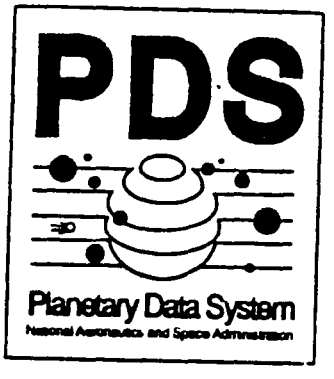
D – 6184

Planetary Data System Data Dictionary Document

February 16, 1990

Version 2.0



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ACKNOWLEDGEMENTS

The PDS *Data Dictionary Document* represents a cooperative effort by the Data Engineering Team at the Jet Propulsion Laboratory (JPL), other members of the PDS System Development Team, the PDS Mission Interface Team, and the planetary scientific community.

The PDS Data Engineering Team at JPL has primary responsibility for the design of the PDS Science Catalogs and System Data database. This includes the identification, definition, and structuring of all the database elements, the specification of all of the user requirements for data retrieval, and the design of the database system to satisfy those requirements. Members of the Data Engineering Team, past and present, who have contributed to the catalog development effort are:

Mark Chapoton
Elaine Dobinson
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The Planetary Data System exists to support a scientific community of users located at a number of university and research center Nodes and Subnodes. Node and Subnode personnel have worked closely with the Data Engineering Team throughout the development of the Science Catalogs, and this cooperation has been essential to the success of the development effort. The commitment and enthusiasm of personnel at the following Nodes and Subnodes have been invaluable:

FIELDS AND PARTICLES – University of California, Los Angeles; Applied Physics Laboratory, Johns Hopkins University; University of Iowa; Massachusetts Institute of Technology.

NAVIGATION ANCILLARY INFORMATION FACILITY – Jet Propulsion Laboratory.

PLANETARY ATMOSPHERES – Laboratory for Atmospheric and Space Physics, University of Colorado, Boulder.

PLANETARY GEOLOGY – Regional Planetary Imaging Facility, Jet Propulsion Laboratory; Regional Planetary Imaging Facility, Washington University; University of Hawaii.

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RADIOMETRY – United States Geological Survey, Flagstaff.

Representatives of the JPL Space Flight Operations Center Project, current JPL flight projects and other NASA science database system projects have also contributed to the development of the PDS Science Catalogs.

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INTRODUCTION

1.1 PURPOSE

The Planetary Data System (PDS) Data Dictionary exists to serve two groups: the developers and the users of the PDS Version 1.0 as well as developers of other science data systems. During the design and development of Version 1.0, the Data Dictionary supported the evolution of the PDS Catalog and System database. The main Data Dictionary database provides a dynamic storehouse of information about the data objects in the PDS design. Since delivery of Version 1.0, the Data Dictionary is available on-line to users to assist in the use of the PDS Catalog.

This hardcopy version of the Data Dictionary reflects the current state of the Dictionary database and is a portion of the separately published **PDS Catalog Design Document** (CDD). In particular, the present document is an extraction of Chapter 6 of the CDD. It is separately presented here for those audiences desiring only the Data Dictionary portion of the PDS Catalog.

1.2 SCOPE

This version of the Data Dictionary addresses only those portions of the PDS which are implemented as part of the PDS Version 1.0. These include the High-Level Catalog, the Detailed-Level Catalogs for the Fields And Particles and Planetary Geology disciplines, and the System Data. The design of later versions of the PDS may necessitate additions to or refinements of the Data Dictionary.

1.3 FORMAT

The format of this version of the Data Dictionary is somewhat different from that of the preliminary version published in January of 1988 (JPL Document D-4854). There is no longer any conceptual structure to the elements. A presentation of the PDS catalog conceptual design is contained in the larger Catalog Design Document.

