

PDS4 Information Model Specification

PDS4 Information Model Specification Team

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1 Introduction

This document presents the PDS4 Information Model Specification for all components of the Planetary Data System (PDS).

2 Audience

This specification is intended for use by programmers and data engineers who require formal definitions of various parts of the Planetary Data System in order to support development of data sets, archiving utilities, and interfaces involving PDS holdings or operations.

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

This document defines all classes in use in the PDS, including those classes used to define archival elements as well as classes used for high-level descriptions and operational support. It also documents the associations among classes. Figure 1 illustrates a few of the main classes using a Concept Map diagram.

5 Applicable Documents

The starting point for this document was the PDS3 Information Model Specification (version 0.070916t, 8 September 2008). Deficiencies in PDS3 were a major motivation in developing PDS4, however; so the relationship between the two specifications is largely of historical interest. Relevant to both documents is: Reference Model for an Open Archival Information System (OAIS), CCSDS 650.0-B-1, Blue Book, January 2002.

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. Please consult the Glossary for definitions whenever there is

Figure 1: PDS Information Model - Concept Map

any possibility of confusion.

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

An "attribute" is a property or characteristic that allows both identification and distinction.

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.

An "object" is a specific instance of a class.

For example, an electromagnetic wave may be represented mathematically as

$$\mathbf{i}_x A \cos(\omega t - \mathbf{k}\mathbf{r} - \varphi)$$

where there are five explicit attributes: polarization $\mathbf{i}_x$, amplitude A , frequency ω , wave vector $\mathbf{k}$ (which defines the propagation direction), and phase φ . Although shown here as constants, these attributes may be complex functions of other variables; for example, there is an implicit sixth attribute "time" which defines both the beginning and end of the electromagnetic wave. Together these six attributes identify the class (i.e., the family) of all electromagnetic waves. If we then define a coordinate system, specify values for the attributes above, and impose time constraints, we would have an electromagnetic wave object. We would need a different list of attributes to identify a river, a musical score, or a television set, thus these would be different classes.

For this document we identify two special types of objects – the "data object" and the "description object." The data object contains "data," and (by itself) is not otherwise constrained. The description object contains information about another object, such as a data object. By linking a data object with a description object we create a pair which includes both the data and enough information that we can start to read and interpret the bits.

A description object can (and often does) exist without being physically accompanied by another object. The object it describes may not be physical (e.g., a space mission which, although it has physical components, is itself a concept) or it may not be practical to include the physical object (e.g., the planet Saturn).

An "association" is a defined relationship between classes. It has one direction. The association in the opposite direction is called an inverse relation.

"Cardinality" is the number of values allowed to an attribute or association in a single class. Cardinality in general is stated as a range with a minimum and maximum. For example, an attribute that may be multi-valued will have a cardinality of "1..*". A cardinality where the minimum and maximum are the same is often shown as the single value. For example, an attribute required to have exactly one value will have a cardinality of "1". When a value is required the minimum cardinality is at least 1. At least one value is always required.

"Entity" is a generic term used to refer to specific attributes or associations listed in a class definition.

Within this document, the term "model" is used to refer to a collection of classes and associations that describe a functional subsection of the Planetary Data System.

7 Document Contents

Sections 8 through 16 contain the specification for PDS4. The lowest level building blocks (classes) are defined first, then these are used to construct classes at higher levels; for active users of PDS4, the material in Section 9 should seem familiar, but the terminology may be new. The classes in section 12 provide context (instrument, mission, node, etc.).

Section 8: the basic component classes

Section 9: the data description classes

Section 10: the "tagged" classes, the data objects with their descriptions

Section 11: product classes, which are formed from combinations of the above

Section 12: context classes (commonly associated with the PDS Catalog)

Section 13: packaging classes

Section 14: classes needed for operating and maintaining the PDS

Section 15: data type classes

Section 16: the information object class

Each section begins with a brief outline, including a hierarchy of the definitions which follow. In some cases a class is defined to group several subclasses when the class itself never appears in PDS (a "phantom" class). To facilitate cross-referencing, the classes are listed alphabetically within each section. Subsections begin with a note on the position within the hierarchy and a brief description of the class. The heart of each subsection is the class definition table. Sections are often accompanied by a UML diagram which shows the relationships among classes graphically.

Class definition tables comprise five columns. The left column is used to separate the table into functional blocks of contiguous rows. The "hierarchy" block restates the position of the class within the definitional hierarchy, and the "subclass" block identifies any subclasses which may exist (be derived from the current class). Attribute and Association blocks list the properties, characteristics, and relationships of the class, some of which may be inherited from parent classes. The "referenced from" block lists classes which may "call" the class being defined.

Within Attribute blocks, the "entity" column lists the properties and characteristics which identify the class and distinguish it from others. The "Indicator" column (far right) tells whether the attribute is optional (O), restricted (R), or both; a restricted attribute has been inherited from a parent class but its use is more narrow than the parent would allow. The "Cardinality" column (middle) shows the number of values allowed. A required attribute for which only one value is allowed will have cardinality "1". A required attribute for which one or more values is allowed will have cardinality "1..*". If a parent's attribute has cardinality "1..*" but the child's cardinality is "1", the Indicator column should show "R". The "Value" column (fourth) includes the indicator Data Dictionary (DD) when a set of valid values for the attribute are provided in the dictionary. A few attributes that represent types have their valid values included in this column.

The Association blocks are handled similarly. The "Entity" column lists relationships among classes using fabricated, but intuitive, names which are unique and consistent across the Specification. The "Value" column (fourth), which is rarely used in the Attribute blocks, lists the class to which the relationship is made.

During construction of the Specification some classes have been subsumed. In particular, any subclass which does nothing more than provide multiple values for a single attribute (e.g., `data_set_target`) or any subclass which merely grouped non-repeating attributes (e.g., `data_set_information`) was subsumed. Only subclasses that grouped several attributes and that repeated were defined explicitly as separate classes (e.g., `software_online`).

Sections 17-19 contain supplementary information which may be useful in interpreting the remainder of the Specification.

8 Observational Data Products

This section provides fundamental data structure classes.

The class hierarchy is illustrated in the following diagram. This diagram presents the subclass relation for each class in a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

```
+ Product
+ + Product_File_Text
+ + Product_Observational
+ + Product_Update
```

The class hierarchy above includes 4 unique classes.

The classes in this section are illustrated using a Unified Modeling Language (UML) class hierarchy diagram in Figure 2. The following sections present the classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

8.1 Product

Root Class: Product

Role: Abstract

Class Description: A Product is a uniquely identified object that is managed by a registry/repository. It consists of one or more tagged data objects.

Figure 2: Basic Component UML Class Diagram

	Entity	Card	Value/Class	Ind
Hierarchy	Product			
Subclass	Collection_Volume_PDS3 Collection_Volume_Set_PDS3 Product_Attribute_Definition Product_Browse Product_Bundle Product_Collection Product_Context Product_Data_Set_PDS3 Product_Delivery_Manifest Product_Document Product_File_Repository Product_File_Text Product_Instrument_Host_PDS3 Product_Instrument_PDS3 Product_Mission_PDS3 Product_Observational Product_Proxy_PDS3 Product_SPICE_Kernel Product_Service Product_Software Product_Subscription_PDS3 Product_Target_PDS3 Product_Thumbnail Product_Update Product_XML_Schema Product_Zipped			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

8.2 Product_File_Text

Root Class: Product

Role: Concrete

Class Description: The Product File Text consists of a single text file with ASCII character encoding.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_File_Text			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	file_area.Product_File_Text identification_area.Product... reference_list.Product_File...	1 1 0..1	File_Area_Text Identification_Area Reference_List	
Inherited Association	none			
Referenced from	none			

8.3 Product_Observational

Root Class: Product

Role: Concrete

Class Description: A Product_Observational is a set of one or more information objects produced by an observing system.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Observational			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	file_area.Product_Observati... identification_area.Product... observation_area.Product_Ob... reference_list.Product_Obse...	1..* 1 1 0..1	File_Area_Observational Identification_Area Observation_Area Reference_List	
Inherited Association	none			
Referenced from	none			

8.4 Product_Update

Root Class: Product

Role: Concrete

Class Description: The Product Update class defines a product consisting of update information and optional references to other products.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Update			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	identification_area.Product... product_data_object.Product... reference_list.Product_Update	1 1 0..1	Identification_Area Update Reference_List	
Inherited Association	none			
Referenced from	none			

9 Observational Digital Objects

This section provides the observational product classes.

The class hierarchy for Tagged Digital Objects is illustrated in the following diagram. This diagram presents the subclass relation for each class in a hierarchical (tree) format and provides a visual representation of the classes in relation to their parent classes.

```
+ + Axis_Array
+ + Element_Array
+ + Field_Binary
+ + Field_Bit
+ + Field_Character
+ + Field_Delimited
+ + Group_Field_Binary
+ + Group_Field_Character
+ + Group_Field_Delimited
+ + Packed_Data_Fields
+ + Record_Binary
+ + Record_Character
+ + Record_Delimited
+ + + Array
+ + + + Array_2D
+ + + + + Array_2D_Image
+ + + + + Array_2D_Map
+ + + + + Array_2D_Spectrum
+ + + + Array_3D
+ + + + + Array_3D_Image
+ + + + + Array_3D_Movie
+ + + + + Array_3D_Spectrum
+ + + Encoded_Byte_Stream
+ + + + Header_Binary
+ + + + Parsable_Byte_Stream
+ + + + Header
+ + + + Stream_Text
+ + + + Table_Delimited
+ + + Table_Base
+ + + + Table_Binary
+ + + + Table_Character
```

The class hierarchy above includes 31 unique classes.

The Tagged Digital Object classes are illustrated using a UML class hierarchy diagram in Figure 3. This diagram defines the classes that

Figure 3: Tagged Digital Object UML Class Diagram

describe and point to digital objects. The following sections present the classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

9.1 Array

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Array class defines a homogeneous N-dimensional array of scalars. The Array Base class is the parent class for all n-dimensional arrays of scalars.

	Entity	Card	Value/Class	In
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Array			
Subclass	Array_2D Array_3D			
Attribute	axes.Array axis_index_order.Array description.Array encoding_type.Array local_identifier.Array offset.Array	1 1 0..1 1 0..1 1	LAST_INDEX_FASTEST BINARY	
Inherited Attribute	none			
Association	associated_Special_Constant... associated_Statistics.Array data_object.Array has_Axis_Array.Array has_Element_Array.Array	0..1 0..1 1 0..* 1	Special_Constants Object_Statistics Digital_Object Axis_Array Element_Array	
Inherited Association	none			
Referenced from	none			

9.2 Array_2D

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Array 2D class is the parent class for all two dimensional array base classes.

	Entity	Card	Value/Class	In
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Array . . . Array_2D			
Subclass	Array_2D_Image Array_2D_Map Array_2D_Spectrum			
Attribute	axes.Array_2D	1	2	R
Inherited Attribute	axis_index_order.Array description.Array encoding_type.Array local_identifier.Array offset.Array	1 0..1 1 0..1 1	LAST_INDEX_FASTEST BINARY	
Association	has_Axis_Array.Array_2D	2	Axis_Array	R
Inherited Association	associated_Special_Constant... associated_Statistics.Array data_object.Array has_Element_Array.Array	0..1 0..1 1 1	Special_Constants Object_Statistics Digital_Object Element_Array	
Referenced from	none			

9.3 Array_2D_Image

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Array 2D Image class is an extension of array_base and defines a two dimensional image.

	Entity	Card	Value/Class	In
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Array . . . Array_2D Array_2D_Image			
Subclass	none			
Attribute	none			
Inherited Attribute	axis_index_order.Array description.Array encoding_type.Array local_identifier.Array offset.Array axes.Array_2D	1 0..1 1 0..1 1 1	LAST_INDEX_FASTEST BINARY 2	R
Association	has_Display_2d_Image.Array_...	0..1	Display_2D_Image	
Inherited Association	associated_Special_Constant... associated_Statistics.Array data_object.Array has_Element_Array.Array has_Axis_Array.Array_2D	0..1 0..1 1 1 2	Special_Constants Object_Statistics Digital_Object Element_Array Axis_Array	R
Referenced from	File_Area_Browse File_Area_Observational			

9.4 Array_2D_Map

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Array 2D Map class is an extension of array_base and defines a two dimensional map.

	Entity	Card	Value/Class	Inc
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Array . . . Array_2D Array_2D_Map			
Subclass	none			
Attribute	none			
Inherited Attribute	axis_index_order.Array description.Array encoding_type.Array local_identifier.Array offset.Array axes.Array_2D	1 0..1 1 0..1 1 1	LAST_INDEX_FASTEST BINARY 2	R
Association	none			
Inherited Association	associated_Special_Constant... associated_Statistics.Array data_object.Array has_Element_Array.Array has_Axis_Array.Array_2D	0..1 0..1 1 1 2	Special_Constants Object_Statistics Digital_Object Element_Array Axis_Array	R
Referenced from	File_Area_Browse File_Area_Observational			

9.5 Array_2D_Spectrum

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Array 2D Spectrum class is an extension of array_base and defines a two dimensional spectrum.

	Entity	Card	Value/Class	In
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Array . . . Array_2D Array_2D_Spectrum			
Subclass	none			
Attribute	none			
Inherited Attribute	axis_index_order.Array description.Array encoding_type.Array local_identifier.Array offset.Array axes.Array_2D	1 0..1 1 0..1 1 1	LAST_INDEX_FASTEST BINARY 2	R
Association	none			
Inherited Association	associated_Special_Constant... associated_Statistics.Array data_object.Array has_Element_Array.Array has_Axis_Array.Array_2D	0..1 0..1 1 1 2	Special_Constants Object_Statistics Digital_Object Element_Array Axis_Array	R
Referenced from	File_Area_Browse File_Area_Observational			

9.6 Array_3D

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Array 3D class is the parent class for all three dimensional array base classes.

	Entity	Card	Value/Class	Inc
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Array . . . Array_3D			
Subclass	Array_3D_Image Array_3D_Movie Array_3D_Spectrum			
Attribute	axes.Array_3D	1	3	R
Inherited Attribute	axis_index_order.Array description.Array encoding_type.Array local_identifier.Array offset.Array	1 0..1 1 0..1 1	LAST_INDEX_FASTEST BINARY	
Association	has_Axis_Array.Array_3D	3	Axis_Array	R
Inherited Association	associated_Special_Constant... associated_Statistics.Array data_object.Array has_Element_Array.Array	0..1 0..1 1 1	Special_Constants Object_Statistics Digital_Object Element_Array	
Referenced from	none			

9.7 Array_3D_Image

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Array 3D Image class is an extension of array_base and defines a three dimensional image.

	Entity	Card	Value/Class	Inc
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Array . . . Array_3D Array_3D_Image			
Subclass	none			
Attribute	none			
Inherited Attribute	axis_index_order.Array description.Array encoding_type.Array local_identifier.Array offset.Array axes.Array_3D	1 0..1 1 0..1 1 1	LAST_INDEX_FASTEST BINARY 3	R
Association	none			
Inherited Association	associated_Special_Constant... associated_Statistics.Array data_object.Array has_Element_Array.Array has_Axis_Array.Array_3D	0..1 0..1 1 1 3	Special_Constants Object_Statistics Digital_Object Element_Array Axis_Array	R
Referenced from	File_Area_Browse File_Area_Observational			

9.8 Array_3D_Movie

Root Class: Tagged_Digital_Object

Role: Concrete

Class 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.

	Entity	Card	Value/Class	In
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Array . . . Array_3D Array_3D_Movie			
Subclass	none			
Attribute	none			
Inherited Attribute	axis_index_order.Array description.Array encoding_type.Array local_identifier.Array offset.Array axes.Array_3D	1 0..1 1 0..1 1 1	LAST_INDEX_FASTEST BINARY 3	R
Association	none			
Inherited Association	associated_Special_Constant... associated_Statistics.Array data_object.Array has_Element_Array.Array has_Axis_Array.Array_3D	0..1 0..1 1 1 3	Special_Constants Object_Statistics Digital_Object Element_Array Axis_Array	R
Referenced from	File_Area_Browse File_Area_Observational			

9.9 Array_3D_Spectrum

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Array 3D Spectrum class is an extension of array_base and defines a three dimensional spectrum.

	Entity	Card	Value/Class	In
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Array . . . Array_3D Array_3D_Spectrum			
Subclass	none			
Attribute	none			
Inherited Attribute	axis_index_order.Array description.Array encoding_type.Array local_identifier.Array offset.Array axes.Array_3D	1 0..1 1 0..1 1 1	LAST_INDEX_FASTEST BINARY 3	R
Association	none			
Inherited Association	associated_Special_Constant... associated_Statistics.Array data_object.Array has_Element_Array.Array has_Axis_Array.Array_3D	0..1 0..1 1 1 3	Special_Constants Object_Statistics Digital_Object Element_Array Axis_Array	R
Referenced from	File_Area_Browse File_Area_Observational			

9.10 Axis_Array

Root Class: Tagged_Digital_Child

Role: Concrete

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

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Child . Axis_Array			
Subclass	none			
Attribute	axis_name.Axis_Array elements.Axis_Array sequence_number.Axis_Array unit.Axis_Array	1 1 1 0..1		
Inherited Attribute	none			
Association	has_Band_Bin_Set.Axis_Array	0..1	Band_Bin_Set	
Inherited Association	none			
Referenced from	Array Array_2D Array_2D_Image Array_2D_Map Array_2D_Spectrum Array_3D Array_3D_Image Array_3D_Movie Array_3D_Spectrum			

9.11 Element_Array

Root Class: Tagged_Digital_Child

Role: Concrete

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

use standard encodings. The Encoded Byte Stream class is the parent class for all encoded byte streams.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Encoded_Byte_Stream			
Subclass	Encoded_Binary Encoded_Image File_PDF Header_Binary			
Attribute	description.Encoded_Byte_St... encoding_type.Encoded_Byte_... external_standard_id.Encode... local_identifier.Encoded_By... offset.Encoded_Byte_Stream	0..1 1 1 0..1 1	BINARY	
Inherited Attribute	none			
Association	data_object.Encoded_Byte_St...	1	Digital_Object	
Inherited Association	none			
Referenced from	none			

9.13 Field_Binary

Root Class: Tagged_Digital_Child

Role: Concrete

Class Description: The Field_Binary class defines a field of the record.

	Entity	Card	Value/Class
Hierarchy	Tagged_Digital_Child . Field_Binary		
Subclass	none		
Attribute	data_type.Field_Binary	1	ASCII_AnyURI ASCII_Boolean ASCII_DOI ASCII_Date_DOY ASCII_Date_Time_DOY ASCII_Date_Time_UTC ASCII_Date_Time_YMD ASCII_Date_YMD ASCII_File_Name ASCII_File_Specification_Name ASCII_Integer ASCII_LID ASCII_LIDVID ASCII_MD5_Checksum ASCII_NonNegative_Integer ASCII_Numeric_Base16 ASCII_Numeric_Base2 ASCII_Real ASCII_Short_String_Collapsed ASCII_Short_String_Preserved ASCII_Text_Preserved ASCII_Time ASCII_VID ComplexLSB16 ComplexLSB8 ComplexMSB16 ComplexMSB8 IEEE754LSBDouble IEEE754LSBSingle IEEE754MSBDouble IEEE754MSBSingle SignedByte SignedLSB2 SignedLSB4 SignedLSB8 SignedMSB2 SignedMSB4 SignedMSB8 UnsignedByte UnsignedLSB2 UnsignedLSB4 UnsignedLSB8 UnsignedMSB2 UnsignedMSB4 UnsignedMSB8
	34		
	description.Field_Binary	0..1	
	field_format.Field_Binary	0..1	
	field_length.Field_Binary	0..1	
	field_location.Field_Binary	1	

9.14 Field_Bit

Root Class: Tagged_Digital_Child

Role: Concrete

Class Description: The Field_Bit class provides parameters for extracting one field out of a string of bytes which contains packed data (that is, data values either smaller than a single byte, or crossing byte boundaries, or both.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Child . Field_Bit			
Subclass	none			
Attribute	data_type.Field_Bit description.Field_Bit field_format.Field_Bit name.Field_Bit scaling_factor.Field_Bit start_bit.Field_Bit stop_bit.Field_Bit unit.Field_Bit value_offset.Field_Bit	1 0..1 0..1 1 0..1 1 1 0..1 0..1	SignedBitString UnsignedBitString	
Inherited Attribute	none			
Association	associated_Special_Constant...	0..1	Special_Constants	
Inherited Association	none			
Referenced from	Packed_Data.Fields			

9.15 Field_Character

Root Class: Tagged_Digital_Child

Role: Concrete

Class Description: The Field_Character class defines a field of the record.

9.16 Field_Delimited

Root Class: Tagged_Digital_Child

Role: Concrete

Class Description: The Field_Delimited class defines a field of the record.

9.17 Group_Field_Binary

Root Class: Tagged_Digital_Child

Role: Concrete

Class Description: The Group_Field_Binary class allows a group of table fields.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Child . Group_Field_Binary			
Subclass	none			
Attribute	fields.Group_Field_Binary group_length.Group_Field_Bi... group_location.Group_Field_... repetitions.Group_Field_Binary	1 1 1 1		
Inherited Attribute	none			
Association	has_Group_Field_Binary.Grou... has_Table_Field_Grouped.Gro...	0..* 1..*	Group_Field_Binary Field_Binary	
Inherited Association	none			
Referenced from	Group_Field_Binary Record_Binary			

9.18 Group_Field_Character

Root Class: Tagged_Digital_Child

Role: Concrete

Class Description: The Group_Field_Character class allows a group of table fields.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Child . Group_Field_Character			
Subclass	none			
Attribute	fields.Group_Field_Character group_length.Group_Field_Ch... group_location.Group_Field_... repetitions.Group_Field_Cha...	1 1 1 1		
Inherited Attribute	none			
Association	has_Character_Field_Grouped... has_Group_Field_Character.G...	0..* 0..*	Field_Character Group_Field_Character	
Inherited Association	none			
Referenced from	Group_Field_Character Record_Character			

9.19 Group_Field_Delimited

Root Class: Tagged_Digital_Child

Role: Concrete

Class Description: The Field_Group_Delimited class allows a group of delimited fields.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Child . Group_Field_Delimited			
Subclass	none			
Attribute	fields.Group_Field_Delimited repetitions.Group_Field_Del...	1 1		
Inherited Attribute	none			
Association	has_Delimited_Field_Grouped...	1..*	Field_Delimited	
Inherited Association	none			
Referenced from	Record_Delimited			

9.20 Header

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Header class describes a data object header.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Parsable_Byte_Stream . . . Header			
Subclass	none			
Attribute	bytes.Header external_standard_id.Header	1 1	ASCII FITS ISIS2 ISIS3 ISIS_HISTORY ODL PDS1 PDS2 PDS3 TIFF VICAR	R
Inherited Attribute	description.Parsable_Byte_S... encoding_type.Parsable_Byte... local_identifer.Parsable_B... name.Parsable_Byte_Stream offset.Parsable_Byte_Stream	0..1 1 0..1 0..1 1		
Association	none			
Inherited Association	data_object.Parsable_Byte_S...	1	Digital_Object	
Referenced from	File_Area_Browse File_Area_Observational			

9.21 Header_Binary

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Header Binary class describes a data object header.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Encoded_Byte_Stream . . . Header_Binary			
Subclass	none			
Attribute	bytes.Header_Binary external_standard_id.Header... name.Header_Binary	1 1 0..1	TIFF	R
Inherited Attribute	description.Encoded_Byte_St... encoding_type.Encoded_Byte... local_identifier.Encoded_By... offset.Encoded_Byte_Stream	0..1 1 0..1 1	BINARY	
Association	none			
Inherited Association	data_object.Encoded_Byte_St...	1	Digital_Object	
Referenced from	File_Area_Browse File_Area_Observational			

9.22 Packed_Data_Fields

Root Class: Tagged_Digital_Child

Role: Concrete

Class Description: The Packed_Data_Fields class contains field definitions for extracting packed data from the associated byte string field.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Child . Packed_Data_Fields			
Subclass	none			
Attribute	description.Packed_Data_Fields	0..1		
Inherited Attribute	none			
Association	has_Field_Bit.Packed_Data_F...	1..*	Field_Bit	
Inherited Association	none			
Referenced from	Field_Binary			

9.23 Parsable_Byte_Stream

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Parsable Byte Stream class defines byte streams that have standard parsing rules. The Parsable Byte Stream class is the parent class for all parsable byte streams.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Parsable_Byte_Stream			
Subclass	Header SPICE_Kernel Service_Description Stream_Text Table_Delimited XML_Schema			
Attribute	description.Parsable_Byte_S... encoding_type.Parsable_Byte... external_standard_id.Parsab... local_identifer.Parsable_B... name.Parsable_Byte_Stream offset.Parsable_Byte_Stream	0..1 1 1 0..1 0..1 1		
Inherited Attribute	none			
Association	data_object.Parsable_Byte_S...	1	Digital_Object	
Inherited Association	none			
Referenced from	File_Area_Observational			

9.24 Record_Binary

Root Class: Tagged_Digital_Child

Role: Concrete

Class Description: The Record_Binary class is a component of the table class and defines a record of the table.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Child . Record_Binary			
Subclass	none			
Attribute	fields.Record_Binary record_length.Record_Binary	1 1		
Inherited Attribute	none			
Association	has_Table_Field.Record_Binary	1..*	Field_Binary Group_Field_Binary	
Inherited Association	none			
Referenced from	Table_Binary			

9.25 Record_Character

Root Class: Tagged_Digital_Child

Role: Concrete

Class Description: The Record_Character class is a component of the table class and defines a record of the table.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Child . Record_Character			
Subclass	none			
Attribute	fields.Record_Character record_length.Record_Character	1 1		
Inherited Attribute	none			
Association	has_Character_Field.Record_...	1..*	Field_Character Group_Field_Character	
Inherited Association	none			
Referenced from	Delivery_Manifest Inventory Table_Character			

9.26 Record_Delimited

Root Class: Tagged_Digital_Child

Role: Concrete

Class Description: The Record_Delimited class is a component of the delimited table (spreadsheet) class and defines a record of the delimited table.

	Entity	Card	Value/Class	Inc
Hierarchy	Tagged_Digital_Child . Record_Delimited			
Subclass	none			
Attribute	fields.Record_Delimited maximum_record_length.Recor...	1 0..1		
Inherited Attribute	none			
Association	has_Delimited_Field.Record_...	1..*	Field_Delimited Group_Field_Delimited	
Inherited Association	none			
Referenced from	Table_Delimited			

9.27 Stream_Text

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Stream text class defines a text file.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Parsable_Byte_Stream . . . Stream_Text			
Subclass	none			
Attribute	encoding_type.Stream_Text	1	CHARACTER	R
Inherited Attribute	description.Parsable_Byte_S... external_standard_id.Parsab... local_identifier.Parsable_B... name.Parsable_Byte_Stream offset.Parsable_Byte_Stream	0..1 1 0..1 0..1 1		
Association	none			
Inherited Association	data_object.Parsable_Byte_S...	1	Digital_Object	
Referenced from	File_Area_Browse File_Area_Observational File_Area_Text			

9.28 Table_Base

Root Class: Tagged_Digital_Object

Role: Abstract

Class Description: The Table Base class defines a heterogeneous repeating record of scalars. The Table Base class is the parent class for all heterogeneous repeating record of scalars.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Table_Base			
Subclass	Delivery_Manifest Inventory Table_Binary Table_Character			
Attribute	description.Table_Base encoding_type.Table_Base local_identifier.Table_Base offset.Table_Base records.Table_Base	0..1 1 0..1 1 1		
Inherited Attribute	none			
Association	data_object.Table_Base	1	Digital_Object	
Inherited Association	none			
Referenced from	none			

9.29 Table_Binary

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Table Binary class is an extension of table base and defines a simple binary table.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Table_Base . . . Table_Binary			
Subclass	none			
Attribute	encoding_type.Table_Binary	1	BINARY	R
Inherited Attribute	description.Table_Base local_identifier.Table_Base offset.Table_Base records.Table_Base	0..1 0..1 1 1		
Association	has_Record.Table_Binary uniformly_sampled.Table_Binary	1 0..1	Record_Binary Uniformly_Sampled	
Inherited Association	data_object.Table_Base	1	Digital_Object	
Referenced from	File_Area_Browse File_Area_Observational			

9.30 Table_Character

Root Class: Tagged_Digital_Object

Role: Concrete

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

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Table_Base . . . Table_Character			
Subclass	none			
Attribute	encoding_type.Table_Character record_delimiter.Table_Char...	1 0..*	CHARACTER 0x0A 0x0D 0x0D0x0A	R
Inherited Attribute	description.Table_Base local_identifier.Table_Base offset.Table_Base records.Table_Base	0..1 0..1 1 1		
Association	has_Record.Table_Character uniformly_sampled.Table_Cha...	1 0..1	Record_Character Uniformly_Sampled	
Inherited Association	data_object.Table_Base	1	Digital_Object	
Referenced from	File_Area_Browse File_Area_Observational			

9.31 Table_Delimited

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Table_Delimited class defines a simple table (spreadsheet) with delimited fields and records.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Parsable_Byte_Stream . . . Table_Delimited			
Subclass	none			
Attribute	encoding_type.Table_Delimited external_standard_id.Table_... field_delimiter.Table_Delim... record_delimiter.Table_Deli... records.Table_Delimited	1 1 1 1 1	CHARACTER PDS_CSV 0x09 0x2C 0x3B 0x7C 0x0A 0x0D 0x0D0x0A	R R
Inherited Attribute	description.Parsable_Byte_S... local_identifier.Parsable_B... name.Parsable_Byte_Stream offset.Parsable_Byte_Stream	0..1 0..1 0..1 1		
Association	has_delimited_record.Table_... uniformly_sampled.Table_Del...	1 0..1	Record_Delimited Uniformly_Sampled	
Inherited Association	data_object.Parsable_Byte_S...	1	Digital_Object	
Referenced from	File_Area_Browse File_Area_Observational			

10 Observational Data Component

This section provides the context classes.

The digital product class hierarchy is illustrated in the following diagram. This diagram presents the subclass relation for each class in a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

```
+ Product_Components
+ + Alias
+ + Alias_List
+ + Citation_Information
+ + External_Reference
+ + File_Area_Observational
+ + File_Area_SPICE_Kernel
+ + File_Area_Text
+ + Identification_Area
+ + Internal_Reference
+ + Investigation_Area
+ + Mission_Area
+ + Modification_Detail
+ + Modification_History
+ + Node_Area
+ + Observation_Area
+ + Primary_Result_Description
+ + Reference_List
+ + Target_Identification
+ + Time_Coordinates
+ + Update_Entry
+ + Special_Constants
+ + Uniformly_Sampled
+ + + File
+ + Observing_System_Component
+ + Vector_Component
+ + + Observing_System
+ + + Display_2D_Image
+ + + Field_Statistics
+ + + Object_Statistics
+ + + Update
+ + + Vector
```

The class hierarchy above includes 32 unique classes.

The digital product classes are illustrated using a Unified Modeling

Figure 4: Product UML Class Diagram

Language (UML) Class Hierarchy diagram in Figure 4. This diagram defines the classes that comprise a data product. The following sections present the data product classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

10.1 Alias

Root Class: Product_Components

Role: Concrete

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

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Alias			
Subclass	none			
Attribute	alternate.id.Alias alternate.title.Alias comment.Alias	0..1 0..1 0..1		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Alias_List			

10.2 Alias_List

Root Class: Product_Components

Role: Concrete

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

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Alias_List			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	alias.Alias_List	1..*	Alias	
Inherited Association	none			
Referenced from	Identification_Area			

10.3 Citation_Information

Root Class: Product_Components

Role: Concrete

Class Description: The Citation_Information class provides specific fields often used in citing the product in journal articles, abstract services, and other reference contexts.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Citation_Information			
Subclass	none			
Attribute	author_list.Citation_Inform... description.Citation_Inform... editor_list.Citation_Inform... keywords.Citation_Information publication_year.Citation_I...	0..1 1 0..1 0..* 1		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Identification_Area			

10.4 Display_2D_Image

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Display_2D_Image class provides attributes to enable the display of a 2 dimensional image.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TND0_Supplemental . . Display_2D_Image			
Subclass	none			
Attribute	line_display_direction.Disp... sample_display_direction.Di...	1 1	DOWN UP RIGHT	
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Array_2D_Image			

10.5 External_Reference

Root Class: Product_Components

Role: Concrete

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

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . External_Reference			
Subclass	External_Reference_Extended			
Attribute	description.External_Reference reference_text.External_Ref...	0..1 1		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Observing_System_Component Reference_List			

10.6 Field_Statistics

Root Class: Tagged_NonDigital_Object

Role: Concrete

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

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . Field_Statistics			
Subclass	none			
Attribute	description.Field_Statistics local_identifier.Field_Stat... maximum.Field_Statistics mean.Field_Statistics median.Field_Statistics minimum.Field_Statistics standard_deviation.Field_St...	0..1 0..1 0..1 0..1 0..1 0..1 0..1		
Inherited Attribute	none			
Association	data_object.Field_Statistics	1	Conceptual_Object	
Inherited Association	none			
Referenced from	Field_Binary Field_Character Field_Delimited			

10.7 File

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The File class consists of attributes that describe a file in a data store.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Others . . File			
Subclass	Document_File			
Attribute	comment.File creation_date_time.File file_name.File file_size.File local_identifier.File maximum_record_bytes.File md5_checksum.File records.File	0..1 0..1 1 0..1 0..1 0..1 0..1 0..1		
Inherited Attribute	none			
Association	data_object.File	1	Digital_Object	
Inherited Association	none			
Referenced from	File_Area_Binary File_Area_Browse File_Area_Delivery_Manifest File_Area_Encoded_Image File_Area_Inventory File_Area_Observational File_Area_SPICE_Kernel File_Area_Service_Description File_Area_Text File_Area_XML_Schema Product_Zipped			

10.8 File_Area_Observational

Root Class: Product_Components

Role: Concrete

Class Description: The File Area Observational class describes, for an observational product, a file and one or more tagged_data_objects contained within the file.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . File_Area_Observational			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	has_File.File_Area_Observat... has_tagged_data_object.File...	1 0..*	File Array_2D_Image Array_2D_Map Array_2D_Spectrum Array_3D_Image Array_3D_Movie Array_3D_Spectrum Header Header_Binary Parsable_Byte_Stream Stream_Text Table_Binary Table_Character Table_Delimited	
Inherited Association	none			
Referenced from	Product_Observational			

10.9 File_Area_SPICE_Kernel

Root Class: Product_Components

Role: Concrete

Class Description: The File Area SPICE Kernel class describes a file that contains a SPICE Kernel object.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . File_Area_SPICE_Kernel			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	has_File.File_Area_SPICE_Ke... has_tagged_data_object.File...	1 1	File SPICE_Kernel	
Inherited Association	none			
Referenced from	Product_SPICE_Kernel			

10.10 File_Area_Text

Root Class: Product_Components

Role: Concrete

Class Description: The File Area Text class describes a file that contains a text stream object.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . File_Area_Text			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	has_File.File_Area_Text has_tagged_data_object.File...	1 1	File Stream_Text	
Inherited Association	none			
Referenced from	Product_Bundle Product_File_Text			

10.11 Identification_Area

Root Class: Product_Components

Role: Concrete

Class Description: The identification area consists of attributes that identify and name an object.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Identification_Area			
Subclass	none			
Attribute	information_model.version.I... logical_identifier.Identifi... product_class.Identificatio... title.Identification_Area version_id.Identification_Area	1 1 1 1 1	0.7.0.0.j	
Inherited Attribute	none			
Association	alias_list.Identification_Area citation_information.Identi... modification_history.Identi...	0..1 0..1 0..1	Alias_List Citation_Information Modification_History	
Inherited Association	none			
Referenced from	Collection_Volume_PDS3 Collection_Volume_Set_PDS3 Product_Attribute_Definition Product_Browse Product_Bundle Product_Collection Product_Context Product_Data_Set_PDS3 Product_Delivery_Manifest Product_Document Product_File_Repository Product_File_Text Product_Instrument_Host_PDS3 Product_Instrument_PDS3 Product_Mission_PDS3 Product_Observational Product_Proxy_PDS3 Product_SPICE_Kernel Product_Service Product_Software Product_Subscription_PDS3 Product_Target_PDS3 Product_Thumbnail Product_Update Product_XML_Schema Product_Zipped			

10.12 Internal_Reference

Root Class: Product_Components

Role: Concrete

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

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Internal_Reference			
Subclass	none			
Attribute	comment.Internal_Reference	0..1		
	lid_reference.Internal_Refe...	0..1		
	lidvid_reference.Internal_R...	0..1		
	reference_type.Internal_Ref...	1		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Investigation_Area Observing_System_Component Reference_List Target_Identification Update_Entry			

10.13 Investigation_Area

Root Class: Product_Components

Role: Concrete

Class Description: The Investigation_Area class provides iformation about an investigation (mission, observing campaign or other coordinated, large-scale data collection effort).

