_type** in pds:Reference_Entry_Product, **reference_association_type** in pds:Zipped_Member_Entry
 - **reference_coordinate_system_name** - **reference_coordinate_system_name** in img:Az_el_coordinate_system

- **reference_latitude** - **reference_latitude** in img:Image_Map_Projection
- **reference_longitude** - **reference_longitude** in img:Image_Map_Projection
- **reference_text** - **reference_text** in pds:Bibliographic_Reference, **reference_text** in pds:Reference
- **registered_by** - **registered_by** in ops:DD_Attribute_Full
- **registration_authority_id** - **registration_authority_id** in ops:DD_Attribute_Full
- **registration_date** - **registration_date** in ops:Personnel
- **repetitions** - **repetitions** in pds:Stream_Delimited_Grouped_Sequence, **repetitions** in pds:Table_Binary_Grouped_Sequence, **repetitions** in pds:Table_Character_Grouped_Sequence
- **revision_id** - **revision_id** in pds:Document_Desc
- **ring_event_start_time** - **ring_event_start_time** in rings:Rings_Prod_Info
- **ring_event_stop_time** - **ring_event_stop_time** in rings:Rings_Prod_Info
- **ring_occultation_direction** - **ring_occultation_direction** in rings:Rings_Prod_Info
- **role** - **role** in pds:Name_Resolution
- **sample_bit_mask** - **sample_bit_mask** in pds:Field_Statistics, **sample_bit_mask** in pds:Object_Statistics
- **sample_display_direction** - **sample_display_direction** in pds:Image_2D_Display
- **sample_first_pixel** - **sample_first_pixel** in img:Image_Map_Projection
- **sample_last_pixel** - **sample_last_pixel** in img:Image_Map_Projection
- **sample_projection_offset** - **sample_projection_offset** in img:Image_Map_Projection
- **sampling_parameter_interval** - **sampling_parameter_interval** in pds:Uniformly_Sampled
- **sampling_parameter_name** - **sampling_parameter_name** in pds:Uniformly_Sampled
- **sampling_parameter_scale** - **sampling_parameter_scale** in pds:Uniformly_Sampled
- **sampling_parameter_unit** - **sampling_parameter_unit** in pds:Uniformly_Sampled
- **saturated_constant** - **saturated_constant** in pds:Special_Constants
- **scaling_factor** - **scaling_factor** in pds:Array_Element, **scaling_factor** in pds:Stream_Delimited_Field, **scaling_factor** in pds:Table_Field_Extended
- **scan_mode_id** - **scan_mode_id** in img:Camera_Parameters
- **second_standard_parallel** - **second_standard_parallel** in img:Image_Map_Projection
- **sequence_number** - **sequence_number** in pds:Array_Axis, **sequence_number** in pds:Vector_Component
- **serial_number** - **serial_number** in pds:Instrument, **serial_number** in pds:Instrument_Host
- **shutter_mode_id** - **shutter_mode_id** in img:Camera_Parameters
- **software_dialect** - **software_dialect** in ops:Software_Source
- **software_id** - **software_id** in ops:Software_Desc
- **software_language** - **software_language** in ops:Software_Source
- **software_type** - **software_type** in ops:Software_Desc
- **solar_longitude** - **solar_longitude** in pds:Observation_Area
- **sort_name** - **sort_name** in ops:Personnel
- **spacecraft_clock_count_partition** - **spacecraft_clock_count_partition** in pds:Observation_Area
- **spacecraft_clock_start_count** - **spacecraft_clock_start_count** in pds:Observation_Area
- **spacecraft_clock_stop_count** - **spacecraft_clock_stop_count** in pds:Observation_Area
- **specified_unit_id** - **specified_unit_id** in ops:DD_Value_Domain, **specified_unit_id** in pds:UnitOfMeasure, **specified_unit_id** in pds:UnitOfMeasure_AmountOfSubstance, **specified_unit_id** in pds:UnitOfMeasure_Angle, **specified_unit_id** in pds:UnitOfMeasure_Angular_Velocity, **specified_unit_id** in pds:UnitOfMeasure_Area, **specified_unit_id** in pds:UnitOfMeasure_Frequency, **specified_unit_id** in pds:UnitOfMeasure_Length, **specified_unit_id** in pds:UnitOfMeasure_Mass, **specified_unit_id** in pds:UnitOfMeasure_Misc, **specified_unit_id** in pds:UnitOfMeasure_None, **specified_unit_id** in pds:UnitOfMeasure_OpticalPathLength, **specified_unit_id** in pds:UnitOfMeasure_Pressure, **specified_unit_id** in pds:UnitOfMeasure_Radiance, **specified_unit_id** in pds:UnitOfMeasure_Rates, **specified_unit_id** in pds:UnitOfMeasure_Scale, **specified_unit_id** in pds:UnitOfMeasure_Solid_Angle, **specified_unit_id** in pds:UnitOfMeasure_Storage, **specified_unit_id** in pds:UnitOfMeasure_Temperature, **specified_unit_id** in pds:UnitOfMeasure_Time, **specified_unit_id** in pds:UnitOfMeasure_Velocity, **specified_unit_id** in pds:UnitOfMeasure_Voltage, **specified_unit_id** in pds:UnitOfMeasure_Volume