Section 2.1 gives a general description of the data dictionary. Section 2.2 explains the nomenclature standard for constructing terse names. Appendices A, B and C are counterparts of this section. Database elements and their definitions are listed alphabetically in Section 2.3. Section 2.4 lists standard values which apply to specific elements. These values have been derived and determined by the PDS science community. Section 2.4.1 contains minimum and maximum range values of all elements which range over a given domain, along with the units of measurement. Section 2.4.2 contains definitions of the units of measurement.

Chapter 2

DATA DICTIONARY

2.1 GENERAL

The Planetary Data System (PDS) Data Dictionary forms the basis of the PDS Science Catalogs. It resides on the Sharebase data server and is comprised of several types of data repositories. The PDS Data Dictionary is maintained by the PDS Data Administrator.

The PDS Data Dictionary is an evolving tool. As more planetary data are added to the PDS catalog, the dictionary will grow in proportion. The PDS Data Dictionary contains the following:

(1.) Data Element Dictionary

The Data Element Dictionary contains the data elements and data element definitions used in the Planetary Data System. (See the *PDS Data Dictionary* document, JPL D-6184.)

(2.) Standard Values, Minimum/Maximum Values and Units of Measurement

Standard values are part of the Data Element Dictionary. (See the *PDS Data Dictionary* document, JPL D-6184.) Other columns may contain data within a range of values, as specified in the Minimum/Maximum Values list. The Units of Measurement list shows the unit's name and measured quantity.

(3.) Dictionary of Component Terms

The Dictionary of Component Terms contains the terms used to construct the data element names in the PDS Data Dictionary.

(a.) Descriptor Terms

The Descriptor Terms list contains component terms used as descriptors in an object (data element) name. The descriptor terms are listed in Appendix A of this document.

(b.) Class Terms

The Class Terms list contains component terms that comprise the rightmost component term in a data object (data element) name. Class terms identify the basic "information type" of the data object. The class terms are listed in Appendix B of this document.

(c.) Abbreviations For Constructing Terse Names List

The Abbreviations For Constructing Terse Names list contains shortened words that have been approved for use in the PDS. The Abbreviations For Constructing Terse Names are listed in Appendix C of this document.

2.2 NOMENCLATURE

All Planetary Data System (PDS) Version 1.0 documentation shall use nomenclature standards according to the conventions given in this section. The Nomenclature standard is a component of the PDS Data Dictionary Standards.

The objective of the nomenclature standards is an environment wherein different individuals, working independently, will easily be able to construct the same name for a given data object (data element). This objective, if achieved, would eliminate multiple names for the same data object (synonyms), and duplicate names for different data objects (homonyms); it would also greatly simplify the task of browsing data dictionaries for those who are unfamiliar with its contents.

The construction rules must yield data object names which are easily grasped, are as consistent as possible with the common usage within the science community, and are also logically and methodically constructed, ideally from a predefined dictionary of component terms. (See the *Data Dictionary* standard following this section.)

Several organizations have succeeded in developing procedures for assigning standard names to data objects. The method adopted by the PDS is a derivative of the "OF language" developed by IBM. It also follows closely the publication *Guide on Data Entity Naming Conventions*, NBS Special Publication 500-149.

In the PDS naming syntax, the component terms forming a data object name are composed of descriptor words (which describe what is being measured or presented in the value field) and class words (which identify the gross data type of the object). Data object names are constructed using these component terms from left to right, from most specific (the leftmost component term) to most generic (the rightmost component term). The Descriptor Words are listed in Appendix A and the Class Words are listed in Appendix B of this document.

2.2.1 PDS DATA NOMENCLATURE SYNTAX

The *PDS Data Dictionary* contains the standard data object names used to catalog PDS data products. An understanding of the syntax is necessary for two purposes: 1) as an aid in finding an already existing data object and 2) creating a new data object for inclusion in the data dictionary.

2.2.1.1 Construction of Terms

All data object names shall be constructed from standard ASCII alphanumeric characters and the underscore character. No special characters (e.g., "&", "*", etc.) are permitted. The first character of the first component term of a data object name must be alphabetic.