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Investigation_Area			
Subclass	none			
Attribute	name.Investigation_Area type.Investigation_Area	1 1	Individual_Investigation Mission Observing_Campaign Other_Investigation	
Inherited Attribute	none			
Association	internal_reference.Investig...	1	Internal_Reference	
Inherited Association	none			
Referenced from	Observation_Area			

10.14 Mission_Area

Root Class: Product_Components

Role: Concrete

Class Description: The mission area allows the insertion of mission specific metadata.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Mission_Area			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Observation_Area			

10.15 Modification_Detail

Root Class: Product_Components

Role: Concrete

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

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Modification_Detail			
Subclass	none			
Attribute	description.Modification_De... modification_date.Modificat... version_id.Modification_Detail	1 1 1		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Modification_History			

10.16 Modification_History

Root Class: Product_Components

Role: Concrete

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

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Modification_History			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	modification_detail.Modific...	1	Modification_Detail	
Inherited Association	none			
Referenced from	Identification_Area			

10.17 Node_Area

Root Class: Product_Components

Role: Concrete

Class Description: The node area allows the insertion of node specific metadata.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Node_Area			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Observation_Area			

10.18 Object_Statistics

Root Class: Tagged_NonDigital_Object

Role: Concrete

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

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital.Object . TNDO_Supplemental . . Object_Statistics			
Subclass	none			
Attribute	bit_mask.Object_Statistics description.Object_Statistics local_identifer.Object_Sta... maximum.Object_Statistics maximum_scaled_value.Object... md5_checksum.Object_Statistics mean.Object_Statistics median.Object_Statistics minimum.Object_Statistics minimum_scaled_value.Object... standard_deviation.Object_S...	0..1 0..1 0..1 0..1 0..1 0..1 0..1 0..1 0..1 0..1 0..1 0..1		
Inherited Attribute	none			
Association	data_object.Object_Statistics	1	Conceptual_Object	
Inherited Association	none			
Referenced from	Array Array_2D Array_2D_Image Array_2D_Map Array_2D_Spectrum Array_3D Array_3D_Image Array_3D_Movie Array_3D_Spectrum			

10.19 Observation_Area

Root Class: Product_Components

Role: Concrete

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

	Entity	Card	Value/Class
Hierarchy	Product_Components . Observation_Area		
Subclass	none		
Attribute	comment.Observation_Area	0..1	
Inherited Attribute	none		
Association	cartography.Observation_Area has_geometry.Observation_Area has_mission_area.Observatio... has_node_area.Observation_Area investigation_area.Observat... observing_system.Observatio... primary_result_description.... target_identification.Obser... time_coordinates.Observatio...	0..1 0..* 0..* 0..* 1..* 0..* 0..1 1..* 1	Cartography Geometry Mission_Area Node_Area Investigation_Area Observing_System Primary_Result_Description Target_Identification Time_Coordinates
Inherited Association	none		
Referenced from	Product_Bundle Product_Collection Product_Observational Product_SPICE_Kernel		

10.20 Observing_System

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Observing System class describes the entire suite used to collect the data.

	Entity	Card	Value/Class
Hierarchy	Tagged_NonDigital_Object . TNDO_Context . . Observing_System		
Subclass	none		
Attribute	description.Observing_System name.Observing_System	0..1 0..1	
Inherited Attribute	none		
Association	data_object.Observing_System observing_system_component....	1 1..*	Conceptual_Object Physical_Object Observing_System_Componen
Inherited Association	none		
Referenced from	Observation_Area		

10.21 Observing_System_Component

Root Class: Tagged_NonDigital_Child

Role: Concrete

Class 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.

	Entity	Card	Value/Class
Hierarchy	Tagged_NonDigital_Child . Observing_System_Component		
Subclass	none		
Attribute	description.Observing_Syste... name.Observing_System_Compo... observing_system_component_...	0..1 1 1	Analyst Artificial_Illumination Ground-based_Laboratory Ground-based_Observatory Ground-based_Telescope Instrument Literature_Search PDS_Archived_Data Spacecraft
Inherited Attribute	none		
Association	external_reference.Observin... internal_reference.Observin...	0..* 0..1	External_Reference Internal_Reference
Inherited Association	none		
Referenced from	Observing_System		

10.22 Primary_Result_Description

Root Class: Product_Components

Role: Concrete

Class Description: The Primary_Result_Description class provides a high-level description of the types of products included in the collection or bundle

	Entity	Card	Value/Class	I
Hierarchy	Product_Components . Primary_Result_Description			
Subclass	none			
Attribute	data_regime.Primary_Result.... description.Primary_Result.... purpose.Primary_Result_Desc... reduction_level.Primary_Res... type.Primary_Result_Descrip...	1 0..1 1 1 0..1	Dust Dust_Particle_Counts Electric_Field Electrons Far_Infrared Gamma_Ray Impacts Infrared Ions Magnetic_Field Mass_Spectra Microwave Millimeter Near_Infrared Optical Particles Radio Sub-Millimeter Ultraviolet Visible X-Ray Calibration Checkout Engineering Navigation Science Analytic Calibrated Derived Raw Anaglyph Aperture Astrometry B-Field_Vectors Color Column_Density Comet_Nuclear_Properties Count Count_Rate Data_Number Digital_Elevation_Model E-Field_Vectors Electron Environment Filter_Curve Filtered Flux Frequency	

10.23 Product_Components

Root Class: Product_Components

Role: Abstract

Class Description: The Product Component class is an abstract class for the components of the Product class.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components			
Subclass	Alias Alias_List Bundle_Member_Entry Citation_Information Document_Format_Set External_Reference File_Area_Binary File_Area_Browse File_Area_Delivery_Manifest File_Area_Encoded_Image File_Area_Inventory File_Area_Observational File_Area_SPICE_Kernel File_Area_Service_Description File_Area_Text File_Area_XML_Schema Identification_Area Internal_Reference Investigation_Area Mission_Area Modification_Detail Modification_History Node_Area Observation_Area Primary_Result_Description Reference_List Target_Identification Telemetry_Parameters Time_Coordinates Update_Entry Zipped_Member_Entry			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

10.24 Reference_List

Root Class: Product_Components

Role: Concrete

Class Description: The Reference_List class provides lists general

references and cross-references for the product. References cited elsewhere in the label need not be repeated here.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Reference_List			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	external_reference.Referenc... internal_reference.Referenc...	0..* 0..*	External_Reference Internal_Reference	
Inherited Association	none			
Referenced from	Collection_Volume_PDS3 Collection_Volume_Set_PDS3 Product_Attribute_Definition Product_Browse Product_Bundle Product_Collection Product_Context Product_Data_Set_PDS3 Product_Delivery_Manifest Product_Document Product_File_Repository Product_File_Text Product_Instrument_Host_PDS3 Product_Instrument_PDS3 Product_Mission_PDS3 Product_Observational Product_Proxy_PDS3 Product_SPICE_Kernel Product_Service Product_Software Product_Subscription_PDS3 Product_Target_PDS3 Product_Thumbnail Product_Update Product_XML_Schema			

10.25 Special_Constants

Root Class: Tagged_Digital_Child

Role: Concrete

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

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Child . Special_Constants			
Subclass	none			
Attribute	error_constant.Special_Cons... invalid_constant.Special_Co... missing_constant.Special_Co... not_applicable_constant.Spe... saturated_constant.Special_... unknown_constant.Special_Co...	0..1 0..1 0..1 0..1 0..1 0..1		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Array Array_2D Array_2D_Image Array_2D_Map Array_2D_Spectrum Array_3D Array_3D_Image Array_3D_Movie Array_3D_Spectrum Field_Binary Field_Bit Field_Character Field_Delimited			

10.26 Target_Identification

Root Class: Product_Components

Role: Concrete

Class Description: The Target_Identification class provides detailed target identification information.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Target_Identification			
Subclass	none			
Attribute	alternate_designation.Target_... description.Target_Identifi... name.Target_Identification type.Target_Identification	0..* 0..1 1 1		
Inherited Attribute	none			
Association	internal_reference.Target_I...	0..1	Internal_Reference	
Inherited Association	none			
Referenced from	Observation_Area			

10.27 Time_Coordinates

Root Class: Product_Components

Role: Concrete

Class Description: The Time_Coordinates class provides a list of time coordinates.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Time_Coordinates			
Subclass	none			
Attribute	local_mean_solar_time.Time_... local_true_solar_time.Time_... solar_longitude.Time_Coordi... start_date_time.Time_Coordi... stop_date_time.Time_Coordi...	0..1 0..1 0..1 1 1		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Observation_Area			

10.28 Uniformly_Sampled

Root Class: Tagged_Digital_Child

Role: Concrete

Class Description: The Uniformly_Sampled class provides parameters for a uniformly sampled table.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Child . Uniformly_Sampled			
Subclass	none			
Attribute	first_sampling_parameter_va... last_sampling_parameter_val... sampling_parameter_interval... sampling_parameter_name.Uni... sampling_parameter_scale.Uni... sampling_parameter_unit.Uni...	1 1 1 1 0..1 1	EXPONENTIAL LINEAR LOGARITHMIC	
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Table_Binary Table_Character Table_Delimited			

10.29 Update

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Update class consists of update information.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . Update			
Subclass	none			
Attribute	description.Update local_identifier.Update	0..1 0..1		
Inherited Attribute	none			
Association	data_object.Update update_entry.Update	1 1..*	Conceptual_Object Update_Entry	
Inherited Association	none			
Referenced from	Product_Update			

10.30 Update_Entry

Root Class: Product_Components

Role: Concrete

Class Description: The Update Entry class provides the date and description of an update.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Update_Entry			
Subclass	none			
Attribute	date_time.Update_Entry description.Update_Entry full_name.Update_Entry	1 1 1		
Inherited Attribute	none			
Association	internal_reference.Update_E...	0..1	Internal_Reference	
Inherited Association	none			
Referenced from	Update			

10.31 Vector

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Vector class provides the components of either a velocity or position vector.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . Vector			
Subclass	none			
Attribute	description.Vector local_identifier.Vector name.Vector type.Vector vector_components.Vector	1 0..1 1 1 1	POSITION VELOCITY	
Inherited Attribute	none			
Association	data_object.Vector vector_component.Vector	1 1..*	Conceptual_Object Vector_Component	
Inherited Association	none			
Referenced from	Geometry			

10.32 Vector_Component

Root Class: Tagged_NonDigital_Child

Role: Concrete

Class Description: The Vector_Component class provides a component of a vector.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Child . Vector_Component			
Subclass	none			
Attribute	description.Vector_Component name.Vector_Component sequence_number.Vector_Comp... unit.Vector_Component value.Vector_Component	0..1 0..1 1 0..1 1		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Vector			

11 Document and Support Products

This section provides aggregate classes.

The context class hierarchy is illustrated in the following diagram. This diagram presents the subclassOf relation for each class in a hierarchical (tree) format and provides a visual representation of the classes in relation to their parent classes.

```
+ + Product_Browse
+ + Product_Document
+ + Product_SPICE_Kernel
+ + Product_Thumbnail
+ + Product_XML_Schema
+ + Product_Zipped
```

The class hierarchy above includes 6 unique classes.

The context classes are illustrated using a Unified Modeling Language (UML) Class Hierarchy diagram in Figure 5. The following sections present the context classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

11.1 Product_Browse

Root Class: Product

Role: Concrete

Class Description: The Product Browse class defines a product consisting of one encoded byte stream digital object.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Browse			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	file_area.Product_Browse identification_area.Product... reference_list.Product_Browse	1 1 0..1	File_Area_Browse Identification_Area Reference_List	
Inherited Association	none			
Referenced from	none			

Figure 5: Context Description UML Class Diagram

11.2 Product_Document

Root Class: Product

Role: Concrete

Class Description: A Product Document is a product consisting of a single logical document that may be comprised of one or more document formats.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Document			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	document_format_set.Product... identification_area.Product... product_description.Product... reference_list.Product_Docu...	1..* 1 1 0..1	Document_Format_Set Identification_Area Document_Description Reference_List	
Inherited Association	none			
Referenced from	none			

11.3 Product_SPICE_Kernel

Root Class: Product

Role: Concrete

Class Description: The Product SPICE Kernel class defines a SPICE kernel product.

	Entity	Card	Value/Class	In
Hierarchy	Product . Product_SPICE_Kernel			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	file_area.Product_SPICE_Kernel identification_area.Product... observation_area.Product.SP... reference_list.Product_SPIC...	1 1 1 0..1	File_Area_SPICE_Kernel Identification_Area Observation_Area Reference_List	
Inherited Association	none			
Referenced from	none			

11.4 Product_Thumbnail

Root Class: Product

Role: Concrete

Class Description: The Product Thumbnail class defines a product consisting of one encoded byte stream digital object.

	Entity	Card	Value/Class	In
Hierarchy	Product . Product_Thumbnail			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	file_area.Product_Thumbnail identification_area.Product... reference_list.Product_Thum...	1 1 0..1	File_Area_Encoded_Image Identification_Area Reference_List	
Inherited Association	none			
Referenced from	none			

11.5 Product_XML_Schema

Root Class: Product

Role: Concrete

Class Description: The Product_XML.Schema describes a resource used for the PDS4 implementation into XML.

	Entity	Card	Value/Class	In
Hierarchy	Product . Product_XML_Schema			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	file_area.Product_XML.Schema identification_area.Product... reference_list.Product_XML_...	1 1 0..1	File_Area_XML_Schema Identification_Area Reference_List	
Inherited Association	none			
Referenced from	none			

11.6 Product_Zipped

Root Class: Product

Role: Concrete

Class 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.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Zipped			
Subclass	none			
Attribute	container_type.Product_Zipped	1	GZIP LZIP TAR ZIP	
Inherited Attribute	none			
Association	file.Product_Zipped identification_area.Product... member_entry.Product_Zipped	1 1 0..*	File Identification_Area Zipped_Member_Entry	
Inherited Association	none			
Referenced from	none			

12 Document and Support Components

This section provides fundamental data structure classes.

The class hierarchy is illustrated in the following diagram. This diagram presents the subclass relation for each class in a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

```
+ + Document_Format_Set
+ + File_Area_Browse
+ + File_Area_Encoded_Image
+ + Zipped_Member_Entry
+ + Document_Format
+ + + Document_Description
+ + + + Document_File
+ + + + Encoded_Binary
+ + + + Encoded_Image
+ + + + File_PDF
+ + + + SPICE_Kernel
+ + + + XML_Schema
```

The class hierarchy above includes 12 unique classes.

The digital product classes are illustrated using a Unified Modeling Language (UML) Class Hierarchy diagram in Figure 4. This diagram defines the classes that comprise a data product. The following sections present the data product classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

12.1 Document_Description

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Document_Description class describes a document.

Figure 6: Product UML Class Diagram

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Others . . Document_Description			
Subclass	none			
Attribute	acknowledgement_text.Docume... author_list.Document_Descri... copyright.Document_Description description.Document_Descri... document_name.Document_Desc... doi.Document_Description editor_list.Document_Descri... publication_date.Document_D... revision_id.Document_Descri...	0..1 0..1 0..1 0..1 0..1 0..1 0..1 1 0..1		
Inherited Attribute	none			
Association	data_object.Document_Descri...	1	Digital_Object	
Inherited Association	none			
Referenced from	Product_Document			

12.2 Document_File

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Document File class describes a file which is a part of a document.

	Entity	Card	Value/Class
Hierarchy	Tagged_Digital_Object . TDO_Others . . File . . . Document_File		
Subclass	none		
Attribute	directory_path_name.Documen... encoding_type.Document_File external_standard_id.Docume...	0..1 1 1	BINARY CHARACTER ENCAPSULATED_POSTSC GIF HTML JPG LaTEX MICROSOFT_WORD PDF PDF-A PNG POSTSCRIPT RICH_TEXT TEXT TIFF
Inherited Attribute	comment.File creation_date_time.File file_name.File file_size.File local_identifier.File maximum_record_bytes.File md5_checksum.File records.File	0..1 0..1 1 0..1 0..1 0..1 0..1 0..1	
Association	none		
Inherited Association	data_object.File	1	Digital_Object
Referenced from	Document_Format_Set		

12.3 Document_Format

Root Class: Tagged_Digital_Child

Role: Concrete

Class 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.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Child . Document_Format			
Subclass	none			
Attribute	description.Document_Format format_type.Document_Format starting_point_identifier.D...	0..1 1 0..1	HTML PDF PDF-A TEXT	
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Document_Format_Set			

12.4 Document_Format_Set

Root Class: Product_Components

Role: Concrete

Class Description: The Document Format Set class is a set consisting of a document format and associated files.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Document_Format_Set			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	document_file.Document_Form... document_format.Document_Fo...	1..* 1	Document_File Document_Format	
Inherited Association	none			
Referenced from	Product_Document			

12.5 Encoded_Binary

Root Class: Tagged_Digital_Object

Role: Concrete

Class 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.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Encoded_Byte_Stream . . . Encoded_Binary			
Subclass	none			
Attribute	external_standard.id.Encode...	1	System	R
Inherited Attribute	description.Encoded_Byte_St... encoding_type.Encoded_Byte_... local_identifier.Encoded_By... offset.Encoded_Byte_Stream	0..1 1 0..1 1	BINARY	
Association	none			
Inherited Association	data_object.Encoded_Byte_St...	1	Digital_Object	
Referenced from	File_Area_Binary			

12.6 Encoded_Image

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Encoded Image class, a subclass of Encoded Byte stream is used for ancillary images in standard formats, such as JPEG.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Encoded_Byte_Stream . . . Encoded_Image			
Subclass	none			
Attribute	external_standard_id.Encode...	1	GIF JPEG PDF PNG TIFF	R
Inherited Attribute	description.Encoded_Byte_St... encoding_type.Encoded_Byte_... local_identifier.Encoded_By... offset.Encoded_Byte_Stream	0..1 1 0..1 1	BINARY	
Association	none			
Inherited Association	data_object.Encoded_Byte_St...	1	Digital_Object	
Referenced from	File_Area_Browse File_Area_Encoded_Image			

12.7 File_Area_Browse

Root Class: Product_Components

Role: Concrete

Class Description: The File Area Browse class describes a file and one or more tagged_data_objects contained within the file.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . File_Area_Browse			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	has_File.File_Area_Browse has_tagged_data_object.File...	1 0..*	File Array_2D_Image Array_2D_Map Array_2D_Spectrum Array_3D_Image Array_3D_Movie Array_3D_Spectrum Encoded_Image File_PDF Header Header_Binary Stream_Text Table_Binary Table_Character Table_Delimited	
Inherited Association	none			
Referenced from	Product_Browse			

12.8 File_Area_Encoded_Image

Root Class: Product_Components

Role: Concrete

Class Description: The File Area Encoded Image class describes a file that contains an Encoded Image object.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . File_Area_Encoded_Image			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	has_File.File_Area_Encoded_... has_tagged_data_object.File...	1 1	File Encoded_Image	
Inherited Association	none			
Referenced from	Product_Thumbnail			

12.9 File_PDF

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The File_PDF class describes a PDF encoded byte stream.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Encoded_Byte_Stream . . . File_PDF			
Subclass	none			
Attribute	external_standard_id.File_PDF	1	PDF PDF-A	R
Inherited Attribute	description.Encoded_Byte_St... encoding_type.Encoded_Byte_... local_identifier.Encoded_By... offset.Encoded_Byte_Stream	0..1 1 0..1 1	BINARY	
Association	none			
Inherited Association	data_object.Encoded_Byte_St...	1	Digital_Object	
Referenced from	File_Area_Browse			

12.10 SPICE_Kernel

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The SPICE Kernel class describes a SPICE file.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Parsable_Byte_Stream . . . SPICE_Kernel			
Subclass	none			
Attribute	encoding_type.SPICE_Kernel external_standard_id.SPICE_... kernel_type.SPICE_Kernel	1 1 1	BINARY CHARACTER SPICE CK DBK DSK EK FK IK LSK MK PCK SCLK SPK	R R
Inherited Attribute	description.Parsable_Byte_S... local_identifier.Parsable_B... name.Parsable_Byte_Stream offset.Parsable_Byte_Stream	0..1 0..1 0..1 1		
Association	none			
Inherited Association	data_object.Parsable_Byte_S...	1	Digital_Object	
Referenced from	File_Area_SPICE_Kernel			

12.11 XML_Schema

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The XML Schema class defines a resource used for the PDS4 implementation into XML.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Parsable_Byte_Stream . . . XML_Schema			
Subclass	none			
Attribute	encoding_type.XML_Schema external_standard_id.XML_Sc...	1 1	CHARACTER Schematron XML_Catalog XML_Schema	R R
Inherited Attribute	description.Parsable_Byte_S... local_identifier.Parsable_B... name.Parsable_Byte_Stream offset.Parsable_Byte_Stream	0..1 0..1 0..1 1		
Association	none			
Inherited Association	data_object.Parsable_Byte_S...	1	Digital_Object	
Referenced from	File_Area_XML_Schema			

12.12 Zipped_Member_Entry

Root Class: Product_Components

Role: Concrete

Class Description: The Zipped Member Entry class provides a member reference to a product.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Zipped_Member_Entry			
Subclass	none			
Attribute	file_specification_name.Zip... lidvid_reference.Zipped_Mem... md5_checksum.Zipped_Member... reference_type.Zipped_Membe...	1 1 1 1	contained_product manifest_product	
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Product_Zipped			

Figure 7: Product UML Class Diagram

13 Context Products

This section provides fundamental data structure classes.

The class hierarchy is illustrated in the following diagram. This diagram presents the subclass relation for each class in a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

```
+ + Product_Context
+ + + Geometry
```

The class hierarchy above includes 2 unique classes.

The digital product classes are illustrated using a Unified Modeling Language (UML) Class Hierarchy diagram in Figure 4. This diagram defines the classes that comprise a data product. The following sections present the data product classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

13.1 Geometry

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Geometry class groups objects associated with geometry information.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . Geometry			
Subclass	none			
Attribute	local_identifier.Geometry	0..1		
Inherited Attribute	none			
Association	data_object.Geometry vector.Geometry	1 0..*	Conceptual_Object Vector	
Inherited Association	none			
Referenced from	Observation_Area			

13.2 Product_Context

Root Class: Product

Role: Concrete

Class Description: The Product Context class describes something that provides context and provenance for an observational product.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Context			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	identification_area.Product... product_data_object.Product...	1 1	Identification_Area Instrument Instrument_Host Investigation Node PDS_Affiliate PDS_Guest Resource Target Reference_List	
	reference_list.Product_Context	0..1		
Inherited Association	none			
Referenced from	none			

Figure 8: Product UML Class Diagram

14 Context Components

This section provides fundamental data structure classes.

The class hierarchy is illustrated in the following diagram. This diagram presents the subclass relation for each class in a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

```
+ + + Detector
+ + + Instrument
+ + + Instrument_Host
+ + + Investigation
+ + + Resource
+ + + Target
```

The class hierarchy above includes 6 unique classes.

The digital product classes are illustrated using a Unified Modeling Language (UML) Class Hierarchy diagram in Figure 4. This diagram defines the classes that comprise a data product. The following sections present the data product classes in a table format. The table includes the

class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

14.1 Detector

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Detector class provides a description of a physical object that collects data.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Context . . Detector			
Subclass	none			
Attribute	description.Detector name.Detector type.Detector	1 0..1 1		
Inherited Attribute	none			
Association	data_object.Detector	1	Conceptual_Object Physical_Object	
Inherited Association	none			
Referenced from	none			

14.2 Instrument

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Instrument class provides a description of a physical object that collects data.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Context . . Instrument_Host			
Subclass	none			
Attribute	description.Instrument_Host naif_host_id.Instrument_Host name.Instrument_Host serial_number.Instrument_Host type.Instrument_Host version_id.Instrument_Host	1 0..1 0..1 0..1 1 0..1	Earth_Based Rover Spacecraft	
Inherited Attribute	none			
Association	data_object.Instrument_Host	1	Physical_Object	
Inherited Association	none			
Referenced from	Product_Context			

14.4 Investigation

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Investigation class is the abstract parent class for all activities involved in the collection of data.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Context . . Investigation			
Subclass	none			
Attribute	description.Investigation name.Investigation start_date.Investigation stop_date.Investigation type.Investigation	1 0..1 1 1 1	Individual_Investigation Mission Observing_Campaign Other_Investigation	
Inherited Attribute	none			
Association	data_object.Investigation	1	Conceptual_Object	
Inherited Association	none			
Referenced from	Product_Context			

14.5 Resource

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class 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.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Context . . Resource			
Subclass	none			
Attribute	description.Resource name.Resource type.Resource url.Resource	1 0..1 1 1		
Inherited Attribute	none			
Association	data_object.Resource	1	Conceptual_Object	
Inherited Association	none			
Referenced from	Product_Context			

14.6 Target

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Target class provides a description of a physical object that is the object of data collection.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital.Object . TNDO_Context . . Target			
Subclass	none			
Attribute	description.Target name.Target type.Target	1 0..1 0..*	Asteroid Comet Dust Dwarf_Planet Galaxy Globular_Cluster Meteorite Meteoroid Meteoroid_Stream Nebula Open_Cluster Planet Planetary_Nebula Planetary_System Plasma_Cloud Ring Satellite Star Star_Cluster Sun Terrestrial_Sample Trans-Neptunian_Object	
Inherited Attribute	none			
Association	data_object.Target	1	Physical_Object	
Inherited Association	none			
Referenced from	Product_Context			

Figure 9: Product UML Class Diagram

15 Aggregate Products

This section provides fundamental data structure classes.

The class hierarchy is illustrated in the following diagram. This diagram presents the subclass relation for each class in a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

```
+ + Product_Bundle
+ + Product_Collection
```

The class hierarchy above includes 2 unique classes.

The digital product classes are illustrated using a Unified Modeling Language (UML) Class Hierarchy diagram in Figure 4. This diagram defines the classes that comprise a data product. The following sections present the data product classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

15.1 Product_Bundle

Root Class: Product

Role: Concrete

Class Description: A Product_Bundle is an aggregate product and has a table of references to one or more collections.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Bundle			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	file_area.Product_Bundle identification_area.Product... member_entry.Product_Bundle observation_area.Product_Bu... product_data_object.Product... reference_list.Product_Bundle	0..1 1 1..* 0..1 1 0..1	File_Area_Text Identification_Area Bundle_Member_Entry Observation_Area Bundle Reference_List	
Inherited Association	none			
Referenced from	none			

15.2 Product_Collection

Root Class: Product

Role: Concrete

Class Description: A Product_Collection has a table of references to one or more basic products. The references are stored in a Table_Character called the Inventory.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Collection			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	file_area.inventory.Product... identification_area.Product... observation_area.Product_Co... product_data_object.Product... reference_list.Product_Coll...	0..3 1 0..1 1 0..1	File_Area_Inventory Identification_Area Observation_Area Collection Reference_List	
Inherited Association	none			
Referenced from	none			

Figure 10: Product UML Class Diagram

16 Aggregate Components

This section provides fundamental data structure classes.

The class hierarchy is illustrated in the following diagram. This diagram presents the subclass relation for each class in a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

```
+ + Bundle_Member_Entry
+ + File_Area_Inventory
+ + + + Inventory
+ + + Archive_Bundle
+ + + Bundle
+ + + Collection
```

The class hierarchy above includes 6 unique classes.

The digital product classes are illustrated using a Unified Modeling Language (UML) Class Hierarchy diagram in Figure 4. This diagram defines the classes that comprise a data product. The following sections present the data product classes in a table format. The table includes the

class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

16.1 Archive_Bundle

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Archive Bundle class describes a collection of collections.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . Archive_Bundle			
Subclass	none			
Attribute	description.Archive_Bundle	0..1		
Inherited Attribute	none			
Association	data_object.Archive_Bundle	1	Conceptual_Object	
Inherited Association	none			
Referenced from	none			

16.2 Bundle

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Bundle class describes a collection of collections.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . Bundle			
Subclass	none			
Attribute	bundle_type.Bundle	1	Archive Supplemental	
	description.Bundle	0..1		
Inherited Attribute	none			
Association	data_object.Bundle	1	Conceptual_Object	
Inherited Association	none			
Referenced from	Product_Bundle			

16.3 Bundle_Member_Entry

Root Class: Product_Components

Role: Concrete

Class Description: The Bundle Member Entry class provides a member reference to a collection.

	Entity	Card	Value/Class
Hierarchy	Product_Components . Bundle_Member_Entry		
Subclass	none		
Attribute	file_specification_name.Bun... lid_reference.Bundle_Member... lidvid_reference.Bundle_Mem... member_status.Bundle_Member... reference_type.Bundle_Membe...	0..1 0..1 0..1 1 1	Primary Secondary_No_File Secondary_With_File has_browse_collection has_calibration_collection has_context_collection has_data_collection has_document_collection has_geometry_collection has_member_collection has_schema_collection has_spice_kernels_collection
Inherited Attribute	none		
Association	none		
Inherited Association	none		
Referenced from	Product_Bundle		

16.4 Collection

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Collection class provides a description of a set of products.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital.Object . TNDO_Supplemental . . Collection			
Subclass	none			
Attribute	collection_type.Collection	1	Browse Calibration Context Data Document Geometry Miscellaneous SPICE Schema	
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Product_Collection			

16.5 File_Area_Inventory

Root Class: Product_Components

Role: Concrete

Class Description: The File Area Inventory class describes a file and an inventory consisting of references to members.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . File_Area_Inventory			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	has_File.File_Area_Inventory has_tagged_data_object.File...	1 1	File Inventory	
Inherited Association	none			
Referenced from	Product_Collection			

16.6 Inventory

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Inventory class defines the inventory for members of a collection.

	Entity	Card	Value/Class	
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Table_Base . . . Inventory			
Subclass	none			
Attribute	encoding_type.Inventory reference_type.Inventory	1 1	CHARACTER has_member_LIDVID_Primary has_member_LIDVID_Secondary has_member_LID_Secondary	
Inherited Attribute	description.Table_Base local_identifier.Table_Base offset.Table_Base records.Table_Base	0..1 0..1 1 1		
Association	has_Record.Inventory	1	Record_Character	
Inherited Association	data_object.Table_Base	1	Digital_Object	
Referenced from	File_Area_Inventory			

17 Operational Products

This section provides the set of classes used for PDS operations.

The operations class hierarchy is illustrated in the following diagram. This diagram presents the subclassOf relation for each class using a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

```
+ + Collection_Volume_PDS3
+ + Collection_Volume_Set_PDS3
+ + Product_Attribute_Definition
+ + Product_Data_Set_PDS3
+ + Product_Delivery_Manifest
+ + Product_File_Repository
+ + Product_Instrument_Host_PDS3
+ + Product_Instrument_PDS3
+ + Product_Mission_PDS3
+ + Product_Proxy_PDS3
+ + Product_Service
+ + Product_Software
+ + Product_Subscription_PDS3
+ + Product_Target_PDS3
```

The class hierarchy above includes 14 unique classes.

The operations classes are illustrated using a Unified Modeling Language (UML) Class Hierarchy diagram in Figure 6. This diagram defines the classes that are used in an operational context. The following sections present the operations classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

17.1 Collection_Volume_PDS3

Root Class: Product

Role: Concrete

Class Description: A Collection Volume PDS3 product captures the PDS3 volume information.