- **spice_file_name** - **spice_file_name** in img:Telemetry_Parameters
- **standard_deviation** - **standard_deviation** in pds:Field_Statistics, **standard_deviation** in pds:Object_Statistics
- **starting_point_identifier** - **starting_point_identifier** in pds:Document_Format
- **start_bit** - **start_bit** in pds:Table_Binary_Grouped_Bit_Field
- **start_date** - **start_date** in pds:Investigation
- **start_date_time** - **start_date_time** in ops>Data_Set_PDS3, **start_date_time** in pds:Archive_Bundle, **start_date_time** in pds:Observation_Area
- **star_name** - **star_name** in rings:Rings_Prod_Info
- **std_ref_version_id** - **std_ref_version_id** in pds>Data_Standards
- **steward_id** - **steward_id** in ops:DD_Attribute, **steward_id** in ops:DD_Attribute_Full, **steward_id** in ops:DD_Class
- **stop_date** - **stop_date** in pds:Investigation
- **stop_date_time** - **stop_date_time** in ops>Data_Set_PDS3, **stop_date_time** in pds:Archive_Bundle, **stop_date_time** in pds:Observation_Area
- **submitter_id** - **submitter_id** in ops:DD_Attribute, **submitter_id** in ops:DD_Attribute_Full
- **supported_architecture** - **supported_architecture** in ops:Software_Binary, **supported_architecture** in ops:Software_Source
- **supported_environment** - **supported_environment** in ops:Software_Script
- **supported_os** - **supported_os** in ops:Software_Binary, **supported_os** in ops:Software_Source
- **sw_format_type** - **sw_format_type** in ops:Software_Binary, **sw_format_type** in ops:Software_Source
- **system_requirements** - **system_requirements** in ops:Software_Binary, **system_requirements** in ops:Software_Format, **system_requirements** in ops:Software_Script, **system_requirements** in ops:Software_Source
- **target_desc** - **target_desc** in ops:Target_PDS3

- **target_name** - **target_name** in ops:Target_PDS3, **target_name** in pds:Subject_Area
- **target_type** - **target_type** in ops:Target_PDS3
- **telemetry_provider_id** - **telemetry_provider_id** in img:Telemetry_Parameters
- **telemetry_source_name** - **telemetry_source_name** in img:Telemetry_Parameters
- **telemetry_source_type** - **telemetry_source_type** in img:Telemetry_Parameters
- **telephone_number** - **telephone_number** in ops:PDS_Affiliate
- **title** - **title** in pds:Identification_Area
- **type** - **type** in pds:Identification_Area, **type** in pds:UnitOfMeasure, **type** in pds:UnitOfMeasure_AmountOfSubstance, **type** in pds:UnitOfMeasure_Angle, **type** in pds:UnitOfMeasure_Angular_Velocity, **type** in pds:UnitOfMeasure_Area, **type** in pds:UnitOfMeasure_Frequency, **type** in pds:UnitOfMeasure_Length, **type** in pds:UnitOfMeasure_Mass, **type** in pds:UnitOfMeasure_Misc, **type** in pds:UnitOfMeasure_None, **type** in pds:UnitOfMeasure_OpticalPathLength, **type** in pds:UnitOfMeasure_Pressure, **type** in pds:UnitOfMeasure_Radiance, **type** in pds:UnitOfMeasure_Rates, **type** in pds:UnitOfMeasure_Scale, **type** in pds:UnitOfMeasure_Solid_Angle, **type** in pds:UnitOfMeasure_Storage, **type** in pds:UnitOfMeasure_Temperature, **type** in pds:UnitOfMeasure_Time, **type** in pds:UnitOfMeasure_Velocity, **type** in pds:UnitOfMeasure_Voltage, **type** in pds:UnitOfMeasure_Volume, **type** in pds:Vector_New
- **unit** - **unit** in pds:Array_Axis, **unit** in pds:Array_Element, **unit** in pds:Stream_Delimited_Field, **unit** in pds:Table_Field_Extended
- **unit_id** - **unit_id** in pds:UnitOfMeasure, **unit_id** in pds:UnitOfMeasure_AmountOfSubstance, **unit_id** in pds:UnitOfMeasure_Angle, **unit_id** in pds:UnitOfMeasure_Angular_Velocity, **unit_id** in pds:UnitOfMeasure_Area, **unit_id** in pds:UnitOfMeasure_Frequency, **unit_id** in pds:UnitOfMeasure_Length, **unit_id** in pds:UnitOfMeasure_Mass, **unit_id** in pds:UnitOfMeasure_Misc, **unit_id** in pds:UnitOfMeasure_None, **unit_id** in pds:UnitOfMeasure_OpticalPathLength, **unit_id** in pds:UnitOfMeasure_Pressure, **unit_id** in pds:UnitOfMeasure_Radiance, **unit_id** in pds:UnitOfMeasure_Rates, **unit_id** in pds:UnitOfMeasure_Scale, **unit_id** in pds:UnitOfMeasure_Solid_Angle, **unit_id** in pds:UnitOfMeasure_Storage, **unit_id** in pds:UnitOfMeasure_Temperature, **unit_id** in pds:UnitOfMeasure_Time, **unit_id** in pds:UnitOfMeasure_Velocity, **unit_id** in pds:UnitOfMeasure_Voltage, **unit_id** in pds:UnitOfMeasure_Volume