The PDS naming syntax is not case–sensitive. For example, all the following constructs represent the same data object name:

(1.) data_set_parameter_name

(2.) DATA_SET_PARAMETER_NAME

(3.) Data_Set_Parameter_Name

2.2.1.2 Order of Terms within a Data Object Name

In general, the structure of a data object designator (name) is as follows; the most specific component term is placed first, the next most specific, etc., terminating with the least specific or most general.

For example, consider a phrase such as "the name of a parameter in a data set". Removing the articles and prepositions yields "name parameter data set". The most general component term

here is "name", and therefore shall be placed last in the hierarchy. Next, ask the question "name of what?". The answer is "name of a parameter", which indicates that "parameter" is more specific than "name". The question "what kind of parameter?" is answered by "data set", the most specific component term. Therefore, the data object name will be data_set_parameter_name.

Other examples include:

(1.) "start time of an event" translates into event_start_time

(2.) "type of the host of an instrument" translates into instrument_host_type

A data object name starts with the most specific component term, followed by a connector, the next most specific (i.e., more general) component term, and so on, terminating with the least specific (i.e., most general) component term. The component terms in the data object name are connected by an underscore (_) or a hyphen(-). The underscore is the preferred connector and should always be used except where it is not supported by hardware or software.

Component terms used in the nomenclature syntax are also categorized in two groups as DESCRIPTORS or CLASS WORDS. The format of a data object name is made up as follows:

data object name := [DESCRIPTOR(S)] CLASS WORD

2.2.1.3 Descriptor Words

Descriptor words are listed in Appendix A.

The component terms of a data object name should be chosen from a streamlined list of well-defined generic "descriptor words". Examples of descriptor words include angle, altitude, distance, location, radius and wavelength. This list is maintained by the PDS Data Administrator.

For descriptor words of a scientific nature (as opposed to the computer systems–oriented words such as "bits"), the definitions are intended to convey the meaning of each word within the context of planetary science, and thus to facilitate the standardization of nomenclature within the planetary science community.

Certain descriptor words may have more than one meaning, depending upon the context in which they are used. It is believed that it is appropriate to include these words and their (multiple) definitions in the list, and that the context will suggest which definition is applicable in a given case.

In some cases (such as "elevation"), the usage example given for the descriptor word may contain just the word itself. In general, however, the descriptor word is one of several components of a data object's name.

2.2.1.3.1 Plural Descriptor Words

Plural descriptor words are part of the Descriptor Words listed in Appendix A.

Plural descriptor words would be used to indicate "count of " or "number of " in data object names (e.g., "sample_bits" rather than "number_of_bits_in_sample").

2.2.1.4 Class Words

Class words are listed in Appendix B.

Class words comprise the right most component term in a data object name. The class word identifies the basic "information type" of the data object, where information type includes both the data type (numeric, character, logical) and a size constraint.

The use of a limited set of class words will:

(1.) Eliminate the need for users and data processing software to constantly access a data dictionary to parse, interpret, query or display values.

(2.) Add a greater level of structure and consistency to our nomenclature.

(3.) Constrain the selection and use of data values.

(4.) Promote automated operations such as validity checking.

(5.) Promote the development of intelligent software.

Class words include DATE, FLAG, ID, MASK, NAME, NUMBER, RATIO, TIME, and TYPE.

If no class word is used as the right most component term in a data object name the class word "value" is assumed to be the last component term in a data object name. For example, one would construct MAXIMUM_EMISSION_ANGLE or SOLAR_CONSTANT, as opposed to MAXIMUM_EMISSION_ANGLE_VALUE and SOLAR_CONSTANT_VALUE.

When the class word "count" would be appropriate, the data object name can be abbreviated by making the descriptor word a plural. The plural form implies "the number of something", for example, "the number of bytes in a record". The PDS nomenclature syntax advises appending an "s" to a descriptor word to indicate the inverse of "per each" or "number of".