Figure 11: Operations UML Class Diagram

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Collection_Volume_PDS3			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	identification_area.Collect... product_data_object.Collect... reference_list.Collection_V...	1 1 0..1	Identification_Area Volume_PDS3 Reference_List	
Inherited Association	none			
Referenced from	none			

17.2 Collection_Volume_Set_PDS3

Root Class: Product

Role: Concrete

Class Description: A Collection Volume Set PDS3 product captures the PDS3 volume set information.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Collection_Volume_Set_PDS3			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	identification_area.Collect... product_data_object.Collect... reference_list.Collection_V...	1 1 0..1	Identification_Area Volume_Set_PDS3 Reference_List	
Inherited Association	none			
Referenced from	none			

17.3 Product_Attribute_Definition

Root Class: Product

Role: Concrete

Class Description: The Product Attribute Definition provides an attribute definition in XML encoding.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Attribute_Definition			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	identification_area.Product... product_data_object.Product... reference_list.Product_Attr...	1 1 0..1	Identification_Area DD_Attribute_Full Reference_List	
Inherited Association	none			
Referenced from	none			

17.4 Product_Data_Set_PDS3

Root Class: Product

Role: Concrete

Class Description: The Data Set PDS3 product is used to create proxy labels for the data sets in the PDS3 Data Set catalog.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Data_Set_PDS3			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	identification_area.Product... product_data_object.Product... reference_list.Product_Data...	1 1 0..1	Identification_Area Data_Set_PDS3 Reference_List	
Inherited Association	none			
Referenced from	none			

17.5 Product_Delivery_Manifest

Root Class: Product

Role: Concrete

Class Description: The Product Delivery Manifest is class that defines a system product that contains a table of references to one or more files.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Delivery_Manifest			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	file_area.Product_Delivery.... identification_area.Product... reference_list.Product_Deli...	1 1 0..1	File_Area_Delivery_Manifest Identification_Area Reference_List	
Inherited Association	none			
Referenced from	none			

17.6 Product_File_Repository

Root Class: Product

Role: Concrete

Class Description: The Product File Repository class consists of a single text file. This product is used to register a file in a repository.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_File_Repository			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	file_area.Product_File_Repo... identification_area.Product... reference_list.Product_File...	1 1 0..1	File_Area_Binary Identification_Area Reference_List	
Inherited Association	none			
Referenced from	none			

17.7 Product_Instrument_Host_PDS3

Root Class: Product

Role: Concrete

Class Description: An Instrument Host product describes an instrument host. This product captures the PDS3 catalog instrument host information.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Instrument_Host_PDS3			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	identification_area.Product... product_data_object.Product... reference_list.Product_Inst...	1 1 0..1	Identification_Area Instrument_Host_PDS3 Reference_List	
Inherited Association	none			
Referenced from	none			

17.8 Product_Instrument_PDS3

Root Class: Product

Role: Concrete

Class Description: An Instrument product describes an instrument. This product captures the PDS3 catalog instrument information.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Instrument_PDS3			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	identification_area.Product... product_data_object.Product... reference_list.Product_Inst...	1 1 0..1	Identification_Area Instrument_PDS3 Reference_List	
Inherited Association	none			
Referenced from	none			

17.9 Product_Mission_PDS3

Root Class: Product

Role: Concrete

Class Description: An Mission product describes a mission. This product captures the PDS3 catalog mission information.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Mission_PDS3			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	identification_area.Product... product_data_object.Product... reference_list.Product_Miss...	1 1 0..1	Identification_Area Mission_PDS3 Reference_List	
Inherited Association	none			
Referenced from	none			

17.10 Product_Proxy_PDS3

Root Class: Product

Role: Concrete

Class Description: The Product Proxy PDS class defines a product with enough information to to register a PDS3 data product.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Proxy_PDS3			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	file_area.Product_Proxy_PDS3 identification_area.Product... reference_list.Product_Prox...	1..* 1 0..1	File_Area_Binary Identification_Area Reference_List	
Inherited Association	none			
Referenced from	none			

17.11 Product_Service

Root Class: Product

Role: Concrete

Class 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.

	Entity	Card	Value/Class
Hierarchy	Product . Product_Service		
Subclass	none		
Attribute	none		
Inherited Attribute	none		
Association	file_area.Product_Service identification_area.Product... reference_list.Product_Service	0..* 1 0..1	File_Area_Service_Description Identification_Area Reference_List
Inherited Association	none		
Referenced from	none		

17.12 Product_Software

Root Class: Product

Role: Concrete

Class Description: Product Software is a product consisting of a set of one or more software formats.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Software			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	identification_area.Product... product_description.Product... reference_list.Product_Soft... software_format_set.Product...	1 1 0..1 0..*	Identification_Area Software_Desc Reference_List Software_Binary Software_Script Software_Source	
Inherited Association	none			
Referenced from	none			

17.13 Product_Subscription_PDS3

Root Class: Product

Role: Concrete

Class Description: The Product_Subscription_PDS3 class provides the list of subscriptions for a PDS3 subscriber.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Subscription_PDS3			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	identification_area.Product... reference_list.Product_Subs... subscriber.Product_Subscrip...	1 0..1 1	Identification_Area Reference_List Subscriber_PDS3	
Inherited Association	none			
Referenced from	none			

17.14 Product_Target_PDS3

Root Class: Product

Role: Concrete

Class Description: A target product describes a target. This product captures a reduced set of the PDS3 catalog target information.

	Entity	Card	Value/Class	Ind
Hierarchy	Product . Product_Target_PDS3			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	identification_area.Product... product_data_object.Product... reference_list.Product_Targ...	1 1 0..1	Identification_Area Target_PDS3 Reference_List	
Inherited Association	none			
Referenced from	none			

18 Operational Components

This section provides fundamental data structure classes.

The class hierarchy is illustrated in the following diagram. This diagram presents the subclass relation for each class in a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

```
+ Data_Object
+ + Conceptual_Object
+ + Digital_Object
+ + Physical_Object
+ + + External_Reference_Extended
+ + File_Area_Binary
+ + File_Area_Delivery_Manifest
+ + File_Area_Service_Description
+ + File_Area_XML_Schema
+ Tagged_Digital_Child
+ Tagged_Digital_Object
+ + TDO_Others
+ + + Software_Binary
+ + + Software_Desc
+ + + Software_Script
+ + + Software_Source
+ + TDO_Structures
+ + + + Service_Description
+ + + + Delivery_Manifest
+ Tagged_NonDigital_Child
+ + DD_Association
+ + DD_Permissible_Value
+ + DD_Value_Domain
+ + + DD_Value_Domain_Full
+ + Terminological_Entry
+ Tagged_NonDigital_Object
+ + TNDO_Context
+ + + Node
+ + + PDS_Affiliate
+ + + PDS_Guest
+ + TNDO_Context_PDS3
+ + + Data_Set_PDS3
+ + + Instrument_Host_PDS3
+ + + Instrument_PDS3
+ + + Mission_PDS3
```

Figure 12: Product UML Class Diagram

```
+ + + Subscriber_PDS3
+ + + Target_PDS3
+ + + Volume_PDS3
+ + + Volume_Set_PDS3
+ + TNDO_Supplemental
+ + + DD_Attribute
+ + + DD_Attribute_Full
+ + + DD_Class
+ + + Ingest_DD
```

The class hierarchy above includes 44 unique classes.

The digital product classes are illustrated using a Unified Modeling Language (UML) Class Hierarchy diagram in Figure 4. This diagram defines the classes that comprise a data product. The following sections present the data product classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

18.1 Conceptual_Object

Root Class: Data_Object

Role: Concrete

Class Description: The Conceptual Object class defines a non-tangible object that is also not a digital object.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Object . Conceptual_Object			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Archive_Bundle Bundle DD_Attribute DD_Attribute_Full DD_Class Data_Set_PDS3 Detector Field_Statistics Geometry Ingest_DD Investigation Mission_PDS3 Node Object_Statistics Observing_System Quaternion Resource Update Vector Volume_PDS3 Volume_Set_PDS3			

18.2 DD_Association

Root Class: Tagged_NonDigital_Child

Role: Concrete

Class Description: The DD_Association class defines the association between two classes or a class and an attribute in a data dictionary.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Child . DD_Association			
Subclass	none			
Attribute	constant_value.DD_Association local_identifier.DD_Associa... maximum_occurrences.DD_Asso... minimum_occurrences.DD_Asso... reference_type.DD_Association	0..1 1 1 1 1	attribute_of component_of extension_of restriction_of subclass_of	
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	DD_Class			

18.3 DD_Attribute

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The DD_Attribute class defines an attribute for a data dictionary.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . DD_Attribute			
Subclass	none			
Attribute	comment.DD_Attribute definition.DD_Attribute local_identifier.DD_Attribute name.DD_Attribute name_space_id.DD_Attribute steward_id.DD_Attribute submitter_id.DD_Attribute version_id.DD_Attribute	0..1 1 1 1 0..1 0..1 0..1 1	atm geo img naif ops pds ppi rings rs sbn	
Inherited Attribute	none			
Association	data_object.DD_Attribute terminological_entry.DD_Attr... value_domain_entry.DD_Attri...	1 0..* 0..1	Conceptual_Object Terminological_Entry DD_Value_Domain	
Inherited Association	none			
Referenced from	Ingest_DD			

18.4 DD_Attribute_Full

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The DD_Attribute_Full class provides a more complete definition of an attribute in the data dictionary.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital.Object . TND0_Supplemental . . DD_Attribute_Full			
Subclass	none			
Attribute	attribute_concept.DD_Attrib...	1	ADDRESS ANGLE ATTRIBUTE BIT CHECKSUM COLLECTION CONSTANT COSINE COUNT DELIMITER DESCRIPTION DEVIATION DIRECTION DISTANCE DOI DURATION FACTOR FLAG FORMAT GROUP HOME ID LATITUDE LENGTH LIST LOCATION LOGICAL LONGITUDE MASK MAXIMUM MEAN MEDIAN MINIMUM NAME NOTE NUMBER OFFSET ORDER PARALLEL PASSWORD PATH PATTERN PIXEL QUATERNION RADIUS RATIO REFERENCE RESOLUTION	

18.5 DD_Class

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The DD_Class class defines a user class, a collection of attributes in a data dictionary.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . DD_Class			
Subclass	none			
Attribute	definition.DD_Class local_identifier.DD_Class name.DD_Class name_space_id.DD_Class steward_id.DD_Class submitter_id.DD_Class version_id.DD_Class	0..1 1 1 0..1 0..1 0..1 0..1	atm geo img naif ops pds ppi rings rs sbn	
Inherited Attribute	none			
Association	data_object.DD_Class dd_association.DD_Class terminological_entry.DD_Class	1 0..* 0..*	Conceptual_Object DD_Association Terminological_Entry	
Inherited Association	none			
Referenced from	Ingest_DD			

18.6 DD_Permissible_Value

Root Class: Tagged_NonDigital_Child

Role: Concrete

Class Description: The DD_Permissible_Value class lists permissible values and their meanings.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Child . DD_Permissible_Value			
Subclass	none			
Attribute	value.DD_Permissible_Value value_begin_date.DD_Permiss... value_end_date.DD_Permissib... value_meaning.DD_Permissibl...	1 1 1 0..1		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	DD_Value_Domain DD_Value_Domain_Full			

18.7 DD_Value_Domain

Root Class: Tagged_NonDigital_Child

Role: Concrete

Class Description: The DD_Value_Domain class defines the value domain for a data dictionary attribute.

[illegible]

18.8 DD_Value_Domain_Full

Root Class: Tagged_NonDigital_Child

Role: Concrete

Class Description: The DD_Value_Domain_Full class provides a more complete definition of a attribute's value domain.

	Entity	Card	Value/Class
Hierarchy	Tagged_NonDigital_Child . DD_Value_Domain . . DD_Value_Domain_Full		
Subclass	none		
Attribute	conceptual_domain.DD_Value_...	1	BOOLEAN INTEGER NAME NUMERIC REAL SHORT_STRING TEXT TIME TYPE UNKNOWN
Inherited Attribute	enumeration_flag.DD_Value_D... formation_rule.DD_Value_Domain maximum_characters.DD_Value... maximum_value.DD_Value_Domain minimum_characters.DD_Value... minimum_value.DD_Value_Domain pattern.DD_Value_Domain specified_unit_id.DD_Value_... unit_of_measure_type.DD_Val...	1 0..1 0..1 0..1 0..1 0..1 0..1 0..1 0..1	UnitOfMeasure_AmountO UnitOfMeasure_Angle UnitOfMeasure_AngularV UnitOfMeasure_Area UnitOfMeasure_Frequency UnitOfMeasure_Length UnitOfMeasure_MapScale UnitOfMeasure_Mass UnitOfMeasure_Misc UnitOfMeasure_None UnitOfMeasure_OpticalPa UnitOfMeasure_Pressure UnitOfMeasure_Radiance UnitOfMeasure_Rates UnitOfMeasure_SolidAngl UnitOfMeasure_Storage UnitOfMeasure_Temperat UnitOfMeasure_Time UnitOfMeasure_Velocity UnitOfMeasure_Voltage UnitOfMeasure_Volume
	value_data_type.DD_Value_Do... 123	1	ASCII_AnyURI ASCII_Boolean ASCII.DOI ASCII.Date_DOY ASCII.Date_Time_UTC ASCII.Date_Time_YMD ASCII.Date_YMD ASCII.File_Specification_I ASCII_Integer

18.9 Data_Object

Root Class: Data_Object

Role: Abstract

Class Description: The Data_Object class defines a thing about which almost nothing is known.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Object			
Subclass	Conceptual_Object Digital_Object Physical_Object			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

18.10 Data_Set_PDS3

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Data Set PDS3 class is used to capture the data set information from the PDS3 Data Set Catalog.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Table_Base . . . Delivery_Manifest			
Subclass	none			
Attribute	encoding_type.Delivery_Man... reference_type.Delivery_Man...	1 1	CHARACTER has_member	R
Inherited Attribute	description.Table_Base local_identifier.Table_Base offset.Table_Base records.Table_Base	0..1 0..1 1 1		
Association	has_Record.Delivery_Manifest	1	Record_Character	
Inherited Association	data_object.Table_Base	1	Digital_Object	
Referenced from	File_Area_Delivery_Manifest			

18.12 Digital_Object

Root Class: Data_Object

Role: Concrete

Class Description: The Digital Object class defines a sequence of digital bits.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Object . Digital_Object			
Subclass	none			
Attribute	bit_string.Digital_Object	1		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Array Array_2D Array_2D_Image Array_2D_Map Array_2D_Spectrum Array_3D Array_3D_Image Array_3D_Movie Array_3D_Spectrum Delivery_Manifest Document_Description Document_File Encoded_Binary Encoded_Byte_Stream Encoded_Image File File_PDF Header Header_Binary Inventory Parsable_Byte_Stream SPICE_Kernel Service_Description Software_Binary Software_Desc Software_Script Software_Source Stream_Text Table_Base Table_Binary Table_Character Table_Delimited XML_Schema			

18.13 External_Reference_Extended

Root Class: Product_Components

Role: Concrete

Class Description: The External_Reference_Extended class is used to reference a source outside the PDS registry system. This extension is used in the local data dictionary.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . External_Reference . . External_Reference_Extended			
Subclass	none			
Attribute	name.External_Reference.Ext... url.External_Reference.Exte...	0..1 0..1		
Inherited Attribute	description.External_Reference reference_text.External_Ref...	0..1 1		
Association	none			
Inherited Association	none			
Referenced from	Terminological_Entry			

18.14 File_Area_Binary

Root Class: Product_Components

Role: Concrete

Class Description: The File Area Binary class describes a file that contains an encoded byte stream.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . File_Area_Binary			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	has_File.File_Area_Binary has_tagged_data_object.File...	1 0..*	File Encoded_Binary	
Inherited Association	none			
Referenced from	Product_File_Repository Product_Proxy_PDS3			

18.15 File_Area_Delivery_Manifest

Root Class: Product_Components

Role: Concrete

Class 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.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . File_Area_Delivery_Manifest			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	has_File.File_Area_Delivery...	1	File	
	has_tagged_data_object.File...	1	Delivery_Manifest	
Inherited Association	none			
Referenced from	Product_Delivery_Manifest			

18.16 File_Area_Service_Description

Root Class: Product_Components

Role: Concrete

Class Description: The File Area Service Description class describes a file that contains a service description.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . File_Area_Service_Description			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	has_File.File_Area_Service...	1	File	
	has_tagged_data_object.File...	0..*	Service_Description	
Inherited Association	none			
Referenced from	Product_Service			

18.17 File_Area_XML_Schema

Root Class: Product_Components

Role: Concrete

Class Description: The File Area XML Schema class describes a file that contains a resource used for the PDS4 implementation into XML.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . File_Area_XML_Schema			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	has_File.File_Area_XML_Schema has_tagged_data_object.File...	1 1	File XML_Schema	
Inherited Association	none			
Referenced from	Product_XML_Schema			

18.18 Ingest_DD

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Ingest_DD class provides a form for collecting class and attribute definitions for ingesting into the data dictionary database.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . Ingest_DD			
Subclass	none			
Attribute	comment.Ingest_DD full_name.Ingest_DD last_modification_date_time... local_identifer.Ingest_DD pds4_merge_flag.Ingest_DD	0..1 1 1 1 1		
Inherited Attribute	none			
Association	data_object.Ingest_DD local_attribute.Ingest_DD local_class.Ingest_DD	1 1..* 0..*	Conceptual_Object DD_Attribute DD_Class	
Inherited Association	none			
Referenced from	none			

18.19 Instrument_Host_PDS3

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class 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.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Context_PDS3 . . Instrument_Host_PDS3			
Subclass	none			
Attribute	instrument_host_desc.Instru... instrument_host_id.Instrume... instrument_host_name.Instru... instrument_host_type.Instru...	1 1 1 1		
Inherited Attribute	none			
Association	data_object.Instrument_Host...	1	Physical_Object	
Inherited Association	none			
Referenced from	Product_Instrument_Host_PDS3			

18.20 Instrument_PDS3

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Instrument class provides a description of a physical object that collects data. This class captures the PDS3 catalog Instrument information.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Context_PDS3 . . Instrument_PDS3			
Subclass	none			
Attribute	instrument_desc.Instrument_... instrument_id.Instrument_PDS3 instrument_name.Instrument_... instrument_serial_number.In... instrument_type.Instrument_... instrument_version_id.Instr...	1 1 1 1 1 1		
Inherited Attribute	none			
Association	data_object.Instrument_PDS3	1	Physical_Object	
Inherited Association	none			
Referenced from	Product_Instrument_PDS3			

18.21 Mission_PDS3

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Mission PDS3 class describes an activity involved in the collection of data. This class captures the PDS3 catalog

Mission information.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Context_PDS3 . . Mission_PDS3			
Subclass	none			
Attribute	mission_desc.Mission_PDS3 mission_name.Mission_PDS3 mission_objectives_summary.... mission_start_date.Mission_... mission_stop_date.Mission_PDS3	1 1 1 1 1		
Inherited Attribute	none			
Association	data_object.Mission_PDS3	1	Conceptual_Object	
Inherited Association	none			
Referenced from	Product_Mission_PDS3			

18.22 Node

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Node class provides a description of a conceptual object that provides local governance within the federated Planetary Data System.

	Entity	Card	Value/Class
Hierarchy	Tagged_NonDigital_Object . TNDO_Context . . Node		
Subclass	none		
Attribute	description.Node institution_name.Node name.Node	1 1 1	Engineering Geosciences Imaging Management Navigation_Ancillary_Information_ Planetary_Atmospheres Planetary_Plasma_Interactions Planetary_Rings Radio_Science Small_Bodies
Inherited Attribute	none		
Association	data_object.Node	1	Conceptual_Object
Inherited Association	none		
Referenced from	Product_Context		

18.23 PDS_Affiliate

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class 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.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital.Object . TNDO_Context . . PDS_Guest			
Subclass	none			
Attribute	description.PDS_Guest electronic_mail_address.PDS... name.PDS_Guest registration_date.PDS_Guest sort_name.PDS_Guest	1 0..* 0..1 1 1		
Inherited Attribute	none			
Association	data_object.PDS_Guest	1	Physical_Object	
Inherited Association	none			
Referenced from	Product_Context			

18.25 Physical_Object

Root Class: Data_Object

Role: Concrete

Class Description: The Physical Object class defines a tangible object.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Object . Physical_Object			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Data_Set_PDS3 Detector Instrument Instrument_Host Instrument_Host_PDS3 Instrument_PDS3 Observing_System PDS_Affiliate PDS_Guest Target Target_PDS3 Volume_PDS3 Volume_Set_PDS3			

18.26 Service_Description

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Service Description class defines a file that contains a standardized service specification.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures . . Parsable_Byte_Stream . . . Service_Description			
Subclass	none			
Attribute	encoding_type.Service_Descr... external_standard_id.Servic...	1 1	CHARACTER WADL WSDL	R R
Inherited Attribute	description.Parsable_Byte_S... local_identifier.Parsable_B... name.Parsable_Byte_Stream offset.Parsable_Byte_Stream	0..1 0..1 0..1 1		
Association	none			
Inherited Association	data_object.Parsable_Byte_S...	1	Digital_Object	
Referenced from	File_Area_Service_Description			

18.27 Software_Binary

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Software Script class provides a description of a software code that is stored as a compiled binary file.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Others . . Software_Binary			
Subclass	none			
Attribute	files.Software_Binary os_version.Software_Binary program_notes_identifier.So... supported_architecture.Soft... supported_os.Software_Binary sw_format_type.Software_Binary system_requirements.Softwar...	1 1..* 1 1..* 1..* 1 1		
Inherited Attribute	none			
Association	data_object.Software_Binary	1	Digital_Object	
Inherited Association	none			
Referenced from	Product_Software			

18.28 Software_Desc

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Software_Desc class describes a software product

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Others . . Software_Desc			
Subclass	none			
Attribute	author_list.Software_Desc description.Software_Desc name.Software_Desc programmers_manual_identifi... software_id.Software_Desc software_type.Software_Desc users_manual_identifier.Sof... version_id.Software_Desc	0..1 1 1 1 1 1 1 1		
Inherited Attribute	none			
Association	data_object.Software_Desc	1	Digital_Object	
Inherited Association	none			
Referenced from	Product_Software			

18.29 Software_Script

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Software Script class provides a description of a software code that is stored as a script.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Others . . Software_Script			
Subclass	none			
Attribute	files.Software_Script install_notes.Software_Script supported_environment.Softw... system_requirements.Softwar...	1 1 1 1		
Inherited Attribute	none			
Association	data_object.Software_Script	1	Digital_Object	
Inherited Association	none			
Referenced from	Product_Software			

18.30 Software_Source

Root Class: Tagged_Digital_Object

Role: Concrete

Class Description: The Software Script class provides a description of a software code that is stored as source code.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Others . . Software_Source			
Subclass	none			
Attribute	compile_notes.Software_Source files.Software_Source os_version.Software_Source program_notes_identifer.So... software_dialect.Software_S... software_language.Software.... supported_architecture.Soft... supported_os.Software_Source sw_format_type.Software_Source system_requirements.Softwar...	1 1 1 1 1 1 1..* 1..* 1 1		
Inherited Attribute	none			
Association	data_object.Software_Source	1	Digital_Object	
Inherited Association	none			
Referenced from	Product_Software			

18.31 Subscriber_PDS3

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Subscriber PDS3 class provides the name of the subscriber and their subscription list.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Context_PDS3 . . Subscriber_PDS3			
Subclass	none			
Attribute	full_name.Subscriber_PDS3 local_identifier.Subscriber... subscription_id.Subscriber_...	1 0..1 1..*		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Product_Subscription_PDS3			

18.32 TDO_Others

Root Class: Tagged_Digital_Object

Role: Abstract

Class Description: The Tagged Digital Object (TDO) Others class is an abstract class for the TDO Others class hierarchy.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Others			
Subclass	Document_Description File Software_Binary Software_Desc Software_Script Software_Source			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

18.33 TDO_Structures

Root Class: Tagged_Digital_Object

Role: Abstract

Class Description: The Tagged Digital Object (TDO) Structures class is an abstract class for the TDO structures class hierarchy.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object . TDO_Structures			
Subclass	Array Encoded_Byte_Stream Parsable_Byte_Stream Table_Base			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

18.34 TNDO_Context

Root Class: Tagged_NonDigital_Object

Role: Abstract

Class Description: The Tagged NonDigital Object (TNDO) Context class is an abstract class for the context class hierarchy.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Context			
Subclass	Detector Instrument Instrument_Host Investigation Node Observing_System PDS_Affiliate PDS_Guest Resource Target			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

18.35 TNDO_Context_PDS3

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: TBD_description

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Context_PDS3			
Subclass	Data_Set_PDS3 Instrument_Host_PDS3 Instrument_PDS3 Mission_PDS3 Subscriber_PDS3 Target_PDS3 Volume_PDS3 Volume_Set_PDS3			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

18.36 TNDO_Supplemental

Root Class: Tagged_NonDigital_Object

Role: Abstract

Class Description: The Tagged NonDigital Object (TNDO) Supplemental class is an abstract class for the supplemental class hierarchy.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental			
Subclass	Archive_Bundle Band_Bin_Set Bundle Cartography Collection DD_Attribute DD_Attribute_Full DD_Class Display_2D_Image Field_Statistics Geometry Ingest_DD Object_Statistics Quaternion Rings Update Vector			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

18.37 Tagged_Digital_Child

Root Class: Tagged_Digital_Child

Role: Abstract

Class Description: The Tagged Digital Child class is an abstract class for the components of classes in the tagged digital object class hierarchy.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Child			
Subclass	Axis_Array Document_Format Element_Array Field_Binary Field_Bit Field_Character Field_Delimited Group_Field_Binary Group_Field_Character Group_Field_Delimited Packed_Data_Fields Record_Binary Record_Character Record_Delimited Special_Constants Uniformly_Sampled			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

18.38 Tagged_Digital_Object

Root Class: Tagged_Digital_Object

Role: Abstract

Class Description: The Tagged Digital Object class is an abstract class for the digital class hierarchy. A tagged object is an information object.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_Digital_Object			
Subclass	TDO_Others TDO_Structures			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

18.39 Tagged_NonDigital_Child

Root Class: Tagged_NonDigital_Child

Role: Abstract

Class Description: The Tagged NonDigital Child class is an abstract class for the components of classes in the tagged nondigital object class hierarchy.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Child			
Subclass	DD_Association DD_Permissible_Value DD_Value_Domain NSSDC Observing_System_Component Quaternion_Component Terminological_Entry Vector_Component			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

18.40 Tagged_NonDigital_Object

Root Class: Tagged_NonDigital_Object

Role: Abstract

Class Description: The Tagged NonDigital Object class is an abstract class for the physical and conceptual class hierarchy. A tagged object is an information object.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object			
Subclass	TNDO_Context TNDO_Context_PDS3 TNDO_Supplemental			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

18.41 Target_PDS3

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class 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.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Context_PDS3 . . Target_PDS3			
Subclass	none			
Attribute	primary_body_name.Target_PDS3 target_desc.Target_PDS3 target_name.Target_PDS3 target_type.Target_PDS3	1 1 1 1		
Inherited Attribute	none			
Association	data_object.Target_PDS3	1	Physical_Object	
Inherited Association	none			
Referenced from	Product_Target_PDS3			

18.42 Terminological_Entry

Root Class: Tagged_NonDigital_Child

Role: Concrete

Class Description: The terminological_entry class provides the name (designation) and definition of the attribute in a specified natural language.

	Entity	Card	Value/Class
Hierarchy	Tagged_NonDigital_Child . Terminological_Entry		
Subclass	none		
Attribute	definition.Terminological_E... language.Terminological_Entry name.Terminological_Entry preferred_flag.Terminologic...	1 1 1 1	English
Inherited Attribute	none		
Association	source.Terminological_Entry	0..*	External_Reference_Extended
Inherited Association	none		
Referenced from	DD_Attribute DD_Attribute_Full DD_Class		

18.43 Volume_PDS3

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Volume_PDS3 class is used to capture the volume information from the PDS3 Data Set Catalog.

	Entity	Card	Value/Class
Hierarchy	Tagged_NonDigital_Object . TNDO_Context_PDS3 . . Volume_PDS3		
Subclass	none		
Attribute	archive_status.Volume_PDS3 archive_status_note.Volume_... curating_node_id.Volume_PDS3 description.Volume_PDS3 medium_type.Volume_PDS3 publication_date.Volume_PDS3 volume_de_fullname.Volume_PDS3 volume_format.Volume_PDS3 volume_id.Volume_PDS3 volume_name.Volume_PDS3 volume_set_id.Volume_PDS3 volume_size.Volume_PDS3 volume_version_id.Volume_PDS3	1 1 0..* 0..1 1 1 1 1 1 1 1 1 1	ARCHIVED ARCHIVED_ACCUMULA IN LIEN_RESOLUTION IN LIEN_RESOLUTION_A IN_PEER_REVIEW IN_PEER_REVIEW_ACCU IN_QUEUE IN_QUEUE_ACCUMULAT LOCALLY_ARCHIVED LOCALLY_ARCHIVED_A PRE_PEER_REVIEW PRE_PEER_REVIEW_AC SAFED SUPERSEDED
Inherited Attribute	none		
Association	data_object.Volume_PDS3	1	Conceptual_Object Physical_Object
Inherited Association	none		
Referenced from	Collection_Volume_PDS3		

18.44 Volume_Set_PDS3

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Volume_Set_PDS3 class is used to capture the volume set information from the PDS3 Data Set Catalog.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Context_PDS3 . . Volume_Set_PDS3			
Subclass	none			
Attribute	description.Volume_Set_PDS3 volume_series_name.Volume_S... volume_set_id.Volume_Set_PDS3 volume_set_name.Volume_Set_... volumes.Volume_Set_PDS3	0..1 1 1 1 1		
Inherited Attribute	none			
Association	data_object.Volume_Set_PDS3	1	Conceptual_Object Physical_Object	
Inherited Association	none			
Referenced from	Collection_Volume_Set_PDS3			

19 Imaging Discipline Classes

This section provides the sets of classes associated with the imaging discipline.

The image discipline class hierarchy is illustrated in the following diagram. This diagram presents the subclassOf relation for each class using a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

```

+ + Telemetry_Parameters
+ + Quaternion_Component
+ + + Band_Bin_Set
+ + + Cartography
+ + + Quaternion

```

The class hierarchy above includes 5 unique classes.

The imaging discipline classes are illustrated using a Unified Modeling Language (UML) Class Hierarchy diagram in Figure 7. The following sections present the discipline classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

19.1 Band_Bin_Set

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Band_Bin_Set class is a placeholder for a soon forthcoming Imaging class.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . Band_Bin_Set			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Axis_Array			

Figure 13: Imaging Discipline UML Class Diagram

19.2 Cartography

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Cartography class is a placeholder for soon forthcoming Imaging cartography classes.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . Cartography			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Observation_Area			

19.3 Quaternion

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Quaternion class models a mathematical construct that consists of four individual numeric components. Quaternions are a convenient mechanism for encapsulating orientation information since they require only four units of numeric storage, as opposed to the nine needed for a rotation matrix.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . Quaternion			
Subclass	none			
Attribute	description.Quaternion local_identifier.Quaternion name.Quaternion quaternion_components.Quate... type.Quaternion	1 0..1 1 1 1	type1 type2	
Inherited Attribute	none			
Association	data_object.Quaternion quaternion_component.Quater...	1 4	Conceptual_Object Quaternion_Component	
Inherited Association	none			
Referenced from	none			

19.4 Quaternion_Component

Root Class: Tagged_NonDigital_Child

Role: Concrete

Class Description: The Quaternion_Component class provides a component of a quaternion.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Child . Quaternion_Component			
Subclass	none			
Attribute	description.Quaternion_Comp... name.Quaternion_Component sequence_number.Quaternion_... unit.Quaternion_Component value.Quaternion_Component	0..1 0..1 1 0..1 1		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	Quaternion			

19.5 Telemetry_Parameters

Root Class: Product_Components

Role: Concrete

Class Description: The Telemetry_Parameters class contains downlink-related attributes used primarily during mission operations.

	Entity	Card	Value/Class	Ind
Hierarchy	Product_Components . Telemetry_Parameters			
Subclass	none			
Attribute	application_process_id.Tele... application_process_name.Te... earth_received_start_date_t... earth_received_stop_date_ti... expected_packets.Telemetry_... packet_map_mask.Telemetry_P... received_packets.Telemetry_... spice_file_name.Telemetry_P... telemetry_format_id.Telemet... telemetry_provider_id.Telem... telemetry_source_name.Telem... telemetry_source_type.Telem...	0..1 0..1 0..1 0..1 0..1 0..1 0..1 0..1 0..1 0..1 0..1 0..1	DATA_PRODUCT SFDU	
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

20 Rings Discipline Classes

This section provides the sets of classes associated with the rings discipline.

The rings discipline class hierarchy is illustrated in the following diagram. This diagram presents the subclassOf relation for each class using a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

+ + + Rings

The class hierarchy above includes 1 unique classes.

The imaging discipline classes are illustrated using a Unified Modeling Language (UML) Class Hierarchy diagram in Figure 8. The following sections present the discipline classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

20.1 Rings

Root Class: Tagged_NonDigital_Object

Role: Concrete

Class Description: The Rings class is an abstract class used to identify the RINGS namespace.

	Entity	Card	Value/Class	Ind
Hierarchy	Tagged_NonDigital_Object . TNDO_Supplemental . . Rings			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

Figure 14: Rings Discipline UML Class Diagram

21 DataType Classes

This section defines the PDS4 data types.

The Data Type class hierarchy is illustrated in the following diagram. This diagram presents the subclassOf relation for each class using a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

```
+ + + Boolean
+ + + + SignedBitString
+ + + + UnsignedBitString
+ + + Complex
+ + + + ComplexLSB16
+ + + + ComplexLSB8
+ + + + ComplexMSB16
+ + + + ComplexMSB8
+ + + Decimal_Integer
+ + + + SignedByte
+ + + + SignedLSB2
+ + + + SignedLSB4
+ + + + SignedLSB8
+ + + + SignedMSB2
+ + + + SignedMSB4
+ + + + SignedMSB8
+ + + + UnsignedByte
+ + + + UnsignedLSB2
+ + + + UnsignedLSB4
+ + + + UnsignedLSB8
+ + + + UnsignedMSB2
+ + + + UnsignedMSB4
+ + + + UnsignedMSB8
+ + + Decimal_Real
+ + + + IEEE754LSBDouble
+ + + + IEEE754LSBSingle
+ + + + IEEE754MSBDouble
+ + + + IEEE754MSBSingle
+ + Character_Data_Type
+ + + ASCII_AnyURI
+ + + ASCII_Boolean
+ + + ASCII_DOI
+ + + ASCII_Date
+ + + ASCII_Date_DOY
+ + + ASCII_Date_Time
```

```

+ + + ASCII_Date_Time_DOY
+ + + ASCII_Date_Time_UTC
+ + + ASCII_Date_Time_YMD
+ + + ASCII_Date_YMD
+ + + ASCII_Directory_Path_Name
+ + + ASCII_File_Name
+ + + ASCII_File_Specification_Name
+ + + ASCII_Identifier
+ + + ASCII_Integer
+ + + ASCII_LID
+ + + ASCII_LIDVID
+ + + ASCII_MD5_Checksum
+ + + ASCII_NonNegative_Integer
+ + + ASCII_Numeric_Base16
+ + + ASCII_Numeric_Base2
+ + + ASCII_Numeric_Base8
+ + + ASCII_Real
+ + + ASCII_Short_String_Collapsed
+ + + ASCII_Short_String_Preserved
+ + + ASCII_Text_Collapsed
+ + + ASCII_Text_Preserved
+ + + ASCII_Time
+ + + ASCII_VID
+ + + Float3Vector
+ + + UTF8_Short_String_Collapsed
+ + + UTF8_Short_String_Preserved
+ + + UTF8_Text_Preserved

```

The class hierarchy above includes 62 unique classes.