- **unit_of_measure_type** - **unit_of_measure_type** in ops:DD_Value_Domain
- **unknown_constant** - **unknown_constant** in pds:Special_Constants
- **url** - **url** in pds:Bibliographic_Reference, **url** in pds:Resource
- **users_manual_identifier** - **users_manual_identifier** in ops:Software_Desc
- **value** - **value** in ops:DD_Permissible_Value, **value** in pds:Vector_Component
- **value_begin_date** - **value_begin_date** in ops:DD_Permissible_Value
- **value_data_type** - **value_data_type** in ops:DD_Value_Domain
- **value_end_date** - **value_end_date** in ops:DD_Permissible_Value
- **value_meaning** - **value_meaning** in ops:DD_Permissible_Value
- **value_offset** - **value_offset** in pds:Array_Element, **value_offset** in pds:Stream_Delimited_Field, **value_offset** in pds:Table_Field_Extended
- **vector_components** - **vector_components** in pds:Vector_New
- **version_id** - **version_id** in ops:DD_Attribute, **version_id** in ops:DD_Attribute_Full, **version_id** in ops:DD_Class, **version_id** in ops:Software_Desc, **version_id** in pds:Identification_Area, **version_id** in pds:Instrument, **version_id** in pds:Instrument_Host
- **vertical_framelet_offset** - **vertical_framelet_offset** in img:Image_Map_Projection
- **volumes** - **volumes** in ops:Volume_Set_PDS3
- **volume_de_fullname** - **volume_de_fullname** in ops:Volume_PDS3
- **volume_format** - **volume_format** in ops:Volume_PDS3
- **volume_id** - **volume_id** in ops:Volume_PDS3
- **volume_name** - **volume_name** in ops:Volume_PDS3
- **volume_series_name** - **volume_series_name** in ops:Volume_Set_PDS3
- **volume_set_id** - **volume_set_id** in ops:Volume_PDS3, **volume_set_id** in ops:Volume_Set_PDS3
- **volume_set_name** - **volume_set_name** in ops:Volume_Set_PDS3
- **volume_size** - **volume_size** in ops:Volume_PDS3
- **volume_version_id** - **volume_version_id** in ops:Volume_PDS3
- **western_most_longitude** - **western_most_longitude** in img:Image_Map_Projection
- **x** - **x** in img:Quaternion, **x** in img:Vector
- **xml_schema_base_type** - **xml_schema_base_type** in pds:ASCII_AnyURI, **xml_schema_base_type** in pds:ASCII_Boolean_TF, **xml_schema_base_type** in pds:ASCII_Date_DOY, **xml_schema_base_type** in pds:ASCII_Date_Time, **xml_schema_base_type** in pds:ASCII_Date_Time_DOY, **xml_schema_base_type** in pds:ASCII_Date_Time_UTC, **xml_schema_base_type** in pds:ASCII_Date_Time_YMD, **xml_schema_base_type** in pds:ASCII_Date_YMD, **xml_schema_base_type** in pds:ASCII_Directory_Path_Name, **xml_schema_base_type** in pds:ASCII_DOI, **xml_schema_base_type** in pds:ASCII_File_Name, **xml_schema_base_type** in pds:ASCII_File_Specification_Name, **xml_schema_base_type** in pds:ASCII_Identifier, **xml_schema_base_type** in pds:ASCII_Integer, **xml_schema_base_type** in pds:ASCII_LID, **xml_schema_base_type** in pds:ASCII_LIDVID, **xml_schema_base_type** in pds:ASCII_MD5_Checksum, **xml_schema_base_type** in pds:ASCII_NonNegative_Integer, **xml_schema_base_type** in pds:ASCII_Real, **xml_schema_base_type** in pds:ASCII_Short_String_Collapsed, **xml_schema_base_type** in pds:ASCII_Short_String_Preserved, **xml_schema_base_type** in pds:ASCII_Text_Preserved, **xml_schema_base_type** in pds:ASCII_Time, **xml_schema_base_type** in pds:ASCII_VID, **xml_schema_base_type** in pds:Attribute_Data_Type, **xml_schema_base_type** in pds:UTF8_Short_String_Collapsed, **xml_schema_base_type** in pds:UTF8_Short_String_Preserved, **xml_schema_base_type** in pds:UTF8_Text_Preserved, **xml_schema_base_type** in pds:ASCII_Mask, **xml_schema_base_type** in pds:ASCII_Numeric_Base16, **xml_schema_base_type** in pds:ASCII_Numeric_Base2, **xml_schema_base_type** in pds:ASCII_Text_Collapsed
- **y** - **y** in img:Quaternion, **y** in img:Vector

- $\mathbf{z} - \mathbf{z}$ in `img:Quaternion`, \mathbf{z} in `img:Vector`