For example:

Data Object	PDS name
number of bytes in record	record_bytes
number of records in file	file_records
number of label records in file	label_records
number of lines in image	lines
number of samples in line	line_samples
number of suffix bytes in line	line_suffix_bytes

2.2.1.5 Prohibited Words

The words in the Prohibited Words list are not to be used as descriptor words. For each word, the list explains why the word was not included in the Descriptor Words list and provides an alternative which is a recognized PDS descriptor word.

Formerly used (or proposed) descriptor words which have been superceded by other words are also enumerated in the Prohibited Words list.

Prohibited Words list:

PROHIBITED WORD	PROHIBITED WORD DEFINITION
code	Ambiguous. Use "id" instead.
date/time	Unnecessary. Use "time" alone in naming fields which may carry both date and time information, or which carry only time information (i.e., fields which provide information in units not greater than hours). Use "date" alone only in naming fields which are to carry only date information (i.e., fields which provide information only down to the level of days).
definition	Unnecessary. Use "description" instead.
divisor	Unnecessary. Use "factor" instead.
field of view	Awkward. Use "fov" instead.
identification	Too long. Use "id" instead.
increment	Unnecessary. Use "interval" instead.
indicator	Unnecessary. Use "id" or "state" instead.
information	Ambiguous. Use "description" instead. (Note: +information+ is used as a descriptor word in the names of Data Dictionary entity names on an exception basis.
mode	Unnecessary. Use "description" or "id", as appropriate, as appropriate, together with mode (e.g., mode_description or mode_id).
multiplier	Unnecessary. Use "factor" instead.
comment	Unnecessary. Use "note" instead.
order	The descriptor word should be id, type or description, as in storage_order_description
origin	The descriptor word should be description or group, as in projection_origin_group.

periapsis	Use "closest_approach" instead.
program	Use only in reference to software. Not for missions/projects.
right ascension	Awkward. Use "ra" instead.
slant range	For consistancy use "distance" instead.
begin/end	Use start/stop instead of begin/end. Define the basic data object as a group such as "event_time_range" and use "start_time" and "stop_time" as the data elements within the group.

2.2.2 COMPONENT TERM REDUCTION

All Planetary Data System (PDS) Version 1.0 data set documentation shall use terse names and abbreviated long names according to the conventions given below. These are needed to support implementation of specific limitations.

The Terse Names and abbreviations standard is a component of the PDS Nomenclature Standards. There are two aspects:

(1.) The use of abbreviations in the formal "long" names assigned to data objects.

(2.) The construction of terse names using abbreviations for use in processing environments where names are restricted to 7, 8, 10, 12 or some other number of characters.

The terse names for all dictionary terms are maintained by the PDS Data Administrator (DA). Any additions, deletions, changes or corrections should be forwarded to the PDS DA.

Terse names or abbreviated long names are formed by using the abbreviation for component terms in the formal long name. Standard abbreviations for component terms are listed in Appendix C. The abbreviations listed in Appendix C provide one or more standard abbreviation(s) for any component term in the PDS Science Catalog.

2.2.2.1 TERSE NAMES

The maximum length of a PDS terse name is 12 characters. There are instances, therefore, when it becomes necessary to abbreviate terms within a name in order to comply with this limit. The rules for terse names are:

(1.) Abbreviate only if necessary to fit a name within the 12 character limit.

(2.) There may be multiple allowable abbreviations for a number of terms. This is to support the construction of terse names of varying length (i.e., 12, 8, or even 6 characters), while maintaining maximum readability. Each abbreviation, however, will be unique and correspond to one and only one full word.

(3.) READABILITY is the primary goal.

(4.) The list of terse names should be followed. Some words are always abbreviated. If more than one form is available, the longest one which will fit should be used first, subject to rule 7, below.

(5.) Terse names are constructed only for root words.

(a.) Plural descriptor words are given the root word abbreviation followed by an s.