The classes in this section are illustrated using a Unified Modeling Language (UML) class hierarchy diagram in Figure 9. The following sections present the classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

21.1 ASCII_AnyURI

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII AnyURI class indicates a URI or its subclasses URN and URL.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_AnyURI			
Subclass	none			
Attribute	character_constraint.ASCII... maximum_characters.ASCII_An... minimum_characters.ASCII_An... xml_schema_base_type.ASCII...	1 1 1 1	xsd:anyURI	R R R R
Inherited Attribute	character_encoding.Characte... formation_rule.Character_Da... maximum_value.Character_Dat... minimum_value.Character_Dat... pattern.Character_Data_Type	1 1 1 1 1	UTF-8	
Association	none			
Inherited Association	none			
Referenced from	none			

21.2 ASCII_Boolean

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Boolean class indicates a boolean.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Boolean			
Subclass	none			
Attribute	xml_schema_base_type.ASCII...	1	xsd:boolean	R
Inherited Attribute	character_constraint.Charac... character_encoding.Characte... formation_rule.Character_Da... maximum_characters.Characte... maximum_value.Character_Dat... minimum_characters.Characte... minimum_value.Character_Dat... pattern.Character_Data_Type	1 1 1 1 1 1 1 1	UTF-8	
Association	none			
Inherited Association	none			
Referenced from	none			

21.3 ASCII_DOI

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII DOI class indicates a digital object identifier (DOI).

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_DOI			
Subclass	none			
Attribute . S+/ S+	character_constraint.ASCII_DOI	1	ASCII	R
	formation_rule.ASCII_DOI	1	nn.nnnn/nnn	R
	maximum_characters.ASCII_DOI	1		R
	minimum_characters.ASCII_DOI	1		R
	pattern.ASCII_DOI	1	10	
	R xml_schema_base_type.ASCII_DOI	1	xsd:string	R
Inherited Attribute	character_encoding.Character...	1	UTF-8	
	maximum_value.Character_Dat...	1		
	minimum_value.Character_Dat...	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.4 ASCII_Date

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Date class indicates a date in either YMD or DOY format.

	Entity	Card	Value/Class
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Date		
Subclass	none		
Attribute	character_constraint.ASCII...	1	ASCII
	formation_rule.ASCII_Date	1	YYYY-MM-DD/YYYY-DO
	maximum_characters.ASCII_Date	1	
	minimum_characters.ASCII_Date	1	
	xml_schema_base_type.ASCII...	1	xsd:string
Inherited Attribute	character_encoding.Character...	1	UTF-8
	maximum_value.Character_Dat...	1	
	minimum_value.Character_Dat...	1	
	pattern.Character_Data_Type	1	
Association	none		
Inherited Association	none		
Referenced from	none		

21.5 ASCII_Date_DOY

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Date_DOY class indicates a date in DOY format.

	Entity	Card	Value/Class
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Date_DOY		
Subclass	none		
Attribute	character_constraint.ASCII...	1	ASCII
	formation_rule.ASCII_Date_DOY	1	YYYY-DOY
	maximum_characters.ASCII_Da...	1	
	minimum_characters.ASCII_Da...	1	
	pattern.ASCII_Date_DOY	1	(-—)[0-9]{4} (-—)[0-9]{4}-((0[0-9][1-9])—
	xml_schema_base_type.ASCII...	1	xsd:string
Inherited Attribute	character_encoding.Character...	1	UTF-8
	maximum_value.Character_Dat...	1	
	minimum_value.Character_Dat...	1	
Association	none		
Inherited Association	none		
Referenced from	none		

21.6 ASCII_Date_Time

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Date_Time class indicates a date in either YMD or DOY format and time.

	Entity	Card	Value/Class
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Date_Time		
Subclass	none		
Attribute	character_constraint.ASCII_...	1	ASCII
	formation_rule.ASCII_Date_Time	1	YYYY-MM-DDTHH:MM:
	maximum_characters.ASCII_Da...	1	
	maximum_value.ASCII_Date_Time	1	
	minimum_characters.ASCII_Da...	1	
	minimum_value.ASCII_Date_Time	1	
	xml_schema_base_type.ASCII_...	1	xsd:string
Inherited Attribute	character_encoding.Characte...	1	UTF-8
	pattern.Character_Data_Type	1	
Association	none		
Inherited Association	none		
Referenced from	none		

21.7 ASCII_Date_Time_DOY

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Date_Time_DOY class indicates a date in DOY format and time.

	Entity	Card	Value/Class
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Date_Time_DOY		
Subclass	none		
Attribute	character_constraint.ASCII_...	1	ASCII
	formation_rule.ASCII_Date_T...	1	YYYY-DOYTHH:MM:SS.S
	maximum_characters.ASCII_Da...	1	
	maximum_value.ASCII_Date_Ti...	1	
	minimum_characters.ASCII_Da...	1	
	minimum_value.ASCII_Date_Ti...	1	
	pattern.ASCII_Date_Time_DOY	1	(-—)[0-9]{4}-((0[0-9][1-9])— (-—)[0-9]{4}-((0[0-9][1-9])—
			(-—)[0-9]{4}-((0[0-9][1-9])— (-—)[0-9]{4}-((0[0-9][1-9])—
.[0-9]+)——)(Z—)			
.0+)——))——)(Z—)			
	xml_schema_base_type.ASCII_...	1	xsd:string
Inherited Attribute	character_encoding.Characte...	1	UTF-8
Association	none		
Inherited Association	none		
Referenced from	none		

21.8 ASCII_Date_Time_UTC

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Date_Time_UTC class indicates a date and time in UTC format.

	Entity	Card	Value/Class
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Date_Time_UTC		
Subclass	none		
Attribute	character_constraint.ASCII... formation_rule.ASCII_Date_T... maximum_characters.ASCII_Da... maximum_value.ASCII_Date_Ti... minimum_characters.ASCII_Da... minimum_value.ASCII_Date_Ti... xml_schema_base_type.ASCII...	1 1 1 1 1 1 1	ASCII YYYY-MM-DDTHH:MM:S xsd:string
Inherited Attribute	character_encoding.Characte... pattern.Character_Data_Type	1 1	UTF-8
Association	none		
Inherited Association	none		
Referenced from	none		

21.9 ASCII_Date_Time_YMD

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Date_Time_YMD class indicates a date in YMD format and time.

	Entity	Card	Value/Class
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Date_Time_YMD		
Subclass	none		
Attribute	character_constraint.ASCII....	1	ASCII
	formation_rule.ASCII_Date_T...	1	YYYY-MM-DDTHH:MM:S
	maximum_characters.ASCII_Da...	1	
	maximum_value.ASCII_Date_Ti...	1	
	minimum_characters.ASCII_Da...	1	
	minimum_value.ASCII_Date_Ti...	1	
	pattern.ASCII_Date_Time_YMD	1	(-—)[0-9]{4}-((0[1-9])—(1[0
			(-—)[0-9]{4}-((0[1-9])—(1[0
. [0-9]+) —)(Z—)			(-—)[0-9]{4}-((0[1-9])—(1[0
			(-—)[0-9]{4}-((0[1-9])—(1[0
.0+) —)) —)(Z—)	xml_schema_base_type.ASCII....	1	xsd:string
Inherited Attribute	character_encoding.Characte...	1	UTF-8
Association	none		
Inherited Association	none		
Referenced from	none		

21.10 ASCII_Date_YMD

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Date_YMD class indicates a date in YMD format.

	Entity	Card	Value/Class
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Date_YMD		
Subclass	none		
Attribute	character_constraint.ASCII...	1	ASCII
	formation_rule.ASCII_Date_YMD	1	YYYY-MM-DD
	maximum_characters.ASCII_Da...	1	
	minimum_characters.ASCII_Da...	1	
	pattern.ASCII_Date_YMD	1	(-—)[0-9]{4} (-—)[0-9]{4}-((0[1-9])—(1[0
	xml_schema_base_type.ASCII...	1	(-—)[0-9]{4}-((0[1-9])—(1[0 xsd:string
Inherited Attribute	character_encoding.Characte...	1	UTF-8
	maximum_value.Character_Dat...	1	
	minimum_value.Character_Dat...	1	
Association	none		
Inherited Association	none		
Referenced from	none		

21.11 ASCII_Directory_Path_Name

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII Directory Path Name class indicates a system directory path.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Directory_Path_Name			
Subclass	none			
Attribute	character_constraint.ASCII...	1	ASCII	R
	formation_rule.ASCII_Direct...	1	dir1/dir2/	R
	maximum_characters.ASCII_Di...	1	255	R
	minimum_characters.ASCII_Di...	1	1	R
	xml_schema_base_type.ASCII...	1	xsd:token	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	maximum_value.Character_Dat...	1		
	minimum_value.Character_Dat...	1		
	pattern.Character_Data_Type	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.12 ASCII_File_Name

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII File Name class indicates a system file name.

	Entity	Card	Value/Class	In
Hierarchy	Data_Type . Character_Data_Type . . ASCII_File_Name			
Subclass	none			
Attribute	character_constraint.ASCII_...	1	ASCII	R
	formation_rule.ASCII_File_Name	1	file_name.file_extension	R
	maximum_characters.ASCII_Fi...	1	255	R
	minimum_characters.ASCII_Fi...	1	1	R
	xml_schema_base_type.ASCII_...	1	xsd:token	R
Inherited Attribute	character_encoding.Character...	1	UTF-8	
	maximum_value.Character_Dat...	1		
	minimum_value.Character_Dat...	1		
	pattern.Character_Data_Type	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.13 ASCII_File_Specification_Name

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII File Specification Name class indicates a system file including directory path, file name, and file extension.

	Entity	Card	Value/Class
Hierarchy	Data_Type . Character_Data_Type . . ASCII_File_Specification_Name		
Subclass	none		
Attribute	character_constraint.ASCII_...	1	ASCII
	formation_rule.ASCII_File_S...	1	dir1/dir2/file_name.file_ext
	maximum_characters.ASCII_Fi...	1	255
	minimum_characters.ASCII_Fi...	1	1
	xml_schema_base_type.ASCII_...	1	xsd:token
Inherited Attribute	character_encoding.Character...	1	UTF-8
	maximum_value.Character_Dat...	1	
	minimum_value.Character_Dat...	1	
	pattern.Character_Data_Type	1	
Association	none		
Inherited Association	none		
Referenced from	none		

21.14 ASCII Identifier

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII Identifier class indicates a identifier.

	Entity	Card	Value/Class
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Identifier		
Subclass	none		
Attribute	character_constraint.ASCII_...	1	ASCII
	maximum_characters.ASCII_Id...	1	100
	maximum_value.ASCII_Identifier	1	
	minimum_characters.ASCII_Id...	1	1
	minimum_value.ASCII_Identifier	1	
	pattern.ASCII_Identifier	1	[a-zA-Z]{1}([-a-zA-Z0-9]*)
	xml_schema_base_type.ASCII_...	1	xsd:string
Inherited Attribute	character_encoding.Character...	1	UTF-8
	formation_rule.Character_Da...	1	
Association	none		
Inherited Association	none		
Referenced from	none		

21.15 ASCII_Integer

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Integer class indicates an integer.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Integer			
Subclass	none			
Attribute	character_constraint.ASCII_...	1		R
	maximum_characters.ASCII_In...	1		R
	maximum_value.ASCII_Integer	1	2147483647	R
	minimum_characters.ASCII_In...	1		R
	minimum_value.ASCII_Integer	1	-2147483648	R
	xml_schema_base_type.ASCII_...	1	xsd:integer	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	formation_rule.Character_Da...	1		
	pattern.Character_Data_Type	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.16 ASCII_LID

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_LID class indicates a logical identifier.

	Entity	Card	Value/Class
Hierarchy	Data_Type . Character_Data_Type . . ASCII_LID		
Subclass	none		
Attribute	character_constraint.ASCII_LID	1	ASCII
	formation_rule.ASCII_LID	1	urn:nasa:pds:xxxx
	maximum_characters.ASCII_LID	1	255
	maximum_value.ASCII_LID	1	
	minimum_characters.ASCII_LID	1	14
	minimum_value.ASCII_LID	1	
	pattern.ASCII_LID	1	urn:nasa:pds:[A-Za-z][-..A-
	xml_schema_base_type.ASCII_LID	1	xsd:string
Inherited Attribute	character_encoding.Characte...	1	UTF-8
Association	none		
Inherited Association	none		
Referenced from	none		

21.17 ASCII_LIDVID

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_LIDVID class indicates a logical identifier and version identifier.

	Entity	Card	Value/Class	In
Hierarchy	Data_Type . Character_Data_Type . . ASCII_LIDVID			
Subclass	none			
Attribute	character_constraint.ASCII...	1	ASCII	R
	formation_rule.ASCII_LIDVID	1	urn:nasa:pds:xxxx::M.n	R
	maximum_characters.ASCII.LI...	1	255	R
	minimum_characters.ASCII.LI...	1	19	R
	xml_schema_base_type.ASCII...	1	xsd:string	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	maximum_value.Character_Dat...	1		
	minimum_value.Character_Dat...	1		
	pattern.Character_Data_Type	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.18 ASCII_MD5_Checksum

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII MD5 Checksum class indicates a checksum computed by the Message-Digest algorithm 5 (MD5).

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_MD5_Checksum			
Subclass	none			
Attribute	character_constraint.ASCII...	1	ASCII	R
	formation_rule.ASCII_MD5_Ch...	1	0123456789abcdef	R
	maximum_characters.ASCII_MD...	1	32	R
	minimum_characters.ASCII_MD...	1	32	R
	pattern.ASCII_MD5_Checksum	1	[0-9a-fA-F]{32}	R
	xml_schema_base_type.ASCII...	1	xsd:string	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	maximum_value.Character_Dat...	1		
	minimum_value.Character_Dat...	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.19 ASCII_NonNegative_Integer

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_NonNegative_Integer class indicates a non-negative integer.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_NonNegative_Integer			
Subclass	none			
Attribute	character_constraint.ASCII... maximum_characters.ASCII_No... maximum_value.ASCII_NonNega... minimum_characters.ASCII_No... minimum_value.ASCII_NonNega... xml_schema_base_type.ASCII...	1 1 1 1 1 1	4294967295 0 xsd:integer	R R R R R R
Inherited Attribute	character_encoding.Characte... formation_rule.Character_Da... pattern.Character_Data_Type	1 1 1	UTF-8	
Association	none			
Inherited Association	none			
Referenced from	none			

21.20 ASCII_Numeric_Base16

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII Numeric Base16 class indicates a ASCII encoded string constrained to hexadecimal digits.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Numeric_Base16			
Subclass	none			
Attribute	character_constraint.ASCII... maximum_characters.ASCII_Nu... maximum_value.ASCII_Numeric... minimum_characters.ASCII_Nu... minimum_value.ASCII_Numeric... pattern.ASCII_Numeric_Base16 xml_schema_base_type.ASCII...	1 1 1 1 1 1 1	255 1 xsd:hexBinary	R R R R R R R
Inherited Attribute	character_encoding.Characte... formation_rule.Character_Da...	1 1	UTF-8	
Association	none			
Inherited Association	none			
Referenced from	none			

21.21 ASCII_Numeric_Base2

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII Numeric Base2 class indicates a ASCII encoded string constrained to binary digits.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Numeric_Base2			
Subclass	none			
Attribute	character_constraint.ASCII_...	1	ASCII	R
	maximum_characters.ASCII_Nu...	1	255	R
	maximum_value.ASCII_Numeric...	1		R
	minimum_characters.ASCII_Nu...	1	1	R
	minimum_value.ASCII_Numeric...	1		R
	pattern.ASCII_Numeric_Base2	1	[0-1]{1,255}	R
	xml_schema_base_type.ASCII_...	1	xsd:string	R
Inherited Attribute	character_encoding.Character...	1	UTF-8	
	formation_rule.Character_Da...	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.22 ASCII_Numeric_Base8

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII Numeric Base8 class indicates a ASCII encoded string constrained to octal digits.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Numeric_Base8			
Subclass	none			
Attribute	character_constraint.ASCII_...	1	ASCII	R
	maximum_characters.ASCII_Nu...	1	255	R
	minimum_characters.ASCII_Nu...	1	1	R
	pattern.ASCII_Numeric_Base8	1	[0-7]{1,255}	R
	xml_schema_base_type.ASCII_...	1	xsd:string	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	formation_rule.Character_Da...	1		
	maximum_value.Character_Dat...	1		
	minimum_value.Character_Dat...	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.23 ASCII_Real

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Real class indicates a real.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Real			
Subclass	none			
Attribute	character_constraint.ASCII_...	1	INF	R
	maximum_characters.ASCII_Real	1		R
	maximum_value.ASCII_Real	1		R
	minimum_characters.ASCII_Real	1	-INF	R
	minimum_value.ASCII_Real	1		R
	xml_schema_base_type.ASCII_...	1	xsd:double	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	formation_rule.Character_Da...	1		
	pattern.Character_Data_Type	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.24 ASCII_Short_String_Collapsed

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Short_String_Collapsed class indicates a limited length, whitespace-collapsed string.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Short_String_Collapsed			
Subclass	none			
Attribute	character_constraint.ASCII_...	1	ASCII	R
	maximum_characters.ASCII_Sh...	1	255	R
	maximum_value.ASCII_Short_S...	1		R
	minimum_characters.ASCII_Sh...	1	1	R
	minimum_value.ASCII_Short_S...	1		R
	xml_schema_base_type.ASCII_...	1	xsd:token	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	formation_rule.Character_Da...	1		
	pattern.Character_Data_Type	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.25 ASCII_Short_String_Preserved

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Short_String_Preserved class indicates a limited length, whitespace-preserved string.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Short_String_Preserved			
Subclass	none			
Attribute	character_constraint.ASCII_...	1	ASCII	R
	maximum_characters.ASCII_Sh...	1	255	R
	maximum_value.ASCII_Short_S...	1		R
	minimum_characters.ASCII_Sh...	1	1	R
	minimum_value.ASCII_Short_S...	1		R
	xml_schema_base_type.ASCII_...	1	xsd:string	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	formation_rule.Character_Da...	1		
	pattern.Character_Data_Type	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.26 ASCII_Text_Collapsed

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Text_Collapsed class indicates an unlimited length, whitespace-collapsed text string.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Text_Collapsed			
Subclass	none			
Attribute	character_constraint.ASCII_...	1	ASCII	R
	maximum_characters.ASCII_Te...	1	2147483647	R
	minimum_characters.ASCII_Te...	1	1	R
	xml_schema_base_type.ASCII_...	1	xsd:token	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	formation_rule.Character_Da...	1		
	maximum_value.Character_Dat...	1		
	minimum_value.Character_Dat...	1		
	pattern.Character_Data_Type	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.27 ASCII_Text_Preserved

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Text_Preserved class indicates an unlimited length, whitespace-preserved text string.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . ASCII_Text_Preserved			
Subclass	none			
Attribute	character_constraint.ASCII_...	1	ASCII	R
	maximum_characters.ASCII_Te...	1	2147483647	R
	maximum_value.ASCII_Text_Pr...	1		R
	minimum_characters.ASCII_Te...	1	1	R
	minimum_value.ASCII_Text_Pr...	1		R
	xml_schema_base_type.ASCII_...	1	xsd:string	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	formation_rule.Character_Da...	1		
	pattern.Character_Data_Type	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.28 ASCII_Time

Root Class: Data_Type

Role: Concrete

Class Description: The ASCII_Time class indicates a time value.

Class Description: The Character Data Type class is the parent class for data types used to classify the values of attributes in class descriptions, i.e., product labels and character digital objects.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type			
Subclass	ASCII_AnyURI ASCII_Boolean ASCII_DOI ASCII_Date ASCII_Date_DOY ASCII_Date_Time ASCII_Date_Time_DOY ASCII_Date_Time_UTC ASCII_Date_Time_YMD ASCII_Date_YMD ASCII_Directory_Path_Name ASCII_File_Name ASCII_File_Specification_Name ASCII_Identifier ASCII_Integer ASCII_LID ASCII_LIDVID ASCII_MD5_Checksum ASCII_NonNegative_Integer ASCII_Numeric_Base16 ASCII_Numeric_Base2 ASCII_Numeric_Base8 ASCII_Real ASCII_Short_String_Collapsed ASCII_Short_String_Preserved ASCII_Text_Collapsed ASCII_Text_Preserved ASCII_Time ASCII_VID Float3Vector UTF8_Short_String_Collapsed UTF8_Short_String_Preserved UTF8_Text_Preserved			
Attribute	character_constraint.Charac... character_encoding.Characte... formation_rule.Character_Da... maximum_characters.Characte... maximum_value.Character_Dat... minimum_characters.Characte... minimum_value.Character_Dat... pattern.Character_Data_Type xml_schema_base_type.Charac...	1 1 1 1 1 1 1 1 1	UTF-8	
Inherited Attribute	none 180			
Association	none			
Inherited Association	none			
Referenced from	none			

21.32 Complex

Root Class: Data_Type

Role: Abstract

Class Description: Complex Binary Data Types

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Complex			
Subclass	ComplexLSB16 ComplexLSB8 ComplexMSB16 ComplexMSB8			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.33 ComplexLSB16

Root Class: Data_Type

Role: Concrete

Class Description: Complex number consisting of two LSB 8 byte decimal reals.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Complex . . . ComplexLSB16			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.34 ComplexLSB8

Root Class: Data_Type

Role: Concrete

Class Description: Complex number consisting of two LSB 4 byte decimal reals.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Complex . . . ComplexLSB8			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.35 ComplexMSB16

Root Class: Data_Type

Role: Concrete

Class Description: Complex number consisting of two MSB 8 byte decimal reals.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Complex . . . ComplexMSB16			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.36 ComplexMSB8

Root Class: Data_Type

Role: Concrete

Class Description: Complex number consisting of two MSB 4 byte decimal reals.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Complex . . . ComplexMSB8			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.37 Decimal Integer

Root Class: Data_Type

Role: Abstract

Class Description: Decimal Integer Binary Data Types

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer			
Subclass	SignedByte SignedLSB2 SignedLSB4 SignedLSB8 SignedMSB2 SignedMSB4 SignedMSB8 UnsignedByte UnsignedLSB2 UnsignedLSB4 UnsignedLSB8 UnsignedMSB2 UnsignedMSB4 UnsignedMSB8			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.38 Decimal_Real

Root Class: Data_Type

Role: Abstract

Class Description: Floating Point Binary Data Types

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Real			
Subclass	IEEE754LSBDouble IEEE754LSBSingle IEEE754MSBDouble IEEE754MSBSingle			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.39 Float3Vector

Root Class: Data_Type

Role: Concrete

Class Description: The Float3Vector data type class is a prototype of Anne's simple demo schema for float3vector.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . Float3Vector			
Subclass	none			
Attribute	character_constraint.Float3... pattern.Float3Vector xml_schema_base_type.Float3...	1 1 1	xsd:token	R R R
Inherited Attribute	character_encoding.Character... formation_rule.Character_Da... maximum_characters.Character... maximum_value.Character_Dat... minimum_characters.Character... minimum_value.Character_Dat...	1 1 1 1 1 1	UTF-8	
Association	none			
Inherited Association	none			
Referenced from	none			

21.40 IEEE754LSBDouble

Root Class: Data_Type

Role: Concrete

Class Description: IEEE 754 LSB double precision floating point

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Real . . . IEEE754LSBDouble			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.41 IEEE754LSBSingle

Root Class: Data_Type

Role: Concrete

Class Description: IEEE 754 LSB single precision floating point

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Real . . . IEEE754LSBSingle			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.42 IEEE754MSBDouble

Root Class: Data_Type

Role: Concrete

Class Description: IEEE 754 MSB double precision floating point

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Real . . . IEEE754MSBDouble			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.43 IEEE754MSBSingle

Root Class: Data_Type

Role: Concrete

Class Description: IEEE 754 MSB single precision floating point

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Real . . . IEEE754MSBSingle			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.44 SignedBitString

Root Class: Data_Type

Role: Concrete

Class Description: Signed Bit String

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Boolean . . . SignedBitString			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.45 SignedByte

Root Class: Data_Type

Role: Concrete

Class Description: Signed 8-bit byte

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . SignedByte			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.46 SignedLSB2

Root Class: Data_Type

Role: Concrete

Class Description: Signed 2's-complement LSB 2-byte integer

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . SignedLSB2			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.47 SignedLSB4

Root Class: Data_Type

Role: Concrete

Class Description: Signed 2's-complement LSB 4-byte integer

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . SignedLSB4			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.48 SignedLSB8

Root Class: Data_Type

Role: Concrete

Class Description: Signed 2's-complement LSB 8-byte integer

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . SignedLSB8			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.49 SignedMSB2

Root Class: Data_Type

Role: Concrete

Class Description: Signed 2's-complement MSB 2-byte integer

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . SignedMSB2			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.50 SignedMSB4

Root Class: Data_Type

Role: Concrete

Class Description: Signed 2's-complement MSB 4-byte integer

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . SignedMSB4			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.51 SignedMSB8

Root Class: Data_Type

Role: Concrete

Class Description: Signed 2's-complement MSB 8-byte integer

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . SignedMSB8			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.52 UTF8_Short_String_Collapsed

Root Class: Data_Type

Role: Concrete

Class Description: The UTF8_Short_String_Collapsed class indicates a limited length, whitespace-collapsed string constrained to the UTF-8 character encoding.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . UTF8_Short_String_Collapsed			
Subclass	none			
Attribute	character_constraint.UTF8_S...	1		R
	maximum_characters.UTF8_Sho...	1	255	R
	maximum_value.UTF8_Short_St...	1		R
	minimum_characters.UTF8_Sho...	1	1	R
	minimum_value.UTF8_Short_St...	1		R
	xml_schema_base_type.UTF8_S...	1	xsd:token	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	formation_rule.Character_Da...	1		
	pattern.Character_Data_Type	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.53 UTF8_Short_String_Preserved

Root Class: Data_Type

Role: Concrete

Class Description: The UTF8_Short_String_Preserved class indicates a limited length, whitespace-preserved string constrained to the UTF-8 character encoding.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . UTF8_Short_String_Preserved			
Subclass	none			
Attribute	character_constraint.UTF8_S...	1		R
	maximum_characters.UTF8_Sho...	1	255	R
	maximum_value.UTF8_Short_St...	1		R
	minimum_characters.UTF8_Sho...	1	1	R
	minimum_value.UTF8_Short_St...	1		R
	xml_schema_base_type.UTF8_S...	1	xsd:string	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	formation_rule.Character_Da...	1		
	pattern.Character_Data_Type	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.54 UTF8_Text_Preserved

Root Class: Data_Type

Role: Concrete

Class Description: The UTF8_Text_Preserved class indicates an unlimited length, whitespace-preserved text string constrained to the UTF-8 character encoding.

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Character_Data_Type . . UTF8_Text_Preserved			
Subclass	none			
Attribute	character_constraint.UTF8_T...	1		R
	maximum_characters.UTF8_Tex...	1	2147483647	R
	maximum_value.UTF8_Text_Pre...	1		R
	minimum_characters.UTF8_Tex...	1	1	R
	minimum_value.UTF8_Text_Pre...	1		R
	xml_schema_base_type.UTF8.T...	1	xsd:string	R
Inherited Attribute	character_encoding.Characte...	1	UTF-8	
	formation_rule.Character_Da...	1		
	pattern.Character_Data_Type	1		
Association	none			
Inherited Association	none			
Referenced from	none			

21.55 UnsignedBitString

Root Class: Data_Type

Role: Concrete

Class Description: Unsigned Bit String

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Boolean . . . UnsignedBitString			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.56 UnsignedByte

Root Class: Data_Type

Role: Concrete

Class Description: Unsigned 8-bit byte

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . UnsignedByte			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.57 UnsignedLSB2

Root Class: Data_Type

Role: Concrete

Class Description: Unsigned 2's-complement LSB 2-byte integer

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . UnsignedLSB2			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.58 UnsignedLSB4

Root Class: Data_Type

Role: Concrete

Class Description: Unsigned 2's-complement LSB 4-byte integer

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . UnsignedLSB4			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.59 UnsignedLSB8

Root Class: Data_Type

Role: Concrete

Class Description: Unsigned 2's-complement LSB 8-byte integer

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . UnsignedLSB8			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.60 UnsignedMSB2

Root Class: Data_Type

Role: Concrete

Class Description: Unsigned 2's-complement MSB 2-byte integer

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . UnsignedMSB2			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.61 UnsignedMSB4

Root Class: Data_Type

Role: Concrete

Class Description: Unsigned 2's-complement MSB 4-byte integer

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . UnsignedMSB4			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

21.62 UnsignedMSB8

Root Class: Data_Type

Role: Concrete

Class Description: Unsigned 2's-complement MSB 8-byte integer

	Entity	Card	Value/Class	Ind
Hierarchy	Data_Type . Binary_Data_Type . . Decimal_Integer . . . UnsignedMSB8			
Subclass	none			
Attribute	none			
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22 Unit of Measure Classes

This section defines the PDS4 units of measure.

The units of measure class hierarchy is illustrated in the following diagram. This diagram presents the subclassOf relation for each class using a hierarchical (tree) format, providing a visual representation of the classes in relation to their parent classes.

```
+ UnitOfMeasure
+ + UnitOfMeasure_AmountOfSubstance
+ + UnitOfMeasure_Angle
+ + UnitOfMeasure_AngularVelocity
+ + UnitOfMeasure_Area
+ + UnitOfMeasure_FrameRate
+ + UnitOfMeasure_Frequency
+ + UnitOfMeasure_Length
+ + UnitOfMeasure_MapScale
+ + UnitOfMeasure_Mass
+ + UnitOfMeasure_Misc
+ + UnitOfMeasure_None
+ + UnitOfMeasure_OpticalPathLength
+ + UnitOfMeasure_Pressure
+ + UnitOfMeasure_Radiance
+ + UnitOfMeasure_Rates
+ + UnitOfMeasure_SolidAngle
+ + UnitOfMeasure_Storage
+ + UnitOfMeasure_Temperature
+ + UnitOfMeasure_Time
+ + UnitOfMeasure_Velocity
+ + UnitOfMeasure_Voltage
+ + UnitOfMeasure_Volume
```

The class hierarchy above includes 23 unique classes.

The classes in this section are illustrated using a Unified Modeling Language (UML) class hierarchy diagram in Figure 10. The following sections present the classes in a table format. The table includes the class hierarchy, class attributes, and class associations. The class attributes and associations listed include both those used to define the class and those inherited from parent classes. Cardinalities are provided where appropriate.

22.1 UnitOfMeasure

Root Class: UnitOfMeasure

Role: Abstract

Class Description: The UnitOfMeasure is a definite magnitude of a quantity.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure			
Subclass	UnitOfMeasure_AmountOfSubstance UnitOfMeasure_Angle UnitOfMeasure_AngularVelocity UnitOfMeasure_Area UnitOfMeasure_FrameRate UnitOfMeasure_Frequency UnitOfMeasure_Length UnitOfMeasure_MapScale UnitOfMeasure_Mass UnitOfMeasure_Misc UnitOfMeasure_None UnitOfMeasure_OpticalPathLength UnitOfMeasure_Pressure UnitOfMeasure_Radiance UnitOfMeasure_Rates UnitOfMeasure_SolidAngle UnitOfMeasure_Storage UnitOfMeasure_Temperature UnitOfMeasure_Time UnitOfMeasure_Velocity UnitOfMeasure_Voltage UnitOfMeasure_Volume			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure unit_id.UnitOfMeasure	1 1 1		
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.2 UnitOfMeasure_AmountOfSubstance

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_AmountOfSubstance is a magnitude of mass.

	Entity	Card	Value/Class
Hierarchy	UnitOfMeasure . UnitOfMeasure_AmountOfSubstance		
Subclass	none		
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_AmountOf... unit_id.UnitOfMeasure_Amoun...	1 1 1	mol AmountOfSubstance mol
Inherited Attribute	none		
Association	none		
Inherited Association	none		
Referenced from	none		

22.3 UnitOfMeasure_Angle

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Angle is a magnitude of angle.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Angle			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Angle unit_id.UnitOfMeasure_Angle	1 1 1	deg Angle arcmin arcsec deg hr mrad rad	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.4 UnitOfMeasure_AngularVelocity

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_AngularVelocity is a magnitude of speed of rotation.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_AngularVelocity			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_AngularV... unit_id.UnitOfMeasure_Angul...	1 1 1	deg/s Angular_Velocity deg/day deg/s rad/s	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.5 UnitOfMeasure_Area

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Area is a magnitude of area.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Area			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Area unit_id.UnitOfMeasure_Area	1 1 1	m**2 Area m**2	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.6 UnitOfMeasure_FrameRate

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_FrameRate is a magnitude of change.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_FrameRate			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea...	1	frames/s	R
	type.UnitOfMeasure_FrameRate	1	Frame_Rate	R
	unit_id.UnitOfMeasure_Frame...	1	frames/s	R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.7 UnitOfMeasure_Frequency

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Frequency is a magnitude of frequency.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Frequency			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea...	1	Hz	R
	type.UnitOfMeasure_Frequency	1	Frequency	R
	unit_id.UnitOfMeasure_Frequ...	1	Hz	R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.8 UnitOfMeasure_Length

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Length is a magnitude of length.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Length			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Length unit_id.UnitOfMeasure_Length	1 1 1	m Length AU Angstrom cm km m micrometer mm nm	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.9 UnitOfMeasure_MapScale

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_MapScale is a proportional representation.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_MapScale			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_MapScale unit_id.UnitOfMeasure_MapScale	1 1 1	pixel/deg Scale km/pixel m/pixel mm/pixel pixel/deg	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.10 UnitOfMeasure_Mass

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Mass is a magnitude of mass.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Mass			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Mass unit_id.UnitOfMeasure_Mass	1 1 1	kg Mass g kg	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.11 UnitOfMeasure_Misc

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Misc provides an assortment of derived units.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Misc			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Misc unit_id.UnitOfMeasure_Misc	1 1 1	DN Miscellaneous DN electron/DN pixel	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.12 UnitOfMeasure_None

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_None indicates that no unit of

measure applies.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_None			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_None unit_id.UnitOfMeasure_None	1 1 1	none None none	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.13 UnitOfMeasure_OpticalPathLength

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Volume is a magnitude of optical path length.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_OpticalPathLength			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_OpticalP... unit_id.UnitOfMeasure_Optic...	1 1 1	airmass OpticalPathLength airmass	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.14 UnitOfMeasure_Pressure

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Pressure is a magnitude of pressure.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Pressure			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Pressure unit_id.UnitOfMeasure_Pressure	1 1 1	bar Pressure Pa bar hPa mbar	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.15 UnitOfMeasure_Radiance

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Radiance is a magnitude of radiance.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Radiance			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Radiance unit_id.UnitOfMeasure_Radiance	1 1 1	$W \cdot m^{-2} \cdot sr^{-1}$ Radiance $W \cdot m^{-2} \cdot sr^{-1}$	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.16 UnitOfMeasure_Rates

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Rate is a magnitude of change.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Rates			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Rates unit_id.UnitOfMeasure_Rates	1 1 1	counts/bin Rates counts/bin kilobits/s	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.17 UnitOfMeasure_SolidAngle

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_SolidAngle is a magnitude of a solid angle.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_SolidAngle			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_SolidAngle unit_id.UnitOfMeasure_Solid...	1 1 1	sr Solid_Angle sr	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.18 UnitOfMeasure_Storage

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Storage is an amount of computer storage.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Storage			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Storage unit_id.UnitOfMeasure_Storage	1 1 1	byte Storage byte	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.19 UnitOfMeasure_Temperature

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Temperature is a magnitude of temperature.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Temperature			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Temperature unit_id.UnitOfMeasure_Tempe...	1 1 1	degC Temperature K degC	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.20 UnitOfMeasure_Time

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Time is a magnitude of time.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Time			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Time unit_id.UnitOfMeasure_Time	1 1 1	s Time day hr microseconds min ms s yr	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.21 UnitOfMeasure_Velocity

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Velocity is a magnitude of velocity.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Velocity			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Velocity unit_id.UnitOfMeasure_Velocity	1 1 1	m/s Velocity cm/s km/s m/s	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.22 UnitOfMeasure_Voltage

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Voltage is a magnitude of voltage.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Voltage			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Voltage unit_id.UnitOfMeasure_Voltage	1 1 1	V Voltage V mV	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

22.23 UnitOfMeasure_Volume

Root Class: UnitOfMeasure

Role: Concrete

Class Description: UnitOfMeasure_Volume is a magnitude of volume.

	Entity	Card	Value/Class	Ind
Hierarchy	UnitOfMeasure . UnitOfMeasure_Volume			
Subclass	none			
Attribute	specified_unit_id.UnitOfMea... type.UnitOfMeasure_Volume unit_id.UnitOfMeasure_Volume	1 1 1	L Volume L m^3	R R R
Inherited Attribute	none			
Association	none			
Inherited Association	none			
Referenced from	none			

Figure 17: PDS Object Unification Using OAIS Information Object

23 Unification

This section presents the data model for the Information Object, a fundamental component of the Open Archival Information System (OAIS) Reference Model. The Information Object provides a model for the unification of PDS Objects under the PDS defined extensions, the PDS_Information_Object, the Tagged_Data_Object, and two Context classes.

24 Specification Dictionary

The Specification Dictionary provides the definitions of data elements and associations. The data elements are those that are used as class attributes in this specification. They represent a subset of those in the Planetary Science Data Dictionary. The associations are those that are defined and used in this specification.

abstract_desc in Data_Set_PDS3 The abstract_desc attribute provides a summary of a text, scientific article, or document.

Type: ASCII_Text_Preserved

Class Name: Data_Set_PDS3

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

acknowledgement_text in Document_Description The acknowledgement_text attribute is a character string which recognizes another's contribution, authority, or right.

Type: ASCII_Text_Preserved

Class Name: Document_Description

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: TEXT

Value Concept: TEXT

Steward: pds

Name Space Id: pds

affiliation_type in PDS_Affiliate The affiliation type data attribute describes the type of relationship an individual has with the PDS.

Type: ASCII_Short_String_Collapsed

Class Name: PDS_Affiliate

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: ops

Name Space Id: pds

Value: Affiliate, Data.Provider, Manager, Technical.Staff

alias_list in Identification_Area The alias_list association is a relationship to Alias_List, a list of alternate names and identifications.

Type: Association

alias in Alias_List The alias association is a relationship to Alias, an alternate name and identification.

Type: Association

alternate_designation in Target_Identification The alternate_designation attribute provides a known alternate name or identifier.

Type: ASCII.Short.String.Collapsed

Class Name: Target_Identification

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

alternate_id in Alias The alternate_id attribute provides an additional identifier supplied by the data provider.

Type: ASCII_Short_String_Collapsed

Class Name: Alias

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

alternate_telephone_number in PDS_Affiliate The telephone_number attribute provides a telephone number in international notation in compliance with the E.164 telephone number format recommendation.

Type: ASCII_Short_String_Collapsed

Class Name: PDS_Affiliate

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NUMBER

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

alternate_title in Alias The alternate_title attribute provides an alternate title for the product.

Type: ASCII.Short.String.Collapsed

Class Name: Alias

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TITLE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

application_process_id in Telemetry_Parameters The application_process_id attribute identifies the process, or source, which created the data.

Type: ASCII.Integer

Class Name: Telemetry_Parameters

Minimum Value: 0

Maximum Value: Unbounded

Data Element Concept: ID

Value Concept: INTEGER

Steward: img

Name Space Id: img

application_process_name in Telemetry_Parameters The application_process_name attribute provides the name associated with the source or process which created the data.

Type: ASCII.Short.String.Collapsed

Class Name: Telemetry_Parameters

Minimum Characters: 1

Maximum Characters: 127

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: img

Name Space Id: img

archive_status_note in Volume_PDS3 The archive status note attribute provides a comment about the archive status.

Type: ASCII.Short.String-Collapsed

Class Name: Volume_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NOTE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

archive_status in Data_Set_PDS3 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.

Type: ASCII.Short.String.Collapsed

Class Name: Data_Set_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: STATUS

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

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

archive_status in Volume_PDS3 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.

Type: ASCII.Short.String.Collapsed

Class Name: Volume_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: STATUS

Value Concept: SHORT.STRING

Steward: ops

Name Space Id: pds

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

associated_Special_Constants in Array The associated_Special_Constants association is a relationship to special constants.

Type: Association

associated_Special_Constants in Field_Binary The associated_Special_Constants association is a relationship to special constants.

Type: Association

associated_Special_Constants in Field_Bit The associated_Special_Constants association is a relationship to special constants.

Type: Association

associated_Special_Constants in Field_Character The associated_Special_Constants association is a relationship to special constants.

Type: Association

associated_Special_Constants in Field_Delimited The associated_Special_Constants association is a relationship to special constants.

Type: Association

associated_Statistics in Array The associated_Object_Statistics association is a relationship to object statistics.

Type: Association

associated_Statistics in Field_Binary The associated_Object_Statistics association is a relationship to object statistics.

Type: Association

associated_Statistics in Field_Character The associated_Object_Statistics association is a relationship to object statistics.

Type: Association

associated_Statistics in Field_Delimited The associated_Object_Statistics association is a relationship to object statistics.

Type: Association

attribute_concept in DD_Attribute_Full The attribute_concept attribute provides the type of information (classification) conveyed by the attribute – e.g., stop_date_time has attribute_concept = date_time.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Attribute_Full

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: ADDRESS, ANGLE, ATTRIBUTE, BIT, CHECKSUM, COLLECTION, CONSTANT, COSINE, COUNT, DELIMITER, DESCRIPTION, DEVIATION, DIRECTION, DISTANCE, DOI, DURATION, FACTOR, FLAG, FORMAT, GROUP, HOME, ID, LATITUDE, LENGTH, LIST, LOCATION, LOGICAL, LONGITUDE, MASK, MAXIMUM, MEAN, MEDIAN, MINIMUM, NAME, NOTE, NUMBER, OFFSET, ORDER, PARALLEL, PASSWORD, PATH, PATTERN, PIXEL, QUATERNION, RADIUS, RATIO, REFERENCE, RESOLUTION, ROLE, ROTATION, SCALE, SEQUENCE, SET, SIZE, STATUS, SUMMARY, SYNTAX, TEMPERATURE, TEXT, TITLE, TYPE, UNIT, UNKNOWN, VALUE, VECTOR

author_list in Software_Desc The author_list attribute lists the composers of a work.

Type: ASCII.Text.Preserved

Class Name: Software_Desc

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: LIST

Value Concept: TEXT

Steward: ops

Name Space Id: pds

author_list in Citation_Information The author_list attribute lists the composers of a work.

Type: ASCII.Text.Preserved

Class Name: Citation_Information

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: LIST

Value Concept: TEXT

Steward: pds

Name Space Id: pds

author_list in Document_Description The `author_list` attribute lists the composers of a work.

Type: ASCII.Text.Preserved

Class Name: Document_Description

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: LIST

Value Concept: TEXT

Steward: pds

Name Space Id: pds

axes in Array_2D The `axes` attribute provides a count of the axes.

Type: ASCII.Integer

Class Name: Array_2D

Minimum Value: 1

Maximum Value: 16

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

Value: 2

axes in Array_3D The axes attribute provides a count of the axes.

Type: ASCII.Integer

Class Name: Array_3D

Minimum Value: 1

Maximum Value: 16

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

Value: 3

axes in Array The axes attribute provides a count of the axes.

Type: ASCII.Integer

Class Name: Array

Minimum Value: 1

Maximum Value: 16

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

axis_index_order in Array The `axis_index_order` attribute provides the axis index that varies fastest with respect to storage order.

Type: ASCII_Short_String_Collapsed

Class Name: Array

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ORDER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: LAST_INDEX_FASTEST

axis_name in Axis_Array The `axis_name` attribute provides a word or combination of words by which the axis is known.

Type: ASCII_Short_String_Collapsed

Class Name: Axis_Array

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

bit_mask in Object_Statistics The bit_mask element is a series of binary digits identifying the active bits in a value.

Type: ASCII_Numeric_Base2

Class Name: Object_Statistics

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: MASK

Value Concept: NUMERIC

Steward: pds

Name Space Id: pds

bit_string in Digital_Object The bit string attribute is a sequence of digital bits. It is the content of a digital object.

Type: ASCII_Short_String_Collapsed

Class Name: Digital_Object

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

bundle_type in Bundle The bundle_type attribute provides a classification for the bundle.

Type: ASCII_Short_String_Collapsed

Class Name: Bundle

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Archive, Supplemental

bytes in Header_Binary The bytes attribute provides the number of bytes in the object.

Type: ASCII_Integer

Class Name: Header_Binary

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

bytes in Header The bytes attribute provides the number of bytes in the object.

Type: ASCII_Integer

Class Name: Header

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

cartography in Observation_Area The has.Cartography association is a relationship to Cartography.

Type: Association

character_constraint in ASCII_AnyURI The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_AnyURI

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

character_constraint in ASCII_DOI The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_DOI

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Date_DOY The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Date_Time_DOY The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Date_Time_UTC The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_UTC

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Date_Time_YMD The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Date_Time The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Date_YMD The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Date The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Directory_Path_Name The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Directory_Path_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_File_Name The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_File_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_File_Specification_Name The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_File_Specification_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Identifier The `character_constraint` attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Identifier

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Integer The `character_constraint` attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Integer

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

character_constraint in ASCII_LIDVID The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_LIDVID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_LID The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_LID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_MD5_Checksum The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_MD5_Checksum

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_NonNegative_Integer The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_NonNegative_Integer

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

character_constraint in ASCII_Numeric_Base16 The
ter_constraint attribute limits the characters allowed.

charac-

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Numeric_Base16

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

character_constraint in ASCII_Numeric_Base2 The
ter_constraint attribute limits the characters allowed.

charac-

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Numeric_Base2

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Numeric_Base8 The character_constraint attribute limits the characters allowed.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Numeric_Base8

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Real The character_constraint attribute limits the characters allowed.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Real

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

character_constraint in ASCII_Short_String_Collapsed The character_constraint attribute limits the characters allowed.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Short_String_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Short_String_Preserved The character_constraint attribute limits the characters allowed.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Short_String_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Text_Collapsed The
ter_constraint attribute limits the characters allowed.

charac-

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Text.Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Text_Preserved The
ter_constraint attribute limits the characters allowed.

charac-

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Text.Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_Time The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in ASCII_VID The character_constraint attribute limits the characters allowed.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_VID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII

character_constraint in Character_Data_Type The character_constraint attribute limits the characters allowed.

Type: ASCII_Short_String_Collapsed

Class Name: Character_Data_Type

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

character_constraint in Float3Vector The character_constraint attribute limits the characters allowed.

Type: ASCII_Short_String_Collapsed

Class Name: Float3Vector

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

character_constraint in UTF8_Short_String_Collapsed The character_constraint attribute limits the characters allowed.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Short_String_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

character_constraint in UTF8_Short_String_Preserved The character_constraint attribute limits the characters allowed.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Short_String_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

character_constraint in UTF8_Text_Preserved The character_constraint attribute limits the characters allowed.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Text_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

character_encoding in Character_Data_Type The character_encoding attribute identifies the standard that maps a set of allowed characters to their machine readable code.

Type: ASCII_Short_String_Collapsed

Class Name: Character_Data_Type

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: UTF-8

citation_information in Identification_Area The citation_information is a relationship to Citation_Information, fields often used in citing the product.

Type: Association

citation_text in Data_Set_PDS3 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.

Type: ASCII.Text.Preserved

Class Name: Data_Set_PDS3

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: TEXT

Value Concept: TEXT

Steward: ops

Name Space Id: pds

class_name in DD_Attribute_Full 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.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Attribute_Full

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

collection_type in Collection The collection_type attribute provides a classification for the collection.

Type: ASCII_Short_String_Collapsed

Class Name: Collection

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Browse, Calibration, Context, Data, Document, Geometry, Miscellaneous, SPICE, Schema

comment in DD_Attribute_Full The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.

Type: ASCII_Text_Preserved

Class Name: DD_Attribute_Full

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

comment in DD_Attribute The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.

Type: ASCII_Text_Preserved

Class Name: DD_Attribute

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

comment in Ingest_DD The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Ingest_DD

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

comment in Alias The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Alias

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

comment in File The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.

Type: ASCII.Text_Preserved

Class Name: File

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

comment in Internal_Reference The comment attribute provides one or more remarks or thoughts relevant to the object.

Type: ASCII.Text_Preserved

Class Name: Internal_Reference

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

comment in Observation_Area The comment attribute is a character string expressing one or more remarks or thoughts relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Observation_Area

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

compile_notes in Software_Source The compile notes attribute provides a brief statement giving particulars about the compilation of the software source.

Type: ASCII_Short_String_Collapsed

Class Name: Software_Source

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT.STRING

Steward: ops

Name Space Id: pds

conceptual_domain in DD_Value_Domain_Full The conceptual_domain attribute provides the domain to which the value has been assigned.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Value_Domain_Full

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT.STRING

Steward: ops

Name Space Id: pds

Value: BOOLEAN, INTEGER, NAME, NUMERIC, REAL, SHORT.STRING, TEXT, TIME, TYPE, UNKNOWN

confidence_level_note in Data_Set_PDS3 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.

Type: ASCII.Text.Preserved

Class Name: Data_Set_PDS3

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: NOTE

Value Concept: TEXT

Steward: ops

Name Space Id: pds

constant_value in DD_Association The constant value attribute provides the value to be used if an attribute is static.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Association

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

container_type in Product_Zipped The container type attribute indicates the method used to package the components.

Type: ASCII.Short.String.Collapsed

Class Name: Product_Zipped

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: GZIP, LZIP, TAR, ZIP

copyright in Document_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.

Type: ASCII_Text_Preserved

Class Name: Document_Description

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: VALUE2

Value Concept: TEXT

Steward: pds

Name Space Id: pds

creation_date_time in File The creation_date_time attribute provides a date and time when the object was created.

Type: ASCII_Date_Time

Class Name: File

Format:

YYYY-MM-DDTHH:MM:SS.SSS/YYYY-DOYTHH:MM:SS.SSS

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: pds

Name Space Id: pds

curating_node_id in Volume_PDS3 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.

Type: ASCII_Short_String_Collapsed

Class Name: Volume_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

data_object in DD_Attribute_Full The `data_object` association is a relationship to Data Object.

Type: Association

data_object in DD_Attribute The `data_object` association is a relationship to Data Object.

Type: Association

data_object in DD_Class The `data_object` association is a relationship to Data Object.

Type: Association

data_object in Data_Set_PDS3 The `data_object` association is a relationship to Data Object.

Type: Association

data_object in Ingest_DD The data_object association is a relationship to Data Object.

Type: Association

data_object in Instrument_Host_PDS3 The data_object association is a relationship to Data Object.

Type: Association

data_object in Instrument_PDS3 The data_object association is a relationship to Data Object.

Type: Association

data_object in Mission_PDS3 The data_object association is a relationship to Data Object.

Type: Association

data_object in Software_Binary The data_object association is a relationship to Data Object.

Type: Association

data_object in Software_Desc The data_object association is a relationship to Data Object.

Type: Association

data_object in Software_Script The data_object association is a relationship to Data Object.

Type: Association

data_object in Software_Source The data_object association is a relationship to Data Object.

Type: Association

data_object in Target_PDS3 The data_object association is a relationship to Data Object.

Type: Association

data_object in Volume_PDS3 The data_object association is a relationship to Data Object.

Type: Association

data_object in Volume_Set_PDS3 The data_object association is a relationship to Data Object.

Type: Association

data_object in Archive_Bundle The data_object association is a relationship to Data Object.

Type: Association

data_object in Array The data_object association is a relationship to Data Object.

Type: Association

data_object in Bundle The data_object association is a relationship to Data Object.

Type: Association

data_object in Detector The data_object association is a relationship to Data Object.

Type: Association

data_object in Document_Description The data_object association is a relationship to Data Object.

Type: Association

data_object in Encoded_Byte_Stream The data_object association is a relationship to Data Object.

Type: Association

data_object in Field_Statistics The data_object association is a relationship to Data Object.

Type: Association

data_object in File The data_object association is a relationship to Data Object.

Type: Association

data_object in Geometry The data_object association is a relationship to Data Object.

Type: Association

data_object in Instrument_Host The data_object association is a relationship to Data Object.

Type: Association

data_object in Instrument The data_object association is a relationship to Data Object.

Type: Association

data_object in Investigation The data_object association is a relationship to Data Object.

Type: Association

data_object in Node The data_object association is a relationship to Data Object.

Type: Association

data_object in Object_Statistics The data_object association is a relationship to Data Object.

Type: Association

data_object in Observing_System The data_object association is a relationship to Data Object.

Type: Association

data_object in PDS_Affiliate The data_object association is a relationship to Data Object.

Type: Association

data_object in PDS_Guest The data_object association is a relationship to Data Object.

Type: Association

data_object in Parsable_Byte_Stream The data_object association is a relationship to Data Object.

Type: Association

data_object in Quaternion The data_object association is a relationship to Data Object.

Type: Association

data_object in Resource The data_object association is a relationship to Data Object.

Type: Association

data_object in Table_Base The data_object association is a relationship to Data Object.

Type: Association

data_object in Target The data_object association is a relationship to Data Object.

Type: Association

data_object in Update The data_object association is a relationship to Data Object.

Type: Association

data_object in Vector The data_object association is a relationship to Data Object.

Type: Association

data_regime in Primary_Result_Description The data_regime attribute provides the wavelength (or an analogous concept for things like particle detectors) of the observations, stated as a category.

Type: ASCII.Short.String.Collapsed

Class Name: Primary.Result.Description

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: Dust, Dust_Particle_Counts, Electric_Field, Electrons,
Far_Infrared, Gamma_Ray, Impacts, Infrared, Ions, Magnetic_Field,
Mass_Spectra, Microwave, Millimeter, Near_Infrared, Optical,
Particles, Radio, Sub-Millimeter, Ultraviolet, Visible, X-Ray

data_set_desc in Data_Set_PDS3 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).

Type: ASCII.Text.Preserved

Class Name: Data_Set_PDS3

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

data_set_id in Data_Set_PDS3 The data set id provides a formal name used to refer to a data set.

Type: ASCII.Short.String.Collapsed

Class Name: Data_Set_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

data_set_name in Data_Set_PDS3 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

Type: ASCII.Short.String.Collapsed

Class Name: Data_Set_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

data_set_release_date in Data_Set_PDS3 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.

Type: ASCII.Short.String.Collapsed

Class Name: Data_Set_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: DATE_TIME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

data_set_terse_desc in Data_Set_PDS3 A one line description of the data set

Type: ASCII.Text.Preserved

Class Name: Data_Set_PDS3

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

data_type in Element_Array The data_type attribute provides the hardware representation used to store a value.

Type: ASCII_Short_String_Collapsed

Class Name: Element_Array

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: IEEE754LSBDouble, IEEE754LSBSingle, IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2, SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8, UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8, UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

data_type in Field_Binary The data_type attribute provides the hardware representation used to store a value.

Type: ASCII_Short_String_Collapsed

Class Name: Field_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII_AnyURI, ASCII_Boolean, ASCII_DOI,
ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC,
ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name,
ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID,
ASCII_LIDVID, ASCII_MD5_Checksum,
ASCII_NonNegative_Integer, ASCII_Numeric_Base16,
ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed,
ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time,
ASCII_VID, ComplexLSB16, ComplexLSB8, ComplexMSB16,
ComplexMSB8, IEEE754LSBDouble, IEEE754LSBSingle,
IEEE754MSBDouble, IEEE754MSBSingle, SignedByte, SignedLSB2,
SignedLSB4, SignedLSB8, SignedMSB2, SignedMSB4, SignedMSB8,
UnsignedByte, UnsignedLSB2, UnsignedLSB4, UnsignedLSB8,
UnsignedMSB2, UnsignedMSB4, UnsignedMSB8

data_type in Field_Bit The data_type attribute provides the hardware representation used to store a value.

Type: ASCII_Short_String_Collapsed

Class Name: Field_Bit

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: SignedBitString, UnsignedBitString

data_type in Field_Character The data_type attribute provides the hardware representation used to store a value.

Type: ASCII_Short_String_Collapsed

Class Name: Field_Character

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: ASCII_AnyURI, ASCII_Boolean, ASCII_DOI,
ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC,
ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name,
ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID,
ASCII_LIDVID, ASCII_MD5_Checksum,
ASCII_NonNegative_Integer, ASCII_Numeric_Base16,
ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed,
ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time,
ASCII_VID

data_type in Field_Delimited The data_type attribute provides the hardware representation used to store a value.

Type: ASCII_Short_String_Collapsed

Class Name: Field_Delimited

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: ASCII_AnyURI, ASCII_Boolean, ASCII_DOI,
ASCII_Date_DOY, ASCII_Date_Time_DOY, ASCII_Date_Time_UTC,
ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Name,
ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID,
ASCII_LIDVID, ASCII_MD5_Checksum,
ASCII_NonNegative_Integer, ASCII_Numeric_Base16,
ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed,
ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time,
ASCII_VID

date_time in Update_Entry The date_time attribute provides the date and time of an event.

Type: ASCII_Date_Time

Class Name: Update_Entry

Format:

YYYY-MM-DDTHH:MM:SS.SSS/YYYY-DOYTHH:MM:SS.SSS

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: pds

Name Space Id: pds

dd_association in DD_Class The local_association_attribute association provides a relationship to an attribute.

Type: Association

definition in DD_Attribute_Full The definition attribute provides a statement, picture in words, or account that defines the term.

Type: ASCII_Text_Preserved

Class Name: DD_Attribute_Full

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

definition in DD_Attribute The definition attribute provides a statement, picture in words, or account that defines the term.

Type: ASCII_Text_Preserved

Class Name: DD_Attribute

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

definition in DD_Class The definition attribute provides a statement, picture in words, or account that defines the term.

Type: ASCII_Text_Preserved

Class Name: DD_Class

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

definition in Terminological_Entry The definition attribute provides a statement, picture in words, or account that defines the term.

Type: ASCII_Text_Preserved

Class Name: Terminological_Entry

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Node The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Node

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

description in PDS_Affiliate The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: PDS_Affiliate

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

description in PDS_Guest The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: PDS_Guest

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

description in Software_Desc The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Software_Desc

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

description in Volume_PDS3 The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Volume_PDS3

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

description in Volume_Set_PDS3 The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Volume_Set_PDS3

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

description in Archive_Bundle The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Archive_Bundle

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Array The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Array

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Bundle The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Bundle

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Citation Information The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Citation_Information

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Detector The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Detector

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Document_Description The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Document_Description

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Document_Format The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Document_Format

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Encoded_Byte_Stream The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Encoded_Byte_Stream

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in External_Reference The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: External_Reference

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Field_Binary The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Field_Binary

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Field_Bit The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Field_Bit

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Field_Character The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Field_Character

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Field_Delimited The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Field_Delimited

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Field_Statistics The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Field_Statistics

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Instrument_Host The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Instrument_Host

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Instrument The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Instrument

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Investigation The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Investigation

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Modification_Detail The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Modification_Detail

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Object_Statistics The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Object_Statistics

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Observing_System_Component The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Observing_System_Component

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Observing_System The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Observing_System

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Packed_Data_Fields The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Packed_Data_Fields

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Parsable_Byte_Stream The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Parsable_Byte_Stream

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Primary_Result_Description The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Primary_Result_Description

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Quaternion_Component The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Quaternion_Component

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Quaternion The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Quaternion

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Resource The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Resource

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Table_Base The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Table_Base

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Target_Identification The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Target_Identification

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Target The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Target

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Update_Entry The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Update_Entry

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Update The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Update

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Vector_Component The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Vector_Component

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

description in Vector The description attribute provides a statement, picture in words, or account that describes or is otherwise relevant to the object.

Type: ASCII_Text_Preserved

Class Name: Vector

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: pds

Name Space Id: pds

directory_path_name in Document_File The directory_path_name attribute provides a sequence of names that locates a directory in a hierarchy of directories.

Type: ASCII_Short_String_Collapsed

Class Name: Document_File

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

document_file in Document_Format_Set The document_file association is a relationship to a document file.

Type: Association

document_format in Document_Format_Set The document_format attribute associates a Document_Format with the Document_Format_Set.

Type: Association

document_format_set in Product_Document The document_format_set association is a relationship to a set of one or more document formats.

Type: Association

document_name in Document_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.

Type: ASCII_Short_String_Collapsed

Class Name: Document_Description

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

doi in Document_Description The doi attribute provides the Digital Object Identifier for an object, assigned by the appropriate DOI System Registration Agency.

Type: ASCII_Short_String_Collapsed

Class Name: Document_Description

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: DOI

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

earth_received_start_date_time in Telemetry_Parameters The earth_received_start_date_time attribute provides the earliest time at which any component telemetry data for a particular product was received.

Type: ASCII_Date_Time_UTC

Class Name: Telemetry_Parameters

Format: YYYY-MM-DDTHH:MM:SS.SSSZ

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: img

Name Space Id: img

earth_received_stop_date_time in Telemetry_Parameters The earth_received_stop_date_time attribute provides the latest time at which any component telemetry data for a particular product was received.

Type: ASCII_Date_Time_UTC

Class Name: Telemetry_Parameters

Format: YYYY-MM-DDTHH:MM:SS.SSSZ

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: img

Name Space Id: img

editor_list in Citation_Information The editor_list attribute lists the editors of a work.

Type: ASCII.Text.Preserved

Class Name: Citation_Information

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: LIST

Value Concept: TEXT

Steward: pds

Name Space Id: pds

editor_list in Document_Description The editor_list attribute lists the editors of a work.

Type: ASCII.Text.Preserved

Class Name: Document_Description

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: LIST

Value Concept: TEXT

Steward: pds

Name Space Id: pds

electronic_mail_address in PDS_Affiliate 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.

Type: ASCII.Short.String.Collapsed

Class Name: PDS_Affiliate

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ADDRESS

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

electronic_mail_address in PDS_Guest 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.

Type: ASCII.Short.String.Collapsed

Class Name: PDS_Guest

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ADDRESS

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

elements in Axis_Array The elements attribute provides the count of the number of elements along an array axis.

Type: ASCII_Integer

Class Name: Axis_Array

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

encoding_type in Delivery_Manifest The encoding_type attribute provides the storage format (binary or character).

Type: ASCII_Short_String_Collapsed

Class Name: Delivery_Manifest

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: CHARACTER

encoding_type in Service_Description The `encoding_type` attribute provides the storage format (binary or character).

Type: ASCII_Short_String_Collapsed

Class Name: Service_Description

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: CHARACTER

encoding_type in Array The `encoding_type` attribute provides the storage format (binary or character).

Type: ASCII_Short_String_Collapsed

Class Name: Array

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: BINARY

encoding_type in Document_File The encoding_type attribute provides the storage format (binary or character).

Type: ASCII_Short_String_Collapsed

Class Name: Document_File

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: BINARY, CHARACTER

encoding_type in Encoded_Byte_Stream The encoding_type attribute provides the storage format (binary or character).

Type: ASCII_Short_String_Collapsed

Class Name: Encoded_Byte_Stream

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: BINARY

encoding_type in Inventory The encoding_type attribute provides the storage format (binary or character).

Type: ASCII_Short_String_Collapsed

Class Name: Inventory

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: CHARACTER

encoding_type in Parsable_Byte_Stream The encoding_type attribute provides the storage format (binary or character).

Type: ASCII_Short_String_Collapsed

Class Name: Parsable_Byte_Stream

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

encoding_type in SPICE_Kernel The `encoding_type` attribute provides the storage format (binary or character).

Type: ASCII.Short.String.Collapsed

Class Name: SPICE_Kernel

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: BINARY, CHARACTER

encoding_type in Stream_Text The `encoding_type` attribute provides the storage format (binary or character).

Type: ASCII.Short.String.Collapsed

Class Name: Stream_Text

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: CHARACTER

encoding_type in Table_Base The encoding_type attribute provides the storage format (binary or character).

Type: ASCII_Short_String_Collapsed

Class Name: Table_Base

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

encoding_type in Table_Binary The encoding_type attribute provides the storage format (binary or character).

Type: ASCII_Short_String_Collapsed

Class Name: Table_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: BINARY

encoding_type in Table_Character The encoding_type attribute provides the storage format (binary or character).

Type: ASCII.Short.String.Collapsed

Class Name: Table.Character

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: CHARACTER

encoding_type in Table_Delimited The `encoding_type` attribute provides the storage format (binary or character).

Type: ASCII.Short.String.Collapsed

Class Name: Table.Delimited

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: CHARACTER

encoding_type in XML_Schema The `encoding_type` attribute provides the storage format (binary or character).

Type: ASCII.Short.String.Collapsed

Class Name: XML.Schema

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: CHARACTER

enumeration_flag in DD_Value_Domain The `enumeration_flag` attribute indicates whether there is an enumerated set of permissible values.

Type: ASCII.Boolean

Class Name: DD_Value_Domain

Data Element Concept: FLAG

Value Concept: BOOLEAN

Steward: ops

Name Space Id: pds

error_constant in Special_Constants The `error_constant` attribute provides a value that indicates the original value was in error.

Type: ASCII.Short.String.Collapsed

Class Name: Special_Constants

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: CONSTANT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

expected_packets in Telemetry_Parameters The expected_packets attribute provides the total number of telemetry packets which constitute a complete data product, i.e., a data product without missing data.

Type: ASCII_Integer

Class Name: Telemetry_Parameters

Minimum Value: 0

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: img

Name Space Id: img

external_reference in Observing_System_Component The external_reference association is a relationship to External_Reference.

Type: Association

external_reference in Reference_List The external_reference association is a relationship to External_Reference.

Type: Association

external_standard_id in Document_File The external_standard_id attribute provides the formal name of a standard not under PDS governance.

Type: ASCII.Short.String.Collapsed

Class Name: Document_File

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ENCAPSULATED_POSTSCRIPT, GIF, HTML, JPG, LaTeX, MICROSOFT_WORD, PDF, PDF-A, PNG, POSTSCRIPT, RICH_TEXT, TEXT, TIFF

external_standard_id in Encoded_Binary The external_standard_id attribute provides the formal name of a standard not under PDS governance.

Type: ASCII.Short.String.Collapsed

Class Name: Encoded_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: System

external_standard_id in Encoded_Byte_Stream The external_standard_id attribute provides the formal name of a standard not under PDS governance.

Type: ASCII.Short.String.Collapsed

Class Name: Encoded_Byte_Stream

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

external_standard_id in Encoded_Image The external_standard_id attribute provides the formal name of a standard not under PDS governance.

Type: ASCII.Short.String.Collapsed

Class Name: Encoded_Image

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: GIF, JPEG, PDF, PNG, TIFF

external_standard_id in File_PDF The external_standard_id attribute provides the formal name of a standard not under PDS governance.

Type: ASCII_Short_String_Collapsed

Class Name: File_PDF

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: PDF, PDF-A

external_standard_id in Header_Binary The external_standard_id attribute provides the formal name of a standard not under PDS governance.

Type: ASCII_Short_String_Collapsed

Class Name: Header_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: TIFF

external_standard_id in Header The `external_standard_id` attribute provides the formal name of a standard not under PDS governance.

Type: ASCII.Short.String.Collapsed

Class Name: Header

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: ASCII, FITS, ISIS2, ISIS3, ISIS_HISTORY, ODL, PDS1, PDS2, PDS3, TIFF, VICAR

external_standard_id in Parsable_Byte_Stream The `external_standard_id` attribute provides the formal name of a standard not under PDS governance.

Type: ASCII.Short.String.Collapsed

Class Name: Parsable_Byte_Stream

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

external_standard_id in SPICE_Kernel The `external_standard_id` attribute provides the formal name of a standard not under PDS governance.

Type: ASCII.Short.String.Collapsed

Class Name: SPICE_Kernel

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: SPICE

external_standard_id in Service_Description The `external_standard_id` attribute provides the formal name of a standard not under PDS governance.

Type: ASCII.Short.String.Collapsed

Class Name: Service_Description

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: WADL, WSDL

external_standard_id in Table_Delimited The external_standard_id attribute provides the formal name of a standard not under PDS governance.

Type: ASCII_Short_String_Collapsed

Class Name: Table_Delimited

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: PDS_CSV

external_standard_id in XML_Schema The external_standard_id attribute provides the formal name of a standard not under PDS governance.

Type: ASCII_Short_String_Collapsed

Class Name: XML_Schema

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Schematron, XML_Catalog, XML_Schema

field_delimiter in Table_Delimited The field_delimiter attribute provides the character or characters that indicate the end of a character string.