(b.) Other words with the same root (such as operations and operational) are given the same terse name.

(6.) When abbreviation is necessary, the most important word in the element name should be preserved in the longest state.

(7.) In elements with more than three words, a word can be left out of the terse name if clarity is preserved.

(8.) Connector words such as "or" and "from" can be dropped.

(9.) The first letter of the terse name must be the same as the first letter of the full element name. First letters of abbreviations do not have to follow this rule unless the abbreviation begins the terse name.

(10.) Words containing four letters are left as four letters unless it is necessary, due to length considerations, to further abbreviate them. Longer words may or may not be shortened in all cases, depending primarily on frequency of use and the availability of a clear abbreviation.

(11.) When the component term "description" is used in the construction of terse names always use the abbrevation "d". (See appendix C for a complete list of abbreviations used for constructing terse names.)

2.2.2.2 PDS TABLE NAMING CONVENTIONS

(1.) Names of discipline–specific tables must start with a two–letter abbreviation for the discipline. For example:

(a.) Fields and Particles = FP

(b.) Imaging = IM

(2.) Names of instrument-specific tables must carry the instrument-id in the name, as in "fpMAG-modedet" and "fpLECPpmpinf".

2.2.2.3 PDS STORED COMMAND NAMING CONVENTIONS

Names of stored commands must start with a one-letter abbreviation for the discipline or catalog:

(1.) Fields and Particles = F

(2.) Imaging = I

(3.) High level catalog = H

2.2.2.4 ABBREVIATED LONG NAMES

The maximum length of a PDS data element name is 30 characters. There are instances, therefore, when it becomes necessary to abbreviate component terms within a name in order to comply with this limit. The rules for abbreviated long names are the same as for terse names, except for the change in limit.

2.3 COLUMN NAMES AND DEFINITIONS

This section defines all of the data items appearing as table columns in the database for the Science Catalogs and System Data. The section is ordered by the full name of the element in the Data Dictionary. For each element its corresponding column name in the database is given, along with its SQL data type and scientific units, followed by the Data Dictionary definition of the element.

Section 7.4.2 of this Chapter lists the abbreviations and names for the units of measurement

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
a_axis_radius	**aaxisradius**	**float(17)**	**km**

The a_axis_radius element provides the value of the a_axis of a solar system body. The a_axis is the semimajor axis of the ellipsoid which defines the approximate shape of the body.

acceptance_detector_desc	**acceptdetd**	**char(60)**	**none**

Post Version 1.0 Data Element

acceptance_information_desc	**acceptinfod**	**char(60)**	**none**

Post Version 1.0 Data Element

algorithm_desc	**algd**	**char(60)**	**none**

The algorithm_description element describes the data processing function performed by an algorithm and the data types to which the algorithm is applicable.

algorithm_name	**algname**	**char(30)**	**none**

The algorithm_name element provides (where applicable) the formal name which identifies an algorithm. Example value: RUNGE-KUTTA.

algorithm_version_id	**algverid**	**char(4)**	**none**

The algorithm_version_identification element identifies (where applicable) the version of an algorithm.

antecedent_software_name	**antswname**	**char(30)**	**none**

The antecedent_software_name element identifies the processing software which is commonly applied to a science data set before processing by the subject software.

ascending_node_longitude	**ascnodelon**	**float(17)**	**deg**

The ascending_node_longitude element provides the value of the angle measured eastward along the ecliptic from the vernal equinox to the ascending node of the orbit. The ascending node is defined as the point where the body in its orbit rises north of the ecliptic.

author_full_name	**authfullname**	**char(60)**	**none**

The author_full_name element provides the full_name of an author of a document.

availability_id	**availid**	**char(20)**	**none**

The availability_identification element is a numeric key which identifies the availability of the subject program or algorithm (e.g., program permanently on line, user request necessary for operator to load program, program undergoing development and testing–use at own risk).