Type: ASCII_Short_String_Collapsed

Class Name: Table_Delimited

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: DELIMITER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 0x09, 0x2C, 0x3B, 0x7C

field_format in Field_Binary The field_format attribute gives the magnitude and precision of the data value, providing a display format.

Type: ASCII_Short_String_Collapsed

Class Name: Field_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: FORMAT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

field_format in Field_Bit The field_format attribute gives the magnitude and precision of the data value, providing a display format.

Type: ASCII.Short.String.Collapsed

Class Name: Field_Bit

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: FORMAT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

field_format in Field_Character The field_format attribute gives the magnitude and precision of the data value, providing a display format.

Type: ASCII.Short.String.Collapsed

Class Name: Field_Character

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: FORMAT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

field_format in Field_Delimited The field_format attribute gives the magnitude and precision of the data value, providing a display format.

Type: ASCII_Short_String_Collapsed

Class Name: Field_Delimited

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: FORMAT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

field_length in Field_Binary The field_length attribute sets an upper, inclusive bound on the number of bytes in the field

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Field_Binary

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: LENGTH

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

field_length in Field_Character The field_length attribute sets an upper, inclusive bound on the number of bytes in the field

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Field_Character

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: LENGTH

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

field_length in Field_Delimited The field_length attribute sets an upper, inclusive bound on the number of bytes in the field

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Field_Delimited

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: LENGTH

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

field_location in Field_Binary The field_location attribute provides the starting byte for a field within a record, counting from 1.

Type: ASCII.Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Field_Binary

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: LOCATION

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

field_location in Field_Character The field_location attribute provides the starting byte for a field within a record, counting from 1.

Type: ASCII.Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Field_Character

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: LOCATION

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

field_number in Field_Binary The field_number attribute provides the position of a field, within a series of fields, counting from 1.

Type: ASCII_Integer

Class Name: Field_Binary

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: NUMBER

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

field_number in Field_Character The field_number attribute provides the position of a field, within a series of fields, counting from 1.

Type: ASCII_Integer

Class Name: Field_Character

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: NUMBER

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

field_number in Field_Delimited The field_number attribute provides the position of a field, within a series of fields, counting from 1.

Type: ASCII_Integer

Class Name: Field_Delimited

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: NUMBER

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

fields in Group_Field_Binary The fields attribute provides a count of the fields

Type: ASCII_Integer

Class Name: Group_Field_Binary

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

fields in Group_Field_Character The fields attribute provides a count of the fields

Type: ASCII_Integer

Class Name: Group_Field_Character

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

fields in Group_Field_Delimited The fields attribute provides a count of the fields

Type: ASCII_Integer

Class Name: Group_Field_Delimited

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

fields in Record_Binary The fields attribute provides a count of the fields

Type: ASCII_Integer

Class Name: Record_Binary

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

fields in Record_Character The fields attribute provides a count of the fields

Type: ASCII_Integer

Class Name: Record_Character

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

fields in Record_Delimited The fields attribute provides a count of the fields

Type: ASCII_Integer

Class Name: Record_Delimited

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

file_area_inventory in Product_Collection The file_area association is a relationship to File Area

Type: Association

file_area in Product_Delivery_Manifest The file_area association is a relationship to File Area

Type: Association

file_area in Product_File_Repository The file_area association is a relationship to File Area

Type: Association

file_area in Product_Proxy_PDS3 The file_area association is a relationship to File Area

Type: Association

file_area in Product_Service The file_area association is a relationship to File Area

Type: Association

file_area in Product_Browse The file_area association is a relationship to File Area

Type: Association

file_area in Product_Bundle The file_area association is a relationship to File Area

Type: Association

file_area in Product_File_Text The file_area association is a relationship to File Area

Type: Association

file_area in Product_Observational The file_area association is a relationship to File Area

Type: Association

file_area in Product_SPICE_Kernel The file_area association is a relationship to File Area

Type: Association

file_area in Product_Thumbnail The file_area association is a relationship to File Area

Type: Association

file_area in Product_XML_Schema The file_area association is a relationship to File Area

Type: Association

file_name in File The file_name attribute provides the name of a file.

Type: ASCII.Short.String.Collapsed

Class Name: File

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

file in Product_Zipped The file association is a relationship to File.

Type: Association

file_size in File The file_size attribute provides the size of the file.

Type: ASCII_Integer

Class Name: File

Minimum Value: Unbounded

Maximum Value: Unbounded

Data Element Concept: SIZE

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

file_specification_name in Bundle_Member_Entry The file_specification_name attribute provides the file_name prepended by the directory_path to the file.

Type: ASCII_File_Specification_Name

Class Name: Bundle_Member_Entry

Minimum Characters: 1

Maximum Characters: 255

Format: dir1/dir2/file_name.file_extension

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

file_specification_name in Zipped_Member_Entry The file_specification_name attribute provides the file_name prepended by the directory_path to the file.

Type: ASCII_File_Specification_Name

Class Name: Zipped_Member_Entry

Minimum Characters: 1

Maximum Characters: 255

Format: dir1/dir2/file_name.file_extension

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

files in Software_Binary The files attribute provides the number of files.

Type: ASCII_Integer

Class Name: Software_Binary

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: ops

Name Space Id: pds

files in Software_Script The files attribute provides the number of files.

Type: ASCII_Integer

Class Name: Software_Script

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: ops

Name Space Id: pds

files in Software_Source The files attribute provides the number of files.

Type: ASCII_Integer

Class Name: Software_Source

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: ops

Name Space Id: pds

first_sampling_parameter_value in Uniformly_Sampled 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.

Type: ASCII_Real

Class Name: Uniformly_Sampled

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: VALUE

Value Concept: REAL

Steward: pds

Name Space Id: pds

format_type in Document_Format The format type attribute indicates the digital format used.

Type: ASCII.Short.String.Collapsed

Class Name: Document_Format

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: HTML, PDF, PDF-A, TEXT

formation_rule in DD_Value_Domain The formation_rule attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Value_Domain

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

formation_rule in ASCII_DOI The formation_rule attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.DOI

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: nn.nnnn/nnn

formation_rule in ASCII_Date_DOY The formation_rule attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Date.DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: YYYY-DOY

formation_rule in ASCII_Date_Time_DOY The `formation_rule` attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: YYYY-DOYTHH:MM:SS.SSS

formation_rule in ASCII_Date_Time_UTC The `formation_rule` attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_UTC

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: YYYY-MM-DDTHH:MM:SS.SSSZ

formation_rule in ASCII_Date_Time_YMD The `formation_rule` attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: YYYY-MM-DDTHH:MM:SS.SSS

formation_rule in ASCII_Date_Time The `formation_rule` attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value:

YYYY-MM-DDTHH:MM:SS.SSS/YYYY-DOYTHH:MM:SS.SSS

formation_rule in ASCII_Date_YMD The `formation_rule` attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCIIDate_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: YYYY-MM-DD

formation_rule in ASCII_Date The `formation_rule` attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCIIDate

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: YYYY-MM-DD/YYYY-DOY

formation_rule in ASCII_Directory_Path_Name The `formation_rule` attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Directory_Path_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: dir1/dir2/

formation_rule in ASCII_File_Name The `formation_rule` attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_File_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: file_name.file_extension

formation_rule in ASCII_File_Specification_Name The formation_rule attribute provides a 'user friendly' instruction for forming values.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_File_Specification_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: dir1/dir2/file_name.file_extension

formation_rule in ASCII_LIDVID The formation_rule attribute provides a 'user friendly' instruction for forming values.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_LIDVID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: urn:nasa:pds:xxxx::M.n

formation_rule in ASCII_LID The `formation_rule` attribute provides a 'user friendly' instruction for forming values.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_LID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: urn:nasa:pds:xxxx

formation_rule in ASCII_MD5_Checksum The `formation_rule` attribute provides a 'user friendly' instruction for forming values.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_MD5_Checksum

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 0123456789abcdef

formation_rule in ASCII_Time The formation_rule attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: HH:MM:SS.SSS

formation_rule in ASCII_VID The formation_rule attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_VID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: M.m

formation_rule in Character_Data_Type The formation_rule attribute provides a 'user friendly' instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: Character_Data_Type

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

full_name in Ingest_DD The full_name attribute provides the complete name for a person performing the role of lexicographer.

Type: ASCII.Short.String.Collapsed

Class Name: Ingest_DD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

full_name in Subscriber_PDS3 The full_name attribute provides the complete name for a person and includes titles and suffixes.

Type: ASCII.Short.String.Collapsed

Class Name: Subscriber_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

full_name in Update_Entry The full_name attribute provides the complete name for a person and includes titles and suffixes.

Type: ASCII.Short.String.Collapsed

Class Name: Update_Entry

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

group_length in Group_Field_Binary The group_length attribute provides the length, in bytes, of a single repetition of a set of fields constituting one instance of the Group_Field_Field class. It should include any unused bytes occurring before or after individual fields. The total length of bytes occupied by the group within a single record must be repetitions * group_length.

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Group_Field_Binary

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: LENGTH

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

group_length in Group_Field_Character The group_length attribute provides the length, in bytes, of a single repetition of a set of fields constituting one instance of the Group_Field_Field class. It should include any unused bytes occurring before or after individual fields. The total length of bytes occupied by the group within a single record must be repetitions * group_length.

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Group_Field_Character

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: LENGTH

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

group_location in Group_Field_Binary The group_location attribute provides the starting position for a Group_Field_Binary within the containing Record_Binary or Group_Field_Binary class, in bytes. Location 1 indicates the first byte of the containing class.

Type: ASCIIInteger

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Group_Field_Binary

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: LOCATION

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

group_location in Group_Field_Character The group_location attribute provides the starting position for a Group_Field_Binary within the containing Record_Binary or Group_Field_Binary class, in bytes. Location 1 indicates the first byte of the containing class.

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Group_Field_Character

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: LOCATION

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

has_Axis_Array in Array_2D The has_Axis_Array association is a relationship to Axis_Array.

Type: Association

has_Axis_Array in Array_3D The has_Axis_Array association is a relationship to Axis_Array.

Type: Association

has_Axis_Array in Array The has_Axis_Array association is a relationship to Axis_Array.

Type: Association

has_Band_Bin_Set in Axis_Array The has_Band_Bin_Set association is a relationship to Band_Bin_Set.

Type: Association

has_Character_Field_Grouped in Group_Field_Character The has_Table_Field_Grouped association is a relationship to the field types for a group.

Type: Association

has_Character_Field in Record_Character The has_Character_Field association is a relationship to the field types.

Type: Association

has_Delimited_Field_Grouped in Group_Field_Delimited The has_Delimited_Field_Grouped association is a relationship to the field types for a group.

Type: Association

has_Delimited_Field in Record_Delimited The has_Delimited_Field association is a relationship to field.

Type: Association

has_Display_2d_Image in Array_2D_Image The display_2d_image association is a relationship to display_2d_image.

Type: Association

has_Element_Array in Array The has_Element_Array association is a relationship to Element_Array

Type: Association

has_Field_Bit in Packed_Data_Fields The has_Field_Bit association is a relationship to Field_Bits.

Type: Association

has_File in File_Area_Binary The has_File association is a relationship to File.

Type: Association

has_File in File_Area_Delivery_Manifest The has_File association is a relationship to File.

Type: Association

has_File in File_Area_Service_Description The has_File association is a relationship to File.

Type: Association

has_File in File_Area_Browse The has_File association is a relationship to File.

Type: Association

has_File in File_Area_Encoded_Image The has_File association is a relationship to File.

Type: Association

has_File in File_Area_Inventory The has_File association is a relationship to File.

Type: Association

has_File in File_Area_Observational The has_File association is a relationship to File.

Type: Association

has_File in File_Area_SPICE_Kernel The has_File association is a relationship to File.

Type: Association

has_File in File_Area_Text The has_File association is a relationship to File.

Type: Association

has_File in File_Area_XML_Schema The has_File association is a relationship to File.

Type: Association

has_Group_Field_Binary in Group_Field_Binary The has_Group_Field_Binary association is a relationship to the Group_Field_Binary.

Type: Association

has_Group_Field_Character in Group_Field_Character The has_Group_Field_Character association is a relationship to the Group_Field_Character.

Type: Association

has_Packed_Data_Fields in Field_Binary The has_Packed_Data_Fields association is a relationship to Packed_Data_Fields.

Type: Association

has_Record in Delivery_Manifest The has_Record association is a relationship to record.

Type: Association

has_Record in Inventory The has_Record association is a relationship to record.

Type: Association

has_Record in Table_Binary The has_Record association is a relationship to record.

Type: Association

has_Record in Table_Character The has_Record association is a relationship to record.

Type: Association

has_Table_Field_Grouped in Group_Field_Binary The has_Table_Field_Grouped association is a relationship to the field types for a group.

Type: Association

has_Table_Field in Record_Binary The has_Table_Field association is a relationship to the field types.

Type: Association

has_delimited_record in Table_Delimited The has_delimited_record association is a relationship to record.

Type: Association

has_geometry in Observation_Area The has_geometry association is a relationship to Geometry objects.

Type: Association

has_mission_area in Observation_Area The has_mission_area association is a relationship to Mission Area.

Type: Association

has_node_area in Observation_Area The has_node_area association is a relationship to Node Area.

Type: Association

has_tagged_data_object in File_Area_Binary The has_tagged_data_object association is a relationship to any tagged_digital_object or tagged_nondigital_object.

Type: Association

has_tagged_data_object in File_Area_Delivery_Manifest The has_tagged_data_object association is a relationship to any tagged_digital_object or tagged_nondigital_object.

Type: Association

has_tagged_data_object in File_Area_Service_Description The has_tagged_data_object association is a relationship to any tagged_digital_object or tagged_nondigital_object.

Type: Association

has_tagged_data_object in File_Area_Browse The has_tagged_data_object association is a relationship to any tagged_digital_object or tagged_nondigital_object.

Type: Association

has_tagged_data_object in File_Area_Encoded_Image The `has_tagged_data_object` association is a relationship to any `tagged_digital_object` or `tagged_nondigital_object`.

Type: Association

has_tagged_data_object in File_Area_Inventory The `has_tagged_data_object` association is a relationship to any `tagged_digital_object` or `tagged_nondigital_object`.

Type: Association

has_tagged_data_object in File_Area_Observational The `has_tagged_data_object` association is a relationship to any `tagged_digital_object` or `tagged_nondigital_object`.

Type: Association

has_tagged_data_object in File_Area_SPICE_Kernel The `has_tagged_data_object` association is a relationship to any `tagged_digital_object` or `tagged_nondigital_object`.

Type: Association

has_tagged_data_object in File_Area_Text The `has_tagged_data_object` association is a relationship to any `tagged_digital_object` or `tagged_nondigital_object`.

Type: Association

has_tagged_data_object in File_Area_XML_Schema The `has_tagged_data_object` association is a relationship to any `tagged_digital_object` or `tagged_nondigital_object`.

Type: Association

identification_area in Collection_Volume_PDS3 The `identification_area` association is a relationship to Identification Area.

Type: Association

identification_area in Collection_Volume_Set_PDS3 The `identification_area` association is a relationship to Identification Area.

Type: Association

identification_area in Product_Attribute_Definition The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Data_Set_PDS3 The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Delivery_Manifest The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_File_Repository The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Instrument_Host_PDS3 The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Instrument_PDS3 The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Mission_PDS3 The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Proxy_PDS3 The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Service The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Software The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Subscription_PDS3 The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Target_PDS3 The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Zipped The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Browse The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Bundle The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Collection The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Context The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Document The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_File_Text The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Observational The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_SPICE_Kernel The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Thumbnail The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_Update The identification_area association is a relationship to Identification Area.

Type: Association

identification_area in Product_XML_Schema The identification_area association is a relationship to Identification Area.

Type: Association

information_model_version in Identification_Area The information_model_version attribute provides the version identification of the PDS Information Model on which the label and schema are based.

Type: ASCII_Short_String_Collapsed

Class Name: Identification_Area

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 0.7.0.0.j

install_notes in Software_Script The install notes attribute provides a brief statement giving particulars about the installation of the software.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Script

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

institution_name in Node The institution_name attribute provides the name of the associated institution.

Type: ASCII.Short.String.Collapsed

Class Name: Node

Minimum Characters: 1

Maximum Characters: 255

Pattern: [a-zA-Z]{1}([-/, .a-zA-Z0-9]*)

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

institution_name in PDS_Affiliate The institution_name attribute provides the name of the associated institution.

Type: ASCII_Short_String_Collapsed

Class Name: PDS_Affiliate

Minimum Characters: 1

Maximum Characters: 255

Pattern: [a-zA-Z]{1}([-/, ..a-zA-Z0-9]*)

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

instrument_desc in Instrument_PDS3 The instrument_desc attribute describes a given instrument.

Type: ASCII_Text_Preserved

Class Name: Instrument_PDS3

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

instrument_host_desc in Instrument_Host_PDS3 The instrument_host_desc provides a description of an instrument host

Type: ASCII.Text.Preserved

Class Name: Instrument_Host_PDS3

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

instrument_host_id in Instrument_Host_PDS3 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).

Type: ASCII.Short.String.Collapsed

Class Name: Instrument_Host_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

instrument_host_name in Instrument_Host_PDS3 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.

Type: ASCII_Short_String_Collapsed

Class Name: Instrument_Host_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

instrument_host_type in Instrument_Host_PDS3 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.

Type: ASCII_Short_String_Collapsed

Class Name: Instrument_Host_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

instrument_id in Instrument_PDS3 The instrument id provides a formal name used to refer to an instrument.

Type: ASCII.Short.String.Collapsed

Class Name: Instrument_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

instrument_name in Instrument_PDS3 The instrument_name attribute provides a unique name for an instrument.

Type: ASCII.Short.String.Collapsed

Class Name: Instrument_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

instrument_serial_number in Instrument_PDS3 TBD_description

Type: ASCII_Short_String_Collapsed

Class Name: Instrument_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NUMBER

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

instrument_type in Instrument_PDS3 The instrument_type attribute identifies the type of an instrument. Example values: POLARIMETER SPECTROMETER

Type: ASCII_Short_String_Collapsed

Class Name: Instrument_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

instrument_version_id in Instrument_PDS3 TBD_description

Type: ASCII_Short_String_Collapsed

Class Name: Instrument_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

internal_reference in Investigation_Area The internal_reference association is a relationship to Internal_Reference.

Type: Association

internal_reference in Observing_System_Component The internal_reference association is a relationship to Internal_Reference.

Type: Association

internal_reference in Reference_List The internal_reference association is a relationship to Internal_Reference.

Type: Association

internal_reference in Target_Identification The internal_reference association is a relationship to Internal_Reference.

Type: Association

internal_reference in Update_Entry The internal_reference association is a relationship to Internal_Reference.

Type: Association

invalid_constant in Special_Constants The invalid_constant attribute provides a value that indicates the original value was outside the valid range for the parameter.

Type: ASCII_Short_String_Collapsed

Class Name: Special_Constants

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: CONSTANT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

investigation_area in Observation_Area The investigation_area association is a relationship to Investigation_Area.

Type: Association

kernel_type in SPICE_Kernel The kernel_type attribute identifies the type of SPICE kernel.

Type: ASCII_Short_String_Collapsed

Class Name: SPICE_Kernel

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: CK, DBK, DSK, EK, FK, IK, LSK, MK, PCK, SCLK, SPK

keywords in Citation_Information The keywords attribute provides one or more words to be used for keyword search.

Type: ASCII_Text_Collapsed

Class Name: Citation_Information

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: COUNT

Value Concept: TEXT

Steward: pds

Name Space Id: pds

language in Terminological_Entry The language attribute provides the language used for definition and designation of the term.

Type: ASCII_Short_String_Collapsed

Class Name: Terminological_Entry

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: English

last_modification_date_time in Ingest_DD The last_modification_date_time attribute gives the most recent date and time that a change was made.

Type: ASCII_Date_Time_YMD

Class Name: Ingest_DD

Format: YYYY-MM-DDTHH:MM:SS.SSS

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: ops

Name Space Id: pds

last_sampling_parameter_value in Uniformly_Sampled 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.

Type: ASCII_Real

Class Name: Uniformly_Sampled

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: VALUE

Value Concept: REAL

Steward: pds

Name Space Id: pds

lid_reference in Bundle_Member_Entry The lid_reference attribute provides the logical_identifier for a product.

Type: ASCII_LID

Class Name: Bundle_Member_Entry

Minimum Characters: 14

Maximum Characters: 255

Format: urn:nasa:pds:xxxx

Data Element Concept: REFERENCE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

lid_reference in Internal_Reference The lid_reference attribute provides the logical_identifier for a product.

Type: ASCII_LID

Class Name: Internal_Reference

Minimum Characters: 14

Maximum Characters: 255

Format: urn:nasa:pds:xxxx

Data Element Concept: REFERENCE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

lidvid_reference in Bundle_Member_Entry The lidvid_reference attribute provides the logical_identifier plus version_id, which uniquely identifies a product.

Type: ASCII_LIDVID

Class Name: Bundle_Member_Entry

Minimum Characters: 19

Maximum Characters: 255

Format: urn:nasa:pds:xxxx::M.n

Data Element Concept: REFERENCE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

lidvid_reference in Internal_Reference The lidvid_reference attribute provides the logical_identifier plus version_id, which uniquely identifies a product.

Type: ASCII_LIDVID

Class Name: Internal_Reference

Minimum Characters: 19

Maximum Characters: 255

Format: urn:nasa:pds:xxxx::M.n

Data Element Concept: REFERENCE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

lidvid_reference in Zipped_Member_Entry The lidvid_reference attribute provides the logical_identifier plus version_id, which uniquely identifies a product.

Type: ASCII_LIDVID

Class Name: Zipped_Member_Entry

Minimum Characters: 19

Maximum Characters: 255

Format: urn:nasa:pds:xxxx::M.n

Data Element Concept: REFERENCE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

line_display_direction in Display_2D_Image The line_display_direction element is the preferred orientation of lines within an image for viewing on a display device. Note that if this keyword is present in a label, the sample_display_direction keyword must also be present and must contain a value orthogonal to the value selected for this keyword.

Type: ASCII.Short.String.Collapsed

Class Name: Display_2D_Image

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: DIRECTION

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: DOWN, UP

local_attribute in Ingest_DD The local_attribute association is a relationship to Local_Attribute.

Type: Association

local_class in Ingest_DD The local_class association is a relationship to Local_Class.

Type: Association

local_identifier in DD_Association The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Association

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

local_identifier in DD_Attribute_Full The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Attribute_Full

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

local_identifier in DD_Attribute The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Attribute

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

local_identifier in DD_Class The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Class

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

local_identifier in Ingest_DD The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII_Short_String_Collapsed

Class Name: Ingest_DD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

local_identifier in Subscriber_PDS3 The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII_Short_String_Collapsed

Class Name: Subscriber_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

local_identifier in Array The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII.Short.String.Collapsed

Class Name: Array

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

local_identifier in Encoded_Byte_Stream The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII.Short.String.Collapsed

Class Name: Encoded_Byte_Stream

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

local_identifier in Field_Statistics The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII_Short_String_Collapsed

Class Name: Field_Statistics

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

local_identifier in File The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII_Short_String_Collapsed

Class Name: File

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

local_identifier in Geometry The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII_Short_String_Collapsed

Class Name: Geometry

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

local_identifier in Object_Statistics The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII_Short_String_Collapsed

Class Name: Object_Statistics

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

local_identifier in Parsable_Byte_Stream The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII_Short_String_Collapsed

Class Name: Parsable_Byte_Stream

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

local_identifier in Quaternion The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII_Short_String_Collapsed

Class Name: Quaternion

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

local_identifier in Table_Base The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII_Short_String_Collapsed

Class Name: Table_Base

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

local_identifier in Update The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII.Short.String.Collapsed

Class Name: Update

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

local_identifier in Vector The local_identifier attribute provides a character string which uniquely identifies the containing object within the label.

Type: ASCII.Short.String.Collapsed

Class Name: Vector

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOCAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

local_mean_solar_time in Time_Coordinates 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.

Type: ASCII.Short.String.Collapsed

Class Name: Time_Coordinates

Minimum Characters: 8

Maximum Characters: 255

Data Element Concept: DATE_TIME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

local_true_solar_time in Time_Coordinates 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.

Type: ASCII.Short.String.Collapsed

Class Name: Time_Coordinates

Minimum Characters: 8

Maximum Characters: 255

Data Element Concept: DATE_TIME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

logical_identifier in Identification_Area A logical identifier identifies the set of all versions of an object. It is an object identifier without a version.

Type: ASCII_Short_String_Collapsed

Class Name: Identification_Area

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: LOGICAL_IDENTIFIER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_characters in DD_Value_Domain The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Value_Domain

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: ops

Name Space Id: pds

maximum_characters in ASCII_AnyURI The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_AnyURI

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

maximum_characters in ASCII_DOI The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_DOI

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

maximum_characters in ASCII_Date_DOY The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Date.DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

maximum_characters in ASCII_Date_Time_DOY The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Date.Time.DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

maximum_characters in ASCII_Date_Time_UTC The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_UTC

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_characters in ASCII_Date_Time_YMD The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_characters in ASCII_Date_Time The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Date_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_characters in ASCII_Date_YMD The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Date_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_characters in ASCII_Date The `maximum_characters` attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Date

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_characters in ASCII_Directory_Path_Name The `maximum_characters` attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Directory.Path.Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 255

maximum_characters in ASCII_File_Name The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_File_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 255

maximum_characters in ASCII_File_Specification_Name The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_File_Specification_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 255

maximum_characters in ASCII_Identifier The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Identifier

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 100

maximum_characters in ASCII_Integer The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Integer

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_characters in ASCII_LIDVID The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_LIDVID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 255

maximum_characters in ASCII_LID The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_LID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 255

maximum_characters in ASCII_MD5_Checksum The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_MD5_Checksum

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 32

maximum_characters in ASCII_NonNegative_Integer The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_NonNegative_Integer

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_characters in ASCII_Numeric_Base16 The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Numeric_Base16

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 255

maximum_characters in ASCII_Numeric_Base2 The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Numeric_Base2

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 255

maximum_characters in ASCII_Numeric_Base8 The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Numeric_Base8

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 255

maximum_characters in ASCII_Real The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Real

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

maximum_characters in ASCII_Short_String_Collapsed The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Short_String_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 255

maximum_characters in ASCII_Short_String_Preserved The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Short_String_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 255

maximum_characters in ASCII_Text_Collapsed The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Text_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 2147483647

maximum_characters in ASCII_Text_Preserved The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Text_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 2147483647

maximum_characters in ASCII_Time The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 20

maximum_characters in ASCII_VID The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_VID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 100

maximum_characters in Character_Data_Type The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: Character_Data_Type

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

maximum_characters in UTF8.Short.String.Collapsed The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: UTF8.Short.String.Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 255

maximum_characters in UTF8_Short_String_Preserved The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: UTF8_Short_String_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 255

maximum_characters in UTF8_Text_Preserved The maximum_characters attribute provides the upper, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: UTF8_Text_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 2147483647

maximum_occurrences in DD_Association The maximum occurrences attribute indicates the number of times something may occur and is also called the maximum cardinality.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Association

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

maximum in Field_Statistics The maximum attribute provides the largest stored value which actually appears in the (repeating) field; empty and Special_Constant field values are excluded.

Type: ASCII_Real

Class Name: Field_Statistics

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: MAXIMUM

Value Concept: REAL

Steward: pds

Name Space Id: pds

maximum in Object_Statistics The maximum attribute provides the largest stored value which actually appears in the (repeating) field; empty and Special_Constant field values are excluded.

Type: ASCII_Real

Class Name: Object_Statistics

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: MAXIMUM

Value Concept: REAL

Steward: pds

Name Space Id: pds

maximum_record_bytes in File The maximum_record_bytes attribute provides the maximum number of bytes that may be contained in a record.

Type: ASCII_Integer

Class Name: File

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

maximum_record_length in Record_Delimited The maximum_record_length attribute provides the upper, inclusive bound on the length of a record, including any record delimiter.

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Record_Delimited

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: LENGTH

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

maximum_scaled_value in Object_Statistics The maximum_scaled_value attribute provides the maximum value after application of scaling_value and value_offset (see their definitions; maximum_scaled_value is the maximum of Ov).

Type: ASCII_Real

Class Name: Object_Statistics

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: VALUE

Value Concept: REAL

Steward: pds

Name Space Id: pds

maximum_value in DD_Value_Domain The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Value_Domain

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

maximum_value in ASCII_Date_Time_DOY The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in ASCII_Date_Time_UTC The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_UTC

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in ASCII_Date_Time_YMD The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in ASCII_Date_Time The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Date_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in ASCII_Identifier The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Identifier

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in ASCII_Integer The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Integer

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 2147483647

maximum_value in ASCII_LID The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_LID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in ASCII_NonNegative_Integer The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_NonNegative_Integer

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 4294967295

maximum_value in ASCII_Numeric_Base16 The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Numeric_Base16

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in ASCII_Numeric_Base2 The `maximum_value` attribute provides the upper, inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Numeric_Base2

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in ASCII_Real The `maximum_value` attribute provides the upper, inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Real

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: INF

maximum_value in ASCII_Short_String_Collapsed The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Short_String_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in ASCII_Short_String_Preserved The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Short_String_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in ASCII_Text_Preserved The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Text.Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in ASCII_Time The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in ASCII_VID The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.VID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in Character_Data_Type The `maximum_value` attribute provides the upper, inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: Character_Data_Type

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in UTF8_Short_String_Collapsed The `maximum_value` attribute provides the upper, inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Short_String_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in UTF8_Short_String_Preserved The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Short_String_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

maximum_value in UTF8_Text_Preserved The maximum_value attribute provides the upper, inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Text_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

md5_checksum in File The md5_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.

Type: ASCII_MD5_Checksum

Class Name: File

Minimum Characters: 32

Maximum Characters: 32

Format: 0123456789abcdef

Pattern: ([a-f0-9]{32})

Data Element Concept: CHECKSUM

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

md5_checksum in Object_Statistics The md5_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.

Type: ASCII_MD5_Checksum

Class Name: Object_Statistics

Minimum Characters: 32

Maximum Characters: 32

Format: 0123456789abcdef

Pattern: ([a-f0-9]{32})

Data Element Concept: CHECKSUM

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

md5_checksum in Zipped_Member_Entry The md5_checksum attribute is the 32-character hexadecimal number computed for a file using the MD5 algorithm.

Type: ASCII_MD5_Checksum

Class Name: Zipped_Member_Entry

Minimum Characters: 32

Maximum Characters: 32

Format: 0123456789abcdef

Pattern: ([a-f0-9]{32})

Data Element Concept: CHECKSUM

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

mean in Field_Statistics 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).

Type: ASCII_Real

Class Name: Field_Statistics

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: MEAN

Value Concept: REAL

Steward: pds

Name Space Id: pds

mean in Object_Statistics 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).

Type: ASCII_Real

Class Name: Object_Statistics

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: MEAN

Value Concept: REAL

Steward: pds

Name Space Id: pds

median in Field_Statistics 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.

Type: ASCII_Real

Class Name: Field_Statistics

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: MEDIAN

Value Concept: REAL

Steward: pds

Name Space Id: pds

median in Object_Statistics 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.

Type: ASCII.Real

Class Name: Object_Statistics

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: MEDIAN

Value Concept: REAL

Steward: pds

Name Space Id: pds

medium_type in NSSDC The medium_type attribute identifies the physical storage medium for a data volume. Examples: CD-ROM, CARTRIDGE TAPE.

Type: ASCII.Short.String.Collapsed

Class Name: NSSDC

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

medium_type in Volume_PDS3 The medium_type attribute identifies the physical storage medium for a data volume. Examples: CD-ROM, CARTRIDGE TAPE.

Type: ASCII_Short_String_Collapsed

Class Name: Volume_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

member_entry in Product_Zipped The member_entry association is a relationship to Member_Entry.

Type: Association

member_entry in Product_Bundle The member_entry association is a relationship to Member_Entry.

Type: Association

member_status in Bundle_Member_Entry The member_status attribute indicates whether the collection is primary and whether the file_specification_name has been provided for the product_collection label.

Type: ASCII_Short_String_Collapsed

Class Name: Bundle_Member_Entry

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: STATUS

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Primary, Secondary_No_File, Secondary_With_File

minimum_characters in DD_Value_Domain The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Value_Domain

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

minimum_characters in ASCII_AnyURI The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCIIAnyURI

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

minimum_characters in ASCII.DOI The `minimum_characters` attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.DOI

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

minimum_characters in ASCII.Date.DOY The `minimum_characters` attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Date.DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_characters in ASCII_Date_Time_DOY The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_characters in ASCII_Date_Time_UTC The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_UTC

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_characters in ASCII_Date_Time_YMD The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Date_Time_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_characters in ASCII_Date_Time The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Date_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

minimum_characters in ASCII_Date_YMD The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Date.YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

minimum_characters in ASCII_Date The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Date

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

minimum_characters in ASCII_Directory_Path_Name The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Directory_Path_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in ASCII_File_Name The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_File_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in ASCII_File_Specification_Name The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_File_Specification_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in ASCII_Identifier The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Identifier

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in ASCII_Integer The `minimum_characters` attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Integer

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_characters in ASCII_LIDVID The `minimum_characters` attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_LIDVID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 19

minimum_characters in ASCII_LID The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_LID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 14

minimum_characters in ASCII_MD5_Checksum The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_MD5_Checksum

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 32

minimum_characters in ASCII_NonNegative_Integer The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_NonNegative_Integer

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

minimum_characters in ASCII_Numeric_Base16 The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Numeric_Base16

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in ASCII_Numeric_Base2 The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Numeric_Base2

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in ASCII_Numeric_Base8 The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Numeric_Base8

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in ASCII_Real The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Real

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

minimum_characters in ASCII_Short_String_Collapsed The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Short.String.Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in ASCII_Short_String_Preserved The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Short_String_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in ASCII_Text_Collapsed The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Text_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in ASCII_Text_Preserved The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Text_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in ASCII_Time The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in ASCII_VID The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.VID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: 3

minimum_characters in Character_Data_Type The `minimum_characters` attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: Character_Data_Type

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_characters in UTF8_Short_String_Collapsed The `minimum_characters` attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Short_String_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in UTF8_Short_String_Preserved The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Short_String_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_characters in UTF8_Text_Preserved The minimum_characters attribute provides the lower, inclusive bound on the number of characters.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Text_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 1

minimum_occurrences in DD_Association The minimum occurrences attribute indicates the number of times something may occur and is also called the minimum cardinality.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Association

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

minimum in Field_Statistics The minimum attribute provides the largest stored value which actually appears in the (repeating) field; empty and Special_Constant field values are excluded.

Type: ASCII_Real

Class Name: Field_Statistics

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: MINIMUM

Value Concept: REAL

Steward: pds

Name Space Id: pds

minimum in Object_Statistics The minimum attribute provides the largest stored value which actually appears in the (repeating) field; empty and Special_Constant field values are excluded.

Type: ASCII_Real

Class Name: Object_Statistics

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: MINIMUM

Value Concept: REAL

Steward: pds

Name Space Id: pds

minimum_scaled_value in Object_Statistics The minimum_scaled_value attribute provides the minimum value after application of scaling_value and value_offset (see their definitions; minimum_scaled_value is the minimum of Ov).

Type: ASCII_Real

Class Name: Object_Statistics

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: VALUE

Value Concept: REAL

Steward: pds

Name Space Id: pds

minimum_value in DD_Value_Domain The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Value_Domain

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

minimum_value in ASCII_Date_Time_DOY The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Date_Time_DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in ASCII_Date_Time_UTC The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Date_Time.UTC

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in ASCII_Date_Time_YMD The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in ASCII_Date_Time The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in ASCII_Identifier The `minimum_value` attribute provides the lower inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Identifier

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in ASCII_Integer The `minimum_value` attribute provides the lower inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Integer

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: -2147483648

minimum_value in ASCII_LID The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_LID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in ASCII_NonNegative_Integer The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_NonNegative_Integer

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 0

minimum_value in ASCII_Numeric_Base16 The `minimum_value` attribute provides the lower inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Numeric_Base16

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in ASCII_Numeric_Base2 The `minimum_value` attribute provides the lower inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Numeric_Base2

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in ASCII_Real The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Real

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: -INF

minimum_value in ASCII_Short_String_Collapsed The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Short_String_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in ASCII_Short_String_Preserved The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Short_String_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in ASCII_Text_Preserved The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Text_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in ASCII_Time The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

minimum_value in ASCII_VID The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.VID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

minimum_value in Character_Data_Type The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII.Short.String.Collapsed

Class Name: Character_Data_Type

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in UTF8_Short_String_Collapsed The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Short_String_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in UTF8_Short_String_Preserved The minimum_value attribute provides the lower inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Short_String_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

minimum_value in UTF8_Text_Preserved The `minimum_value` attribute provides the lower inclusive bound on the value.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Text_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

missing_constant in Special_Constants The `missing_constant` attribute provides a value that indicates the original value was missing, such as due to a gap in coverage.

Type: ASCII_Short_String_Collapsed

Class Name: Special_Constants

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: CONSTANT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

mission_desc in Mission_PDS3 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.

Type: ASCII_Text_Preserved

Class Name: Mission_PDS3

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

mission_name in Mission_PDS3 The mission_name attribute identifies a major planetary mission or project. A given planetary mission may be associated with one or more spacecraft.

Type: ASCII_Short_String_Collapsed

Class Name: Mission_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

mission_objectives_summary in Mission_PDS3 The mission_objectives_summary attribute describes the major scientific objectives of a planetary mission or project.

Type: ASCII_Text_Preserved

Class Name: Mission_PDS3

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: SUMMARY

Value Concept: TEXT

Steward: ops

Name Space Id: pds

mission_start_date in Mission_PDS3 The mission_start_date attribute provides the date of the beginning of a mission in UTC system format.

Type: ASCII_Short_String_Collapsed

Class Name: Mission_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: DATE_TIME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

mission_stop_date in Mission_PDS3 The mission_stop_date attribute provides the date of the end of a mission in UTC system format.

Type: ASCII.Short.String.Collapsed

Class Name: Mission_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: DATE_TIME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

modification_date in Modification_Detail The modification_date attribute provides date the modifications were completed

Type: ASCII.Date_YMD

Class Name: Modification_Detail

Format: YYYY-MM-DD

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: pds

Name Space Id: pds

modification_detail in Modification_History The modification_detail association is a relationship to Modification_Detail, the details of one round of modification for the product.

Type: Association

modification_history in Identification_Area The modification_history association is a relationship to Modification_History, a history of changes made to the product.

Type: Association

naif_host_id in Instrument_Host The naif_instrument_id element provides the numeric ID used within the SPICE system to identify the spacecraft, spacecraft structure or science instrument.

Type: ASCII_Short_String_Collapsed

Class Name: Instrument_Host

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

naif_instrument_id in Instrument The naif_instrument_id element provides the numeric ID used within the SPICE system to identify the spacecraft, spacecraft structure or science instrument.

Type: ASCII_Short_String_Collapsed

Class Name: Instrument

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in DD_Attribute_Full The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Attribute_Full

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

name in DD_Attribute The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Attribute

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

name in DD_Class The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String-Collapsed

Class Name: DD_Class

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

name in External_Reference_Extended The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String-Collapsed

Class Name: External_Reference_Extended

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

name in Node The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String-Collapsed

Class Name: Node

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: Engineering, Geosciences, Imaging, Management,
Navigation_Ancillary_Information_Facility, Planetary_Atmospheres,
Planetary_Plasma_Interactions, Planetary_Rings, Radio_Science,
Small_Bodies

name in PDS_Affiliate The name attribute provides a word or combination of words by which the object is known.

Type: ASCII_Short_String_Collapsed

Class Name: PDS_Affiliate

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

name in PDS_Guest The name attribute provides a word or combination of words by which the object is known.

Type: ASCII_Short_String_Collapsed

Class Name: PDS_Guest

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

name in Software_Desc The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Desc

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

name in Detector The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Detector

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Field_Binary The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Field_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Field_Bit The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Field_Bit

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Field_Character The name attribute provides a word or combination of words by which the object is known.

Type: ASCII_Short_String_Collapsed

Class Name: Field_Character

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Field_Delimited The name attribute provides a word or combination of words by which the object is known.

Type: ASCII_Short_String_Collapsed

Class Name: Field_Delimited

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Header_Binary The name attribute provides a word or combination of words by which the object is known.

Type: ASCII_Short_String_Collapsed

Class Name: Header_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Instrument_Host The name attribute provides a word or combination of words by which the object is known.

Type: ASCII_Short_String_Collapsed

Class Name: Instrument_Host

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Instrument The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Instrument

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Investigation_Area The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Investigation_Area

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Investigation The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Investigation

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Observing_System_Component The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Observing_System_Component

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Observing_System The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Observing_System

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Parsable_Byte_Stream The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Parsable_Byte_Stream

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Quaternion_Component The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Quaternion_Component

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Quaternion The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Quaternion

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Resource The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Resource

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Target_Identification The name attribute provides a word or combination of words by which the object is known.

Type: ASCII_Short_String_Collapsed

Class Name: Target_Identification

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Target The name attribute provides a word or combination of words by which the object is known.

Type: ASCII_Short_String_Collapsed

Class Name: Target

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Terminological_Entry The name attribute provides a word or combination of words by which the object is known.

Type: ASCII_Short_String_Collapsed

Class Name: Terminological_Entry

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Vector_Component The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Vector_Component

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name in Vector The name attribute provides a word or combination of words by which the object is known.

Type: ASCII.Short.String.Collapsed

Class Name: Vector

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

name.space.id in DD_Attribute_Full 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.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Attribute_Full

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

name.space.id in DD_Attribute 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.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Attribute

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: ops

Name Space Id: pds

name_space_id in DD_Class 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.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Class

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: ops

Name Space Id: pds

not_applicable_constant in Special_Constants The not_applicable_constant attribute provides a value that indicates the parameter is not applicable.

Type: ASCII.Short.String.Collapsed

Class Name: Special_Constants

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: CONSTANT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

nssdc_collection_id in NSSDC An NSSDC Collection ID is an NSSDC assigned identifier for a collection of PDS datasets.

Type: ASCII_Short_String_Collapsed

Class Name: NSSDC

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

nssdc in Data_Set_PDS3 The nssdc association is a relationship to NSSDC.

Type: Association

observation_area in Product_Bundle The observation_area association is a relationship to Observation_Area.

Type: Association

observation_area in Product_Collection The observation_area association is a relationship to Observation_Area.

Type: Association

observation_area in Product_Observational The observation_area association is a relationship to Observation_Area.

Type: Association

observation_area in Product_SPICE_Kernel The observation_area association is a relationship to Observation_Area.

Type: Association

observing_system_component in Observing_System The observing_system_component association is a relationship to Observing_System_Component.

Type: Association

observing_system_component_type in Observing_System_Component
The Observing System Component Type attribute indicates the type of the observing system component'.

Type: ASCII.Short.String.Collapsed

Class Name: Observing_System_Component

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Analyst, Artificial_Illumination, Ground-based_Laboratory, Ground-based_Observatory, Ground-based_Telescope, Instrument, Literature_Search, PDS_Archived_Data, Spacecraft

observing_system in Observation_Area The observing_system association is a relationship to Observing_System.

Type: Association

offset in Array 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.

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Array

Minimum Value: 0

Maximum Value: Unbounded

Data Element Concept: OFFSET

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

offset in Encoded_Byte_Stream 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.

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Encoded_Byte_Stream

Minimum Value: 0

Maximum Value: Unbounded

Data Element Concept: OFFSET

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

offset in Parsable_Byte_Stream 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.

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Parsable_Byte_Stream

Minimum Value: 0

Maximum Value: Unbounded

Data Element Concept: OFFSET

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

offset in Table_Base 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.

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Table_Base

Minimum Value: 0

Maximum Value: Unbounded

Data Element Concept: OFFSET

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

os_version in Software_Binary The OS version attribute indicates the version of an operating system.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

os_version in Software_Source The OS version attribute indicates the version of an operating system.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Source

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

packet_map_mask in Telemetry_Parameters The packet_map_mask attribute is a binary or hexadecimal number identifying which of a data file's expected packets were actually received. The digits correspond positionally with the relative packet numbers of the data file. The bits are to be read left to right; i.e., the first (left-most) digit of the number corresponds to the first packet of the data file. A bit value of 1 indicates that the packet was received; a value of 0 indicates that it was not received.

Type: ASCII_Numeric_Base16

Class Name: Telemetry_Parameters

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: MASK

Value Concept: NUMERIC

Steward: img

Name Space Id: img

pattern in DD_Value_Domain The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Value_Domain

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

pattern in ASCII.DOI The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.DOI

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 10§+/§+

pattern in ASCII.Date.DOY The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Date.DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: (---)[0-9]{4}, (---)[0-9]{4}-((0[0-9][1-9])---([1-2][0-9][0-9])---(3((([0-5][0-9])---(6[0-6])))))

pattern in ASCII_Date_Time_DOY The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: (---)[0-9]{4}-((0[0-9][1-9])---([1-2][0-9][0-9])---(3((([0-5][0-9])---(6[0-6]))))) (T---)((([0-1][0-9])---(2[0-3])):[0-5][0-9](Z---), (---)[0-9]{4}-((0[0-9][1-9])---([1-2][0-9][0-9])---(3((([0-5][0-9])---(6[0-6]))))) (T---)((([0-1][0-9])---(2[0-3])):[0-5][0-9]:((([0-5][0-9])---60)(([0-9]+)---)(Z---), (---)[0-9]{4}-((0[0-9][1-9])---([1-2][0-9][0-9])---(3((([0-5][0-9])---(6[0-6]))))) (T---)((([0-1][0-9])---(2[0-4]))(Z---), (---)[0-9]{4}-((0[0-9][1-9])---([1-2][0-9][0-9])---(3((([0-5][0-9])---(6[0-6]))))) (T---)24:00((:00((0+---)---)(Z---)

pattern in ASCII_Date_Time_YMD The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value:

```
(---)[0-9]{4}-((0[1-9])-(1[0-2]))-((0[1-9])-([1-2][0-9])-(3[0-1]))(T---)
)(([0-1][0-9])-(2[0-3])):[0-5][0-9](Z---),
(---)[0-9]{4}-((0[1-9])-(1[0-2]))-((0[1-9])-([1-2][0-9])-(3[0-1]))(T---)
)(([0-1][0-9])-(2[0-3])):[0-5][0-9]:(([0-5][0-9])-60)(([0-9]+)---)(Z---),
(---)[0-9]{4}-((0[1-9])-(1[0-2]))-((0[1-9])-([1-2][0-9])-(3[0-1]))(T---)
)(([0-1][0-9])-(2[0-4]))(Z---),
(---)[0-9]{4}-((0[1-9])-(1[0-2]))-((0[1-9])-([1-2][0-9])-(3[0-1]))(T---)
)24:00(:00((0+)-))---)(Z---)
```

pattern in ASCII_Date_YMD The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: (—)[0-9]{4}, (—)[0-9]{4}-((0[1-9])—(1[0-2])),
(—)[0-9]{4}-((0[1-9])—(1[0-2]))-((0[1-9])—([1-2][0-9])—(3[0-1]))

pattern in ASCII_Identifier The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Identifier

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: [a-zA-Z]{1}([-a-zA-Z0-9]*)

pattern in ASCII_LID The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_LID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: urn:nasa:pds:[A-Za-z][-_.A-Za-z0-9]*(:[A-Za-z][-_.A-Za-z0-9]*)*

pattern in ASCII_MD5_Checksum The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_MD5_Checksum

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: [0-9a-fA-F]{32}

pattern in ASCII_Numeric_Base16 The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Numeric_Base16

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

pattern in ASCII_Numeric_Base2 The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Numeric_Base2

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: [0-1]{1,255}

pattern in ASCII_Numeric_Base8 The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Numeric_Base8

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: [0-7]{1,255}

pattern in ASCII_Time The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: (([0-1][0-9])—(2[0-3])):[0-5][0-9](Z—),
(([0-1][0-9])—(2[0-3])):[0-5][0-9]:((([0-5][0-9])—60)(([0-9]+)—)(Z—),
(([0-1][0-9])—(2[0-4]))(Z—), 24:00((:00((0+)—))—)(Z—)

pattern in ASCII_VID The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_VID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 0([1-9]—([0-9][0-9]+)), [1-9][0-9]*, [1-9][0-9]*[0-9]+

pattern in Character_Data_Type The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: Character_Data_Type

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

pattern in Float3Vector The pattern attribute provides a symbolic instruction for forming values.

Type: ASCII.Short.String.Collapsed

Class Name: Float3Vector

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: PATTERN

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

pds4_merge_flag in Ingest_DD 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.

Type: ASCII_Boolean

Class Name: Ingest_DD

Data Element Concept: FLAG

Value Concept: BOOLEAN

Steward: ops

Name Space Id: pds

permissible_value in DD_Value_Domain The permissible_value association is a relationship to Permissible_Value.

Type: Association

phone_book_flag in PDS_Affiliate The phone_book_flag attribute indicates whether or not this person should be included in the phone book.

Type: ASCII_Boolean

Class Name: PDS_Affiliate

Data Element Concept: FLAG

Value Concept: BOOLEAN

Steward: ops

Name Space Id: pds

postal_address_text in PDS_Affiliate The postal address text attribute provides a mailing address.

Type: ASCII_Text_Preserved

Class Name: PDS_Affiliate

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: TEXT

Value Concept: TEXT

Steward: ops

Name Space Id: pds

preferred_flag in Terminological_Entry The preferred_flag indicates whether this entry is preferred over all other entries.

Type: ASCII_Boolean

Class Name: Terminological_Entry

Data Element Concept: FLAG

Value Concept: BOOLEAN

Steward: ops

Name Space Id: pds

primary_body_name in Target_PDS3 The primary_body_name attribute identifies the primary body with which a given target body is associated as a secondary body.

Type: ASCII_Short_String_Collapsed

Class Name: Target_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

primary_result_description in Observation_Area The primary_result_description association is a relationship to Primary_Result_Description.

Type: Association

producer_full_name in Data_Set_PDS3 The producer_full_name attribute provides the full_name of the individual mainly responsible for the production of the data set. This individual does not have to be registered with the PDS.

Type: ASCII_Short_String_Collapsed

Class Name: Data_Set_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

product_class in Identification_Area The product_class attribute provides the high-level classification of the product into a category like "observational product" or "document".

Type: ASCII.Short.String.Collapsed

Class Name: Identification_Area

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

product_data_object in Collection_Volume_PDS3 The prod-
uct_data_object association is a relationship to a data object.

Type: Association

product_data_object in Collection_Volume_Set_PDS3 The prod-
uct_data_object association is a relationship to a data object.

Type: Association

product_data_object in Product_Attribute_Definition The prod-
uct_data_object association is a relationship to a data object.

Type: Association

product_data_object in Product_Data_Set_PDS3 The prod-
uct_data_object association is a relationship to a data object.

Type: Association

product_data_object in Product_Instrument_Host_PDS3 The prod-
uct_data_object association is a relationship to a data object.

Type: Association

product_data_object in Product_Instrument_PDS3 The prod-
uct_data_object association is a relationship to a data object.

Type: Association

product_data_object in Product_Mission_PDS3 The product_data_object association is a relationship to a data object.

Type: Association

product_data_object in Product_Target_PDS3 The product_data_object association is a relationship to a data object.

Type: Association

product_data_object in Product_Bundle The product_data_object association is a relationship to a data object.

Type: Association

product_data_object in Product_Collection The product_data_object association is a relationship to a data object.

Type: Association

product_data_object in Product_Context The product_data_object association is a relationship to a data object.

Type: Association

product_data_object in Product_Update The product_data_object association is a relationship to a data object.

Type: Association

product_description in Product_Software Description at the identifiable layer.

Type: Association

product_description in Product_Document Description at the identifiable layer.

Type: Association

program_notes_identifier in Software_Binary The program notes identifier attribute provides an identifier to a brief statement giving particulars about a software program.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

program_notes_identifier in Software_Source The program notes identifier attribute provides an identifier to a brief statement giving particulars about a software program.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Source

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

programmers_manual_identifier in Software_Desc The programmers manual identifier attribute provides an identifier to a document giving instruction about the programming of the software.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Desc

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

publication_date in Volume_PDS3 The publication_date attribute provides the date on which an item was published.

Type: ASCII_Date_YMD

Class Name: Volume_PDS3

Format: YYYY-MM-DD

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: ops

Name Space Id: pds

publication_date in Document_Description The publication_date attribute provides the date on which an item was published.

Type: ASCII_Date_YMD

Class Name: Document_Description

Format: YYYY-MM-DD

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: pds

Name Space Id: pds

publication_year in Citation_Information The publication_year attribute provides the year in which the product should be considered as published. Generally, this will be the year the data were declared "Certified" or "Archived".

Type: ASCII_Date

Class Name: Citation_Information

Format: YYYY-MM-DD/YYYY-DOY

Data Element Concept: VALUE2

Value Concept: TIME

Steward: pds

Name Space Id: pds

purpose in Primary_Result_Description The purpose attribute provides an indication of the primary purpose of the observations included.

Type: ASCII_Short_String_Collapsed

Class Name: Primary_Result_Description

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Calibration, Checkout, Engineering, Navigation, Science

quaternion_component in Quaternion The quaternion_component association is a relationship to Quaternion.Component.

Type: Association

quaternion_components in Quaternion The quaternion_components attribute provides a count of quaternion components.

Type: ASCIIInteger

Class Name: Quaternion

Minimum Value: Unbounded

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

received_packets in Telemetry_Parameters The received_packets attribute provides the total number of telemetry packets which constitute a reconstructed data product, cf. expected_packets.

Type: ASCIIInteger

Class Name: Telemetry_Parameters

Minimum Value: 0

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: img

Name Space Id: img

record_delimiter in Table_Character The `record_delimiter` attribute provides the character or characters used to indicate the end of a record.

Type: ASCII.Short.String.Collapsed

Class Name: Table_Character

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: DELIMITER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 0x0A, 0x0D, 0x0D0x0A

record_delimiter in Table_Delimited The `record_delimiter` attribute provides the character or characters used to indicate the end of a record.

Type: ASCII.Short.String.Collapsed

Class Name: Table_Delimited

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: DELIMITER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: 0x0A, 0x0D, 0x0D0x0A

record_length in Record_Binary The record_length attribute provides the length of a record, including a record delimiter if present.

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Record_Binary

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: LENGTH

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

record_length in Record_Character The record_length attribute provides the length of a record, including a record delimiter if present.

Type: ASCII_Integer

Unit of Measure Type: UnitOfMeasure_Storage

Specified Unit Id: byte

Class Name: Record_Character

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: LENGTH

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

records in File The records attribute provides a count of records.

Type: ASCII.Integer

Class Name: File

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

records in Table_Base The records attribute provides a count of records.

Type: ASCII.Integer

Class Name: Table_Base

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

records in Table_Delimited The records attribute provides a count of records.

Type: ASCII_Integer

Class Name: Table_Delimited

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

reduction_level in Primary_Result_Description The reduction_level attribute provides a broad indication of data processing level.

Type: ASCII_Short_String_Collapsed

Class Name: Primary_Result_Description

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Analytic, Calibrated, Derived, Raw

reference_list in Collection_Volume_PDS3 The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Collection_Volume_Set_PDS3 The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Attribute_Definition The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Data_Set_PDS3 The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Delivery_Manifest The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_File_Repository The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Instrument_Host_PDS3 The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Instrument_PDS3 The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Mission_PDS3 The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Proxy_PDS3 The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Service The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Software The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Subscription_PDS3 The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Target_PDS3 The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Browse The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Bundle The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Collection The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Context The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Document The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_File_Text The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Observational The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_SPICE_Kernel The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Thumbnail The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_Update The reference_list association is a relationship to Reference_List.

Type: Association

reference_list in Product_XML_Schema The reference_list association is a relationship to Reference_List.

Type: Association

reference_text in External_Reference The reference_text attribute provides a complete bibliographic citation for a published work.

Type: ASCII_Text_Preserved

Class Name: External_Reference

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: TEXT

Value Concept: TEXT

Steward: pds

Name Space Id: pds

reference_type in DD_Association The reference_type attribute provides the name of the association.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Association

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: attribute_of, component_of, extension_of, restriction_of, subclass_of

reference_type in Delivery_Manifest The reference_type attribute provides the name of the association.

Type: ASCII_Short_String_Collapsed

Class Name: Delivery_Manifest

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: has_member

reference_type in Bundle_Member_Entry The reference_type attribute provides the name of the association.

Type: ASCII_Short_String_Collapsed

Class Name: Bundle_Member_Entry

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: has_browse_collection, has_calibration_collection,
has_context_collection, has_data_collection, has_document_collection,
has_geometry_collection, has_member_collection,
has_schema_collection, has_spice_kernels_collection

reference_type in Internal_Reference The reference_type attribute provides the name of the association.

Type: ASCII_Short_String_Collapsed

Class Name: InternalReference

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: has_instrument, has_instrument_host, has_detector, has_publication, has_resource, has_association, has_calibration, has_geometry, has_spice, curated_by_node, has_node, has_document, has_investigation, has_instrument_host, has_instrument, has_target, has_publication, has_resource, has_association, has_document, has_investigation, has_instrument_host, has_instrument, has_target, has_association, has_investigation, has_instrument_host, has_instrument, has_target, has_publication, has_resource, has_association, has_calibration, has_geometry, has_spice, has_thumbnail, has_node, has_document, has_primary_collection, has_investigation, has_instrument_host, has_instrument, has_target, has_resource, has_association, has_document

reference_type in Inventory The reference_type attribute provides the name of the association.

Type: ASCII.Short.String.Collapsed

Class Name: Inventory

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: has_member_LIDVID_Primary,
has_member_LIDVID_Secondary, has_member_LID_Secondary

reference_type in Zipped_Member_Entry The reference_type attribute provides the name of the association.

Type: ASCII.Short.String.Collapsed

Class Name: Zipped_Member_Entry

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: contained_product, manifest_product

registered_by in DD_Attribute_Full The registered_by attribute provides the name of the person or organization that registered the object.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Attribute_Full

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

registration_authority_id in DD_Attribute_Full The registration_authority_id attribute provides the name of the organization that registered the object.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Attribute_Full

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: 0001_NASA_PDS_1

registration_date in PDS_Affiliate The registration_date attribute provides the date of registration within the PDS system.

Type: ASCII_Date_YMD

Class Name: PDS_Affiliate

Format: YYYY-MM-DD

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: ops

Name Space Id: pds

registration_date in PDS_Guest The registration_date attribute provides the date of registration within the PDS system.

Type: ASCII_Date_YMD

Class Name: PDS_Guest

Format: YYYY-MM-DD

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: ops

Name Space Id: pds

repetitions in Group_Field_Binary The repetitions attribute provides the number of occurrences.

Type: ASCII_Integer

Class Name: Group_Field_Binary

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

repetitions in Group_Field_Character The repetitions attribute provides the number of occurrences.

Type: ASCII_Integer

Class Name: Group_Field_Character

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

repetitions in Group_Field_Delimited The repetitions attribute provides the number of occurrences.

Type: ASCII_Integer

Class Name: Group_Field_Delimited

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

revision_id in Document_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.

Type: ASCII_Short_String_Collapsed

Class Name: Document_Description

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

sample_display_direction in Display_2D_Image The `sample_display_direction` attribute provides the preferred orientation of samples within a line for viewing on a display device. The attribute `sample_display_direction` must be used with `line_display_direction`.

Type: ASCII.Short.String.Collapsed

Class Name: Display_2D_Image

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: DIRECTION

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: RIGHT

sampling_parameter_interval in Uniformly_Sampled 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.

Type: ASCII.Real

Class Name: Uniformly_Sampled

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: VALUE2

Value Concept: REAL

Steward: pds

Name Space Id: pds

sampling_parameter_name in Uniformly_Sampled 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.

Type: ASCII.Short.String.Collapsed

Class Name: Uniformly_Sampled

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

sampling_parameter_scale in Uniformly_Sampled The `sampling_parameter_scale` element specifies whether the sampling interval is linear or something other such as logarithmic.

Type: ASCII.Short.String.Collapsed

Class Name: Uniformly_Sampled

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: SCALE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: EXPONENTIAL, LINEAR, LOGARITHMIC

sampling_parameter_unit in Uniformly_Sampled The sampling_parameter_unit element specifies the unit of measure of associated data sampling parameters.

Type: ASCII_Short_String_Collapsed

Class Name: Uniformly_Sampled

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: UNIT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

saturated_constant in Special_Constants The saturated_constant attribute provides a value that indicates the original value was invalid because of sensor saturation.

Type: ASCII_Short_String_Collapsed

Class Name: Special_Constants

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: CONSTANT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

scaling_factor in Element_Array The `scaling_factor` attribute is the scaling factor to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus: $Ov = (Sv * scaling_factor) + value_offset$.

Type: ASCII_Real

Class Name: Element_Array

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: FACTOR

Value Concept: REAL

Steward: pds

Name Space Id: pds

scaling_factor in Field_Binary The `scaling_factor` attribute is the scaling factor to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus: $Ov = (Sv * scaling_factor) + value_offset$.

Type: ASCII_Real

Class Name: Field_Binary

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: FACTOR

Value Concept: REAL

Steward: pds

Name Space Id: pds

scaling_factor in Field_Bit The scaling_factor attribute is the scaling factor to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus: $Ov = (Sv * scaling_factor) + value_offset$.

Type: ASCII_Real

Class Name: Field_Bit

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: FACTOR

Value Concept: REAL

Steward: pds

Name Space Id: pds

scaling_factor in Field_Character The scaling_factor attribute is the scaling factor to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus: $Ov = (Sv * scaling_factor) + value_offset$.

Type: ASCII_Real

Class Name: Field_Character

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: FACTOR

Value Concept: REAL

Steward: pds

Name Space Id: pds

scaling_factor in Field_Delimited The scaling_factor attribute is the scaling factor to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus: $Ov = (Sv * scaling_factor) + value_offset$.

Type: ASCII_Real

Class Name: Field_Delimited

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: FACTOR

Value Concept: REAL

Steward: pds

Name Space Id: pds

sequence_number in Axis_Array The sequence_number attribute provides a number that is used to order axes in an array.

Type: ASCII_Integer

Class Name: Axis_Array

Minimum Value: 1

Maximum Value: 16

Data Element Concept: NUMBER

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

sequence_number in Quaternion_Component The sequence_number attribute provides a number that is used to order axes in an array.

Type: ASCIIInteger

Class Name: Quaternion_Component

Minimum Value: 1

Maximum Value: 16

Data Element Concept: NUMBER

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

sequence_number in Vector_Component The sequence_number attribute provides a number that is used to order axes in an array.

Type: ASCIIInteger

Class Name: Vector_Component

Minimum Value: 1

Maximum Value: 16

Data Element Concept: NUMBER

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

serial_number in Instrument_Host TBD_description

Type: ASCII.Short.String.Collapsed

Class Name: Instrument_Host

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NUMBER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

serial_number in Instrument The serial number element provides the assigned manufacturer's serial number.

Type: ASCII.Short.String.Collapsed

Class Name: Instrument

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NUMBER

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

software_dialect in Software_Source The software dialect attribute indicates the variety of a language used to write the software.

Type: ASCII_Short_String_Collapsed

Class Name: Software_Source

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

software_format_set in Product_Software The software_format_set association is a relationship to a set of one or more software formats.

Type: Association

software_id in Software_Desc The software id attribute provides a formal name used to refer to the software.

Type: ASCII_Short_String_Collapsed

Class Name: Software_Desc

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

software_language in Software_Source The software language attribute identifies the language used to write the software.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Source

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

software_type in Software_Desc The software type attribute identifies the class of which the software is a member.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Desc

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

solar_longitude in Time_Coordinates 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.

Type: ASCII_Real

Class Name: Time_Coordinates

Minimum Value: 0

Maximum Value: 360

Data Element Concept: LONGITUDE

Value Concept: REAL

Steward: pds

Name Space Id: pds

sort_name in PDS_Affiliate 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.

Type: ASCII_Short_String_Collapsed

Class Name: PDS_Affiliate

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

sort_name in PDS_Guest 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.

Type: ASCII_Short_String_Collapsed

Class Name: PDS_Guest

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

source in Terminological_Entry The bibliographic_reference association is a relationship to bibliographic reference.

Type: Association

specified_unit_id in DD_Value_Domain The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Value_Domain

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

specified_unit_id in UnitOfMeasure_AmountOfSubstance The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_AmountOfSubstance

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: mol

specified_unit_id in UnitOfMeasure_Angle The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Angle

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: deg

specified_unit_id in UnitOfMeasure_AngularVelocity The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_AngularVelocity

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: deg/s

specified_unit_id in UnitOfMeasure_Area The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Area

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: m**2

specified_unit_id in UnitOfMeasure_FrameRate The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_FrameRate

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: frames/s

specified_unit_id in UnitOfMeasure_Frequency The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Frequency

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Hz

specified_unit_id in UnitOfMeasure_Length The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII_Short_String_Collapsed

Class Name: UnitOfMeasure_Length

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: m

specified_unit_id in UnitOfMeasure_MapScale The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII_Short_String_Collapsed

Class Name: UnitOfMeasure_MapScale

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: pixel/deg

specified_unit_id in UnitOfMeasure_Mass The `specified_unit_id` attribute provides the units chosen for `maximum_value`, `minimum_value`, and `permissible_value`.

Type: ASCII_Short_String_Collapsed

Class Name: UnitOfMeasure_Mass

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: kg

specified_unit_id in UnitOfMeasure_Misc The `specified_unit_id` attribute provides the units chosen for `maximum_value`, `minimum_value`, and `permissible_value`.

Type: ASCII_Short_String_Collapsed

Class Name: UnitOfMeasure_Misc

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: DN

specified_unit_id in UnitOfMeasure_None The `specified_unit_id` attribute provides the units chosen for `maximum_value`, `minimum_value`, and `permissible_value`.

Type: ASCII_Short_String_Collapsed

Class Name: UnitOfMeasure_None

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: none

specified_unit_id in UnitOfMeasure_OpticalPathLength The `specified_unit_id` attribute provides the units chosen for `maximum_value`, `minimum_value`, and `permissible_value`.

Type: ASCII_Short_String_Collapsed

Class Name: UnitOfMeasure_OpticalPathLength

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: airmass

specified_unit_id in UnitOfMeasure_Pressure The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Pressure

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: bar

specified_unit_id in UnitOfMeasure_Radiance The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Radiance

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: $\text{W} \cdot \text{m}^{-2} \cdot \text{sr}^{-1}$

specified_unit_id in UnitOfMeasure_Rates The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII_Short_String_Collapsed

Class Name: UnitOfMeasure_Rates

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: counts/bin

specified_unit_id in UnitOfMeasure_SolidAngle The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure.SolidAngle

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: sr

specified_unit_id in UnitOfMeasure_Storage The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure.Storage

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: byte

specified_unit_id in UnitOfMeasure_Temperature The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Temperature

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: degC

specified_unit_id in UnitOfMeasure_Time The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: s

specified_unit_id in UnitOfMeasure_Velocity The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Velocity

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: m/s

specified_unit_id in UnitOfMeasure_Voltage The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Voltage

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: V

specified_unit_id in UnitOfMeasure_Volume The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Volume

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: L

specified_unit_id in UnitOfMeasure The specified_unit_id attribute provides the units chosen for maximum_value, minimum_value, and permissible_value.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

spice_file_name in Telemetry_Parameters The `spice_file_name` attribute provides the names of the SPICE files used in processing the data.

Type: ASCII.Short.String.Collapsed

Class Name: Telemetry_Parameters

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: img

Name Space Id: img

standard_deviation in Field_Statistics The `standard_deviation` attribute provides the standard deviation of values in the associated object; empty and Special_Constants values are excluded.

Type: ASCII.Real

Class Name: Field_Statistics

Minimum Value: 0

Maximum Value: INF

Data Element Concept: DEVIATION

Value Concept: REAL

Steward: pds

Name Space Id: pds

standard_deviation in Object_Statistics The `standard_deviation` attribute provides the standard deviation of values in the repeating field; empty and `Special_Constants` field values are excluded.

Type: ASCII_Real

Class Name: Object_Statistics

Minimum Value: 0

Maximum Value: INF

Data Element Concept: DEVIATION

Value Concept: REAL

Steward: pds

Name Space Id: pds

start_bit in Field_Bit The `start_bit` attribute provides the position of the first bit within an ordered sequence of bits.

Type: ASCII_Integer

Class Name: Field_Bit

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: BIT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

start_date in Investigation The start_date attribute provides the date when an activity began.

Type: ASCII_Date_YMD

Class Name: Investigation

Format: YYYY-MM-DD

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: pds

Name Space Id: pds

start_date_time in Data_Set_PDS3 The start_date_time attribute provides the date and time at the beginning of a time interval of interest.