available_value_type **avlvaltype** **char(1)** **none**

The available_value_type element indicates whether the available values for a PDS data element consist of a set of literal values or represent example values (i.e. values which must conform to a formation rule). Example values: L (available values are literal values), or X (available values are example values).

azimuth **az** **float(17)** **deg**

The azimuth element provides the azimuth value of a point of interest (for example, the center point of an image of a solar system object taken from a lander or a rover). Azimuth is an angular distance from a fixed reference position. Azimuth is measured in a spherical coordinate system, in a plane normal to the principal axis. Azimuth values increase according to the right hand rule relative to the positive direction of the principal axis of the spherical coordinate system. See elevation.

b_axis_radius **baxisradius** **float(17)** **km**

The b_axis_radius element provides the value of the b_axis of a solar system body. The b_axis is the intermediate axis of the ellipsoid which defines the approximate shape of the body.

bandwidth **bandwidth** **float(17)** **Hz**

The bandwidth element provides a measure of the spectral width of a filter or channel. For a root-mean-square detector this is the effective bandwidth of the filter i.e., the full width of an ideal square filter having a flat response over the bandwidth and zero response elsewhere.

billing_address_line **billaddrline** **char(60)** **none**

This column stores text for the billing address. The text may consist of several lines containing up to sixty (60) characters each.

bin_number **binnum** **integer** **none**

The bin_number element provides the number of a bin. Bin_number values are dependent upon the associated binning scheme.

bin_points **binpoints** **integer** **none**

The bin_points element identifies the number of data samples which fall in a given bin. Note: for Radiometry applications, the bin_points value is the number of points from a given sequence which are located in the given bin.

bl_name **blname** **char(12)** **none**

A unique 12 character name for elements used in any PDS database table. These are the only elements used in the database.

bl_sql_format **blsqlfmt** **char(15)** **none**

This is the format required to generate CREATE statements in IDM SQL.

bond_albedo **bondalb** **float(17)** **none**

The bond_albedo element provides the value of the ratio of the total amount of energy reflected from a body to the total amount of energy (sunlight) incident on the body.

brightness_temperature_id **britetempid** **char(12)** **none**

The brightness_temperature_identification element provides the designation of the spectral band for which particular brightness temperature measurements were made. In the spectral_contrast_range group, the brightness_temperature_identification designator may refer to a planetary temperature model.

browse_flag **browseflag** **char(1)** **none**

The browse_flag element is a yes_or_no flag which indicates whether browse_format data are available for a given sample interval.

build_date **builddate** **char(8)** **none**

The build_date element provides the date associated with the completion of the manufacture of an instrument. This date should reflect the level of technology used in the construction of the instrument.

FORMATION RULE: YYYY-MM-DD

c_axis_radius **caxisradius** **float(17)** **km**

The c_axis_radius element provides the value of the c_axis of a solar system body. The c_axis is the semiminor axis of the ellipsoid which defines the approximate shape of the body.

center_filter_wavelength **ctrfiltwave** **float(17)** **micron**

The center_filter_wavelength element provides the mid_point wavelength value between the minimum and maximum instrument filter wavelength values.

center_frequency **ctrfreq** **float(17)** **Hz**

The center_frequency element provides the frequency of maximum transmittance of a filter or the frequency which corresponds to the geometric center of the passband of a filter or a channel.

channel_geometric_factor **chnlgeomfact** **float(17)** **none**

The channel_geometric_factor element provides the value of G in the formula: j = R/((E2-E1)G), where (E2-E1) is the energy range accepted by the channel. This formula allows conversion of a particle detector channel count rate, R, into a differential intensity, j (counts/time.area.steradians.energy). G has dimensions of area.steradians, and here includes the efficiency of particle counting by the relevant detector.

channel_group_name **chnlgrpname** **char(20)** **none**

The channel_group_name element provides the name given to a group of particle detector channels

that are activated or deactivated as a group in any instrument mode configuration. The grouping is not tied to the physical groupings of detectors, and more than one group can be activated during any one mode.