Type: ASCII_Date_Time

Class Name: Data_Set_PDS3

Format:
YYYY-MM-DDTHH:MM:SS.SSS/YYYY-DOYTHH:MM:SS.SSS

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: ops

Name Space Id: pds

start_date_time in Time_Coordinates The start_date_time attribute provides the date and time at the beginning of a time interval of interest.

Type: ASCII_Date_Time

Class Name: Time_Coordinates

Format:

YYYY-MM-DDTHH:MM:SS.SSS/YYYY-DOYTHH:MM:SS.SSS

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: pds

Name Space Id: pds

starting_point_identifier in Document_Format The starting_point attribute provides the local identifier of the object to be accessed first.

Type: ASCII_Short_String_Collapsed

Class Name: Document_Format

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

steward_id in DD_Attribute_Full The steward attribute indicates the person or organization who manages a set of registered attributes and classes.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Attribute_Full

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: atm, geo, img, naif, ops, pds, ppi, rings, rs, sbn

steward_id in DD_Attribute The `steward_id` attribute provides the abbreviation of the organization that manages the set of registered attributes and classes.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Attribute

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: atm, geo, img, naif, ops, pds, ppi, rings, rs, sbn

steward_id in DD_Class The `steward_id` attribute provides the abbreviation of the organization that manages the set of registered attributes and classes.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Class

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: atm, geo, img, naif, ops, pds, ppi, rings, rs, sbn

stop_bit in Field_Bit The stop-bit attribute provides the location of the last bit in this bit field relative to the first bit in the packed_data field. Bits are numbered continuously across byte boundaries. The first bit location in the packed data field is "1".

Type: ASCII_Integer

Class Name: Field_Bit

Minimum Value: 1

Maximum Value: Unbounded

Data Element Concept: BIT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

stop_date in Investigation The stop_date attribute provides the date when an activity ended.

Type: ASCII_Date_YMD

Class Name: Investigation

Format: YYYY-MM-DD

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: pds

Name Space Id: pds

stop_date_time in Data_Set_PDS3 The stop_date_time attribute provides the date and time at the end of a time interval of interest.

Type: ASCII_Date_Time

Class Name: Data_Set_PDS3

Format:

YYYY-MM-DDTHH:MM:SS.SSS/YYYY-DOYTHH:MM:SS.SSS

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: ops

Name Space Id: pds

stop_date_time in Time_Coordinates The stop_date_time attribute provides the date and time at the end of a time interval of interest.

Type: ASCII_Date_Time

Class Name: Time_Coordinates

Format:

YYYY-MM-DDTHH:MM:SS.SSS/YYYY-DOYTHH:MM:SS.SSS

Data Element Concept: DATE_TIME

Value Concept: TIME

Steward: pds

Name Space Id: pds

submitter_id in DD_Attribute_Full The submitter_id attribute provides the name of the author, who submits the item to the steward.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Attribute_Full

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

submitter_id in DD_Attribute The submitter_id attribute provides the name of the author, who submits the item to the steward.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Attribute

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

submitter_id in DD_Class The submitter_id attribute provides the name of the author, who submits the item to the steward.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Class

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

subscriber in Product_Subscription_PDS3 The subscriber association is a relationship to a Subscriber_PDS3 class.

Type: Association

subscription_id in Subscriber_PDS3 The subscriber_id provides the identification of a PDS subscription.

Type: ASCII_Short_String_Collapsed

Class Name: Subscriber_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

supported_architecture in Software_Binary The supported architecture attribute identifies the hardware architecture that can process the software.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

supported_architecture in Software_Source The supported architecture attribute identifies the hardware architecture that can process the software.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Source

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

supported_environment in Software_Script The supported environment attribute identifies the environment that can process the software.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Script

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

supported_os in Software_Binary The supported OS attribute identifies the Operating System that supports the software.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

supported_os in Software_Source The supported OS attribute identifies the Operating System that supports the software.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Source

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: COUNT

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

sw_format_type in Software_Binary The sw format type attribute classifies the format of the software.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

sw_format_type in Software_Source The sw format type attribute classifies the format of the software.

Type: ASCII.Short.String.Collapsed

Class Name: Software_Source

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

system_requirements in Software_Binary The system requirements attribute identifies what is necessary to process the software.

Type: ASCII.Text.Preserved

Class Name: Software_Binary

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: COUNT

Value Concept: TEXT

Steward: ops

Name Space Id: pds

system_requirements in Software_Script The system requirements attribute identifies what is necessary to process the software.

Type: ASCII.Text.Preserved

Class Name: Software_Script

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: COUNT

Value Concept: TEXT

Steward: ops

Name Space Id: pds

system_requirements in Software_Source The system_requirements attribute identifies what is necessary to process the software.

Type: ASCII.Text.Preserved

Class Name: Software_Source

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: COUNT

Value Concept: TEXT

Steward: ops

Name Space Id: pds

target_desc in Target_PDS3 The target_desc attribute describes the characteristics of a particular target.

Type: ASCII.Text.Preserved

Class Name: Target_PDS3

Minimum Characters: 1

Maximum Characters: Unbounded

Data Element Concept: DESCRIPTION

Value Concept: TEXT

Steward: ops

Name Space Id: pds

target_identification in Observation_Area The target_identification association is a relationship to Target_Identification.

Type: Association

target_name in Target_PDS3 The target_name attribute provides a name by which the target is formally known.

Type: ASCII_Short_String_Collapsed

Class Name: Target_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

target_type in Target_PDS3 The target_type attribute identifies the type of a named target.

Type: ASCII_Short_String_Collapsed

Class Name: Target_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

team_name in PDS_Affiliate The team_name attribute provides the name of a group of individuals.

Type: ASCII.Short.String.Collapsed

Class Name: PDS_Affiliate

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT.STRING

Steward: ops

Name Space Id: pds

Value: Engineering, Geosciences, Headquarters, Imaging, Management, National_Space_Science_Data_Center, Navigation_Ancillary_Information_Facility, Planetary_Atmospheres, Planetary_Plasma_Interactions, Planetary_Rings, Radio_Science, Small_Bodies

telemetry_format_id in Telemetry_Parameters The telemetry_format_id attribute supplies a telemetry format code.

Type: ASCII.Short.String.Collapsed

Class Name: Telemetry_Parameters

Minimum Characters: 1

Maximum Characters: 4

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: img

Name Space Id: img

telemetry_provider_id in Telemetry_Parameters The telemetry_provider_id attribute identifies the provider and or version of the telemetry data used in the generation of this data.

Type: ASCII.Short.String.Collapsed

Class Name: Telemetry_Parameters

Minimum Characters: 1

Maximum Characters: 20

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: img

Name Space Id: img

telemetry_source_name in Telemetry_Parameters The telemetry_source_name attribute identifies the telemetry source used in creation of a data set.

Type: ASCII.Short.String.Collapsed

Class Name: Telemetry_Parameters

Minimum Characters: 1

Maximum Characters: 60

Data Element Concept: NAME

Value Concept: SHORT.STRING

Steward: img

Name Space Id: img

telemetry_source_type in Telemetry_Parameters The telemetry_source_type attribute classifies the source of the telemetry used in creation of this data collection.

Type: ASCII.Short.String.Collapsed

Unit of Measure Type: UnitOfMeasure_None

Class Name: Telemetry_Parameters

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: img

Name Space Id: img

Value: DATA_PRODUCT, SFDU

telephone_number in PDS_Affiliate The telephone_number attribute provides a telephone number in international notation in compliance with the E.164 telephone number format recommendation.

Type: ASCII.Short.String.Collapsed

Class Name: PDS_Affiliate

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NUMBER

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

terminological_entry in DD_Attribute_Full The terminological_entry association is a relationship to Terminological_Entry.

Type: Association

terminological_entry in DD_Attribute The terminological_entry association is a relationship to Terminological_Entry.

Type: Association

terminological_entry in DD_Class The terminological_entry association is a relationship to Terminological_Entry.

Type: Association

time_coordinates in Observation_Area The time_coordinates association is a relationship to Time_Coordinates.

Type: Association

title in Identification_Area 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.

Type: UTF8_Short_String_Collapsed

Class Name: Identification_Area

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TITLE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

type in Detector The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: Detector

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

type in Instrument_Host The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: Instrument_Host

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: Earth_Based, Rover, Spacecraft

type in Instrument The type attribute provides a classification for the resource.

Type: ASCII_Short_String_Collapsed

Class Name: Instrument

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

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

type in Investigation_Area The type attribute provides a classification for the resource.

Type: ASCII_Short_String_Collapsed

Class Name: Investigation_Area

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Individual_Investigation, Mission, Observing_Campaign,
Other_Investigation

type in Investigation The type attribute provides a classification for the resource.

Type: ASCII_Short_String_Collapsed

Class Name: Investigation

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Individual_Investigation, Mission, Observing_Campaign,
Other_Investigation

type in Primary_Result_Description The type attribute provides a classification for the resource.

Type: ASCII_Short_String_Collapsed

Class Name: Primary_Result_Description

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Anaglyph, Aperture, Astrometry, B-Field_Vectors, Color, Column_Density, Comet_Nuclear_Properties, Count, Count_Rate, Data_Number, Digital_Elevation_Model, E-Field_Vectors, Electron, Environment, Filter_Curve, Filtered, Flux, Frequency, Geometry, Gravity_Model, Grism, Hardware_Temperature, High-Speed, Image, Image, Impact_Characteristics, Instrument, Ion, Lightcurve, Lines, Magnetometry, Magnitude, Magnitude, Map, Mass, Morphology, Null_Result, Parameters, Photometric, Photometry, Point_Spread_Function, Polarimetry, Pressure, Production_Rate, Pulse_Heights, Radiance, Radiometry, Shape_Model, Spectrometry, Spectrophotometry, Spectroscopy, Spectrum, Spherical_Harmonics, Spherical_Harmonics, Spin_State, Thermal, Time-Of-Flight, Triangular_Plate

type in Quaternion The type attribute provides a classification for the resource.

Type: ASCII_Short_String_Collapsed

Class Name: Quaternion

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: type1, type2

type in Resource The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: Resource

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

type in Target_Identification The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: Target_Identification

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

type in Target The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: Target

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Asteroid, Comet, Dust, Dwarf_Planet, Galaxy, Globular_Cluster, Meteorite, Meteoroid, Meteoroid_Stream, Nebula, Open_Cluster, Planet, Planetary_Nebula, Planetary_System, Plasma_Cloud, Ring, Satellite, Star, Star_Cluster, Sun, Terrestrial_Sample, Trans-Neptunian_Object

type in UnitOfMeasure_AmountOfSubstance The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_AmountOfSubstance

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: AmountOfSubstance

type in UnitOfMeasure_Angle The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Angle

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Angle

type in UnitOfMeasure_AngularVelocity The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_AngularVelocity

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Angular_Velocity

type in UnitOfMeasure_Area The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Area

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Area

type in UnitOfMeasure_FrameRate The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_FrameRate

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Frame_Rate

type in UnitOfMeasure_Frequency The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Frequency

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Frequency

type in UnitOfMeasure_Length The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Length

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Length

type in UnitOfMeasure_MapScale The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_MapScale

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Scale

type in UnitOfMeasure_Mass The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Mass

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Mass

type in UnitOfMeasure_Misc The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Misc

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Miscellaneous

type in UnitOfMeasure_None The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_None

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: None

type in UnitOfMeasure_OpticalPathLength The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_OpticalPathLength

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: OpticalPathLength

type in UnitOfMeasure_Pressure The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Pressure

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Pressure

type in UnitOfMeasure_Radiance The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Radiance

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Radiance

type in UnitOfMeasure_Rates The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Rates

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Rates

type in UnitOfMeasure_SolidAngle The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_SolidAngle

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Solid_Angle

type in UnitOfMeasure_Storage The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Storage

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Storage

type in UnitOfMeasure_Temperature The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Temperature

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Temperature

type in UnitOfMeasure_Time The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Time

type in UnitOfMeasure_Velocity The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Velocity

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Velocity

type in UnitOfMeasure_Voltage The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Voltage

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Voltage

type in UnitOfMeasure_Volume The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Volume

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Volume

type in UnitOfMeasure The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

type in Vector The type attribute provides a classification for the resource.

Type: ASCII.Short.String.Collapsed

Class Name: Vector

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: POSITION, VELOCITY

uniformly_sampled in Table_Binary The `uniformly_sampled` association is a relationship to `Uniformly_Sampled`.

Type: Association

uniformly_sampled in Table_Character The `uniformly_sampled` association is a relationship to `Uniformly_Sampled`.

Type: Association

uniformly_sampled in Table_Delimited The `uniformly_sampled` association is a relationship to `Uniformly_Sampled`.

Type: Association

unit_id in UnitOfMeasure_AmountOfSubstance The `unit_id` attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_AmountOfSubstance

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: mol

unit_id in UnitOfMeasure_Angle The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII_Short_String_Collapsed

Class Name: UnitOfMeasure_Angle

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: arcmin, arcsec, deg, hr, mrad, rad

unit_id in UnitOfMeasure_AngularVelocity The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII_Short_String_Collapsed

Class Name: UnitOfMeasure_AngularVelocity

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: deg/day, deg/s, rad/s

unit_id in UnitOfMeasure_Area The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Area

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: m**2

unit_id in UnitOfMeasure_FrameRate The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_FrameRate

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: frames/s

unit_id in UnitOfMeasure_Frequency The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Frequency

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: Hz

unit_id in UnitOfMeasure_Length The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure.Length

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: AU, Angstrom, cm, km, m, micrometer, mm, nm

unit_id in UnitOfMeasure_MapScale The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_MapScale

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: km/pixel, m/pixel, mm/pixel, pixel/deg

unit_id in UnitOfMeasure_Mass The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Mass

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: g, kg

unit_id in UnitOfMeasure_Misc The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Misc

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: DN, electron/DN, pixel

unit_id in UnitOfMeasure_None The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_None

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: none

unit_id in UnitOfMeasure_OpticalPathLength The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_OpticalPathLength

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: airmass

unit_id in UnitOfMeasure_Pressure The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Pressure

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: Pa, bar, hPa, mbar

unit_id in UnitOfMeasure_Radiance The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Radiance

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: $\text{W} \cdot \text{m}^2 \cdot \text{sr}^{-1}$

unit_id in UnitOfMeasure_Rates The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Rates

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: counts/bin, kilobits/s

unit_id in UnitOfMeasure_SolidAngle The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_SolidAngle

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: sr

unit_id in UnitOfMeasure_Storage The `unit_id` attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Storage

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: byte

unit_id in UnitOfMeasure_Temperature The `unit_id` attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Temperature

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: K, degC

unit_id in UnitOfMeasure_Time The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII_Short_String_Collapsed

Class Name: UnitOfMeasure_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: day, hr, microseconds, min, ms, s, yr

unit_id in UnitOfMeasure_Velocity The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII_Short_String_Collapsed

Class Name: UnitOfMeasure_Velocity

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: cm/s, km/s, m/s

unit_id in UnitOfMeasure_Voltage The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Voltage

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: V, mV

unit_id in UnitOfMeasure_Volume The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure_Volume

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: L, m**3

unit_id in UnitOfMeasure The unit_id attribute provides a character or character string which serves as an abbreviation for, or symbol representing, a unit of measure.

Type: ASCII.Short.String.Collapsed

Class Name: UnitOfMeasure

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

unit_of_measure_type in DD_Value_Domain 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.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Value_Domain

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: UnitOfMeasure_AmountOfSubstance, UnitOfMeasure_Angle,
UnitOfMeasure_AngularVelocity, UnitOfMeasure_Area,
UnitOfMeasure_Frequency, UnitOfMeasure_Length,
UnitOfMeasure_MapScale, UnitOfMeasure_Mass,
UnitOfMeasure_Misc, UnitOfMeasure_None,
UnitOfMeasure_OpticalPathLength, UnitOfMeasure_Pressure,
UnitOfMeasure_Radiance, UnitOfMeasure_Rates,
UnitOfMeasure_SolidAngle, UnitOfMeasure_Storage,
UnitOfMeasure_Temperature, UnitOfMeasure_Time,
UnitOfMeasure_Velocity, UnitOfMeasure_Voltage,
UnitOfMeasure_Volume

unit in Axis_Array The unit attribute provides the unit of measurement.

Type: ASCII.Short.String.Collapsed

Class Name: Axis_Array

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: UNIT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

unit in Element_Array The unit attribute provides the unit of measurement.

Type: ASCII.Short.String.Collapsed

Class Name: Element_Array

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: UNIT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

unit in Field_Binary The unit attribute provides the unit of measurement.

Type: ASCII.Short.String.Collapsed

Class Name: Field_Binary

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: UNIT

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

unit in Field_Bit The unit attribute provides the unit of measurement.

Type: ASCII.Short.String.Collapsed

Class Name: Field_Bit

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: UNIT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

unit in Field_Character The unit attribute provides the unit of measurement.

Type: ASCII.Short.String.Collapsed

Class Name: Field_Character

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: UNIT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

unit in Field_Delimited The unit attribute provides the unit of measurement.

Type: ASCII.Short.String.Collapsed

Class Name: Field_Delimited

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: UNIT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

unit in Quaternion_Component The unit attribute provides the unit of measurement.

Type: ASCII.Short.String.Collapsed

Class Name: Quaternion_Component

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: UNIT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

unit in Vector_Component The unit attribute provides the unit of measurement.

Type: ASCII.Short.String.Collapsed

Class Name: Vector_Component

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: UNIT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

unknown_constant in Special_Constants The `unknown_constant` attribute provides a value that indicates the original value was unknown.

Type: ASCII_Short_String_Collapsed

Class Name: Special_Constants

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: CONSTANT

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

update_entry in Update The `update_entry` association is a relationship to `Update_Entry`.

Type: Association

url in External_Reference_Extended The `url` attribute provides a Uniform Resource Identifier (URI) that specifies where a resource is available and the mechanism for retrieving it.

Type: ASCII_AnyURI

Class Name: External_Reference_Extended

Data Element Concept: ANYURI

Value Concept: ANYURI

Steward: ops

Name Space Id: pds

url in Resource The url attribute provides a Uniform Resource Identifier (URI) that specifies where a resource is available and the mechanism for retrieving it.

Type: ASCII_AnyURI

Class Name: Resource

Data Element Concept: ANYURI

Value Concept: ANYURI

Steward: pds

Name Space Id: pds

users_manual_identifier in Software_Desc The users manual identifier attribute provides a formal name used to refer to a manual that describes how to use the software.

Type: ASCII_Short_String_Collapsed

Class Name: Software_Desc

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

value_begin_date in DD_Permissible_Value The value_begin_date attribute provides the first date on which the permissible value is in effect.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Permissible_Value

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: DATE_TIME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

value_data_type in DD_Value_Domain The value_data_type attribute provides the data type used to represent the value.

Type: ASCII.Short.String.Collapsed

Class Name: DD_Value_Domain

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: ASCII_AnyURI, ASCII_Boolean, ASCII_DOI, ASCII_Date_DOY, ASCII_Date_Time_UTC, ASCII_Date_Time_YMD, ASCII_Date_YMD, ASCII_File_Specification_Name, ASCII_Integer, ASCII_LID, ASCII_LIDVID, ASCII_MD5_Checksum, ASCII_NonNegative_Integer, ASCII_Numeric_Base16, ASCII_Numeric_Base2, ASCII_Real, ASCII_Short_String_Collapsed, ASCII_Short_String_Preserved, ASCII_Text_Preserved, ASCII_Time, ASCII_VID

value_domain_entry in DD_Attribute_Full The value_domain_entry association is a relationship to Value_Domain.

Type: Association

value_domain_entry in DD_Attribute The value_domain_entry association is a relationship to Value_Domain.

Type: Association

value_end_date in DD_Permissible_Value The value_end_date attribute provides the last date on which the permissible value is in effect.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Permissible_Value

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: DATE_TIME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

value_meaning in DD_Permissible_Value The value_meaning attribute provides the meaning, or semantic content, of the associated permissible value.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Permissible_Value

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

value_offset in Element_Array The value_offset attribute is the offset to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus: $Ov = (Sv * scaling_factor) + value_offset$.

Type: ASCII_Real

Class Name: Element_Array

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: OFFSET

Value Concept: REAL

Steward: pds

Name Space Id: pds

value_offset in Field_Binary The value_offset attribute is the offset to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus: $Ov = (Sv * scaling_factor) + value_offset$.

Type: ASCII_Real

Class Name: Field_Binary

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: OFFSET

Value Concept: REAL

Steward: pds

Name Space Id: pds

value_offset in Field_Bit The value_offset attribute is the offset to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus: $Ov = (Sv * scaling_factor) + value_offset$.

Type: ASCII_Real

Class Name: Field_Bit

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: OFFSET

Value Concept: REAL

Steward: pds

Name Space Id: pds

value_offset in Field_Character The value_offset attribute is the offset to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus: $Ov = (Sv * scaling_factor) + value_offset$.

Type: ASCII_Real

Class Name: Field_Character

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: OFFSET

Value Concept: REAL

Steward: pds

Name Space Id: pds

value_offset in Field_Delimited The value_offset attribute is the offset to be applied to each stored value in order to recover an original value. The observed value (Ov) is calculated from the stored value (Sv) thus: $Ov = (Sv * scaling_factor) + value_offset$.

Type: ASCII_Real

Class Name: Field_Delimited

Minimum Value: -INF

Maximum Value: INF

Data Element Concept: OFFSET

Value Concept: REAL

Steward: pds

Name Space Id: pds

value in DD_Permissible_Value The value attribute provides a single, allowed numerical or character string value.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Permissible_Value

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

value in Quaternion_Component The value attribute provides a single, allowed numerical or character string value.

Type: ASCII.Short.String.Collapsed

Class Name: Quaternion_Component

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

value in Vector_Component The value attribute provides a single, allowed numerical or character string value.

Type: ASCII.Short.String.Collapsed

Class Name: Vector_Component

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

vector_component in Vector The vector_component association is a relationship to the vector_component.

Type: Association

vector_components in Vector The vector_components attribute provides a count of vector components.

Type: ASCII_Integer

Class Name: Vector

Minimum Value: Unbounded

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: pds

Name Space Id: pds

vector in Geometry The vector association is a relationship to Vector objects.

Type: Association

version_id in DD_Attribute_Full The version_id attribute provides the version of the product, expressed in the PDS [m.n] notation.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Attribute_Full

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

version_id in DD_Attribute The version_id attribute provides the version of the product, expressed in the PDS [m.n] notation.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Attribute

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

version_id in DD_Class The version_id attribute provides the version of the product, expressed in the PDS [m.n] notation.

Type: ASCII_Short_String_Collapsed

Class Name: DD_Class

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

version_id in Software_Desc The version_id attribute provides the version of the product, expressed in the PDS [m.n] notation.

Type: ASCII_Short_String_Collapsed

Class Name: Software_Desc

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

version_id in Identification_Area The version_id attribute provides the version of the product, expressed in the PDS [m.n] notation.

Type: ASCII_Short_String_Collapsed

Class Name: Identification_Area

Minimum Characters: 1

Maximum Characters: 255

Pattern: ([0-9]+)(\{1\}([0-9]+)

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

version_id in Instrument_Host The version_id attribute provides the version of the product, expressed in the PDS [m.n] notation.

Type: ASCII_Short_String_Collapsed

Class Name: Instrument_Host

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

version_id in Instrument The version_id attribute provides the version of the product, expressed in the PDS [m.n] notation.

Type: ASCII_Short_String_Collapsed

Class Name: Instrument

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

version_id in Modification_Detail The version_id attribute provides the version of the product, expressed in the PDS [m.n] notation.

Type: ASCII_Short_String_Collapsed

Class Name: Modification_Detail

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

volume_de_fullname in Volume_PDS3 The volume_de_fullname attribute provide the full name of the data engineer.

Type: ASCII.Short.String.Collapsed

Class Name: Volume_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: VALUE2

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

volume_format in Volume_PDS3 The volume_format attribute identifies the logical format used in writing a data volume.

Type: ASCII.Short.String.Collapsed

Class Name: Volume_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: FORMAT

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

volume_id in Volume_PDS3 The volume_id attribute provides a unique identifier for a data volume. Example: MG_1001.

Type: ASCII.Short.String.Collapsed

Class Name: Volume_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

volume_name in Volume_PDS3 The volume_name attribute contains the name of a data volume.

Type: ASCII.Short.String.Collapsed

Class Name: Volume_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

volume_series_name in Volume_Set_PDS3 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.

Type: ASCII_Short_String_Collapsed

Class Name: Volume_Set_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

volume_set_id in Volume_PDS3 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

Type: ASCII_Short_String_Collapsed

Class Name: Volume_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

volume_set_id in Volume_Set_PDS3 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

Type: ASCII_Short_String_Collapsed

Class Name: Volume_Set_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

volume_set_name in Volume_Set_PDS3 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.

Type: ASCII_Short_String_Collapsed

Class Name: Volume_Set_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: NAME

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

volume_size in Volume_PDS3 The volume_size attribute provide the number of bytes in the volume.

Type: ASCII.Short.String.Collapsed

Class Name: Volume_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: SIZE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

volume_version_id in Volume_PDS3 The volume_version_id attribute indentifies the version of a data volume. All original volumes should use a volume_version_id of 'Version 1'.

Type: ASCII.Short.String.Collapsed

Class Name: Volume_PDS3

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: ID

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

volumes in Volume_Set_PDS3 The volumes element provides the number of physical data volumes contained in a volume set.

Type: ASCII.Integer

Class Name: Volume_Set_PDS3

Minimum Value: 0

Maximum Value: Unbounded

Data Element Concept: COUNT

Value Concept: INTEGER

Steward: ops

Name Space Id: pds

xml_schema_base_type in ASCII_AnyURI The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short_String_Collapsed

Class Name: ASCII_AnyURI

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:anyURI

xml_schema_base_type in ASCII_DOI The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.DOI

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Date_DOY The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Date.DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Date_Time_DOY The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_DOY

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Date_Time_UTC The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_UTC

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Date_Time_YMD The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Date_Time The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Date_Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Date_YMD The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Date_YMD

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Directory_Path_Name The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Directory_Path_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:token

xml_schema_base_type in ASCII_File_Name The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_File_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:token

xml_schema_base_type in ASCII_File_Specification_Name The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_File_Specification_Name

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:token

xml_schema_base_type in ASCII_Identifier The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Identifier

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Integer The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Integer

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:integer

xml_schema_base_type in ASCII_LIDVID The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_LIDVID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_LID The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_LID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_MD5_Checksum The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_MD5_Checksum

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_NonNegative_Integer The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.NonNegative.Integer

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: ops

Name Space Id: pds

Value: xsd:integer

xml_schema_base_type in ASCII.Real The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Real

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: ops

Name Space Id: pds

Value: xsd:double

xml_schema_base_type in ASCII_Short_String_Collapsed The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Short_String_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:token

xml_schema_base_type in ASCII_Short_String_Preserved The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Short_String_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Text_Preserved The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Text.Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Time The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII.Time

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_VID The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_VID

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in UTF8_Short_String_Collapsed The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: UTF8_Short_String_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:token

xml_schema_base_type in UTF8_Short_String_Preserved The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Short_String_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in UTF8_Text_Preserved The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: UTF8_Text_Preserved

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: ops

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Boolean The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Boolean

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: xsd:boolean

xml_schema_base_type in ASCII_Date The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Date

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Numeric_Base16 The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Numeric_Base16

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: xsd:hexBinary

xml_schema_base_type in ASCII_Numeric_Base2 The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: ASCII_Numeric_Base2

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Numeric_Base8 The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Numeric_Base8

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: xsd:string

xml_schema_base_type in ASCII_Text_Collapsed The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII.Short.String.Collapsed

Class Name: ASCII_Text_Collapsed

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

Value: xsd:token

xml_schema_base_type in Character_Data_Type The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: Character_Data_Type

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT_STRING

Steward: pds

Name Space Id: pds

xml_schema_base_type in Float3Vector The xml schema base type attribute provides the data type needed for the XML schema implementation.

Type: ASCII_Short_String_Collapsed

Class Name: Float3Vector

Minimum Characters: 1

Maximum Characters: 255

Data Element Concept: TYPE

Value Concept: SHORT.STRING

Steward: pds

Name Space Id: pds

Value: xsd:token

25 Glossary

The following glossary contains a list of terms used within this specification and the definitions for those terms.

Association An attribute that establishes a unidirectional relationship between two classes. For example, a table has records; 'has record' is the relationship between one entity (Table_Base, the simplest table in PDS4 nomenclature) and another (Table_Record).

Attribute A property or characteristic that provides a unit of information. For example, 'color' and 'length' are possible attributes.

Basic_Product The simplest product in PDS4; one or more data objects (and their description objects), which constitute (typically) a single observation, document, etc. The only PDS4 products that are not basic products are Product_Collection and Product_Bundle. Every basic product must be a primary member of one (and only one) collection. Basic products may be secondary members of any number of collections.

Bundle A list of collections. For example, a bundle could list a collection of raw data obtained by an instrument during its mission lifetime, a collection of the calibration products associated with the instrument, and a collection of all documentation relevant to the first two collections.

Cardinality The number of values allowed to an attribute or association in a single class. Cardinality in general is stated as a range with a minimum and maximum. For example, an optional attribute that may be multi-valued will have a cardinality of "0..*". A cardinality

where the minimum and maximum are the same is often shown as the single value; for example, an attribute required to have exactly one value will have a cardinality of "1". When a value is required, the minimum cardinality is at least 1.

Class The set of attributes (including a name) which defines a family. A class is generic " a template from which individual members of the family may be constructed. If the class 'rope' (its name) is defined by attributes 'color' and 'length', we can construct a family of ropes " e.g., red and 3 m long, red and 4 m long, blue and 2 m long, ...

Class_Hierarchy An ordering of classes which shows parent-child relationships.

Collection A list of basic products, all of which are closely related in some way. A collection is itself a product (because it is simply a list, with its label); but it is not a basic product.

Conceptual_Object An object which is intangible (and, because it is intangible, does not fit into a digital archive). Examples of 'conceptual objects' include the Cassini mission and NASA's strategic plan for solar system exploration. Note that a PDF describing the Cassini mission is a digital object, not a conceptual object (nor a component of a conceptual object).

Container The physical equivalent of a package; the product manifest and all related files wrapped together for transfer " for example, in a ZIP, GZIP, or TAR file.

Data_Elements Data elements are discrete units of data or metadata. They are an elementary piece of information in a data dictionary. A data element is a data descriptor for which the definition, identification, representation and permissible values are specified by means of a set of data element attributes. [needs review]

Description_Object Something that describes an object. As appropriate, it will have structural and descriptive components. Technically speaking, a 'description object' in PDS4 is a 'digital object' " a string of bits; but we assume that we can read it and, on that basis, give it a special name.

Digital_Object An object which is real data - for example, a binary image of a redwood tree or an ASCII table of atmospheric composition versus altitude.

Entity Something that has a distinct, separate existence.

Extension In PDS4 a class extension is a subclass. Subclasses are more specialized versions of a class. They inherit attributes and behaviors from their parent classes, and they can have attributes of their own. For example, `Array_2D` is a PDS4 subclass of `Array_Base`.

Identifier A unique character string by which a product, object, or other entity may be identified and located. Identifiers can be global, in which case they are unique across all of PDS (and its federation partners). A local identifier must be unique within a label.

Label The aggregation of one or more description objects such that the aggregation describes a single PDS product. In the PDS4 implementation, labels are constructed using XML, which imposes a small amount of overhead.

Local Within a single label.

Meta-Attribute An attribute of an attribute - that is, a 'dictionary' attribute, which is used to define one or more attributes in the PDS4 Information Model. For example, `'conceptual_domain'` and `'maximum_value'` are used in defining some attributes.

Metadata Data about data " for example, a 'description object' contains information (metadata) about an 'object.'

Model A representation or description designed to show an entity and its composition.

Namespace A context for defining classes and attributes. Two items with the same name but from different namespaces generally have different definitions. For example, "title" has a very different meaning in a movie namespace compared with its meaning in an automobile namespace.

Object The realization of a single member of a family defined by a class. If the class `'rope'` has attributes `'color'` and `'length'`, we can construct a `'rope'` family with three members " red and 3 m long, red and 4 m long, and blue and 2 m long. Each member is an object.

Package A product manifest and all related files logically grouped together for transfer.

Physical.Object An object which is physical or tangible (and, therefore, does not itself fit into a digital archive). Examples of 'physical objects' include the planet Saturn and the Venus Express magnetometer. Note that an ASCII file describing Saturn is a digital object, not a physical object (nor a component of a physical object).

Primary_Member A basic product is a primary member of the collection within which it first enters PDS4. Every basic product must be a primary member of one (and only one) collection.

Product One or more tagged objects (digital, non-digital, or both) grouped together and having a single PDS-unique identifier. In the PDS4 implementation, the descriptions are combined into a single XML label. Although it may be possible to locate individual objects within PDS (and to find specific bit strings within digital objects), PDS4 defines 'products' to be the smallest granular unit of addressable data within its complete holdings.

Registration_Authority An organization responsible for maintaining a registry - in this case, the PDS4 Information Model and its components. The registration authority for the Planetary Data System is 'PDS'.

Registry A data base that provides services for sharing content and meta-data.

Resource The target (referent) of any Uniform Resource Identifier; the thing to which a URI points.

Secondary_Member A basic product may be a secondary member of any number of collections. A collection which lists references to basic products already registered in PDS would identify those products as its secondary members. For example, if all Voyager images were in one primary collection, an analyst could define a new (subset) collection containing images which had Saturn's rings within the field of view; each of those image products would be a secondary member of the new collection.

Steward A person or organization that manages a set of registered attributes and classes, typically as an agent for another or others. A registration authority must have at least one steward; it may have many. Stewards for PDS4 include PDS, the discipline nodes, and any mission wishing to conform to the PDS4 Information Model.

Subclass See extension.

Tag Fundamental syntax in XML; a tag is a character string delimited by "<" and ">". For example "<date;" is a tag.

Tagged_Digital_Object A digital object paired with its companion description object. [Note: In the OAIS RM this is known as an 'information object']

- Tagged_Non-Digital_Object** A physical object or a conceptual object paired with its companion description object. [Note: In the OAIS RM this is known as an 'information object']
- XML_Attribute** An attribute-value pair that is inserted into an XML element to provide additional information, such as units; the value is always quoted. For example `<date unit="year">2009</date>`
- XML_Element** An XML structure that begins with `<tag>`, contains 'content', and ends with `</tag>`. For example, `<date>2009</date>` is an XML element establishing the date as 2009. The allowed 'content' is specified in the PDS4 IM, which is propagated to the PDS4 Data Dictionary.
- XML_Schema** The definition of an XML document, specifying required and optional XML elements, their order, and parent-child relationships.