channel_id	**chnlid**	**char(4)**	**none**

The channel_identification element identifies the instrument channel through which data were obtained. This may refer to a spectral band or to a detector and filter combination.

channel_integration_duration	**chnlintgdur**	**float(17)**	**s**

The channel_integration_duration element provides the length of time during which charge from incoming particles is counted by the detectors for each channel in a given mode.

channels	**chnls**	**integer**	**none**

The channels element provides the number of channels in a particular instrument, section of an instrument, or channel group.

clustered_key	**clustkey**	**char(12)**	**none**

The clustered_key element indicates whether a column in a table is part of a unique clustered index. This index determines uniqueness in the table and the sorting order of the data.

cognizant_full_name	**cogfullname**	**char(60)**	**none**

The cognizant_full_name element provides the full name of the individual who has either developed the processing software or has current knowledge of its use.

column_description	**cold**	**char(60)**	**none**

This is the description of a element in the database. There should be a description for every element.

column_name	**colname**	**char(30)**	**none**

This is the 30 character dictionary name used in documentation and template objects. They are unique and are an alias to the BLNAMEs.

column_name_alias	**colnamealias**	**char(40)**	**none**

This alias is for isolated screens where the COLNAME usage may not be clear to the user.

column_order	**colord**	**smallint**	**none**

The column_order element represents the sequence number of columns within a table. The sequence begins with 1 for the first column and is incremented by 1 for each subsequent column in the table.

column_required_flag	**colreqflag**	**char(1)**	**none**

The column_required_flag element indicates whether an input parameter to a stored command is required or may be left blank by the user.

column_unit_type **colunittype** **char(12)** **none**

The column_unit_type denotes any applicable designation of unit type to a particular column

column_value **colval** **char(80)** **none**

The column value contains a standard ASCII value used in domain validation. An element may have many possible values that are valid.

column_value_node_id **colvalnodeid** **char(10)** **none**

The column_value_node_id element indicates a list of one or more science nodes for which an available standard value is available. The list of science nodes is represented as a concatenation of single-character identifiers in alphabetic order. Allowable identifiers include: F (Fields and Particles), I (Images), N (NAIF), U (unknown - valid only if the column_value_type element is 'P' for a possible value that was provided but the provider is unknown), A (Atmospheres), P (Planetary Rings), R (Radiometry), S (Spectroscopy).

column_value_type **colvaltype** **char(1)** **none**

The column_value_type element indicates whether a standard value is considered to be an available value (the value currently exists in the PDS catalog) or a possible value (the value does not currently exist in the PDS catalog but) may exist in the future). Example values: A (available value) or P (possible value).

committee_member_full_name **comtfullname** **char(60)** **none**

The committee_member_full_name element identifies a peer review committee member. The member does not necessarily have a PDS userid.

computer_vendor_name **cpuvendname** **char(30)** **none**

The computer_vendor_name element identifies the manufacturer of the computer hardware on which the processing software operates.

cone_angle **coneang** **float(17)** **deg**

The cone_angle element provides the value of the angle between the primary spacecraft axis and the pointing direction of the instrument.

cone_offset_angle **coneoffang** **float(17)** **deg**

The cone_offset_angle element provides the elevation angle (in the cone direction) between the pointing direction along which an instrument is mounted and the cone axis of the spacecraft. See also cross_cone_offset_angle, twist_offset_angle, and cone_angle.

confidence_level_note **confivlnote** **char(60)** **none**

The confidence_level_note element 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.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS

contamination_desc **contamd** **char(60)** **none**

The contamination_description element describes the type of data contamination which is associated with a particular contamination_identification value. The various values of contamination_identification and contamination_description are instrument_dependent.

contamination_id **contamid** **char(3)** **none**

The contamination_identification element identifies a type of contamination which affected an instrument during a particular period of data acquisition. The associated contamination_description element describes the type of contamination.

coordinate_system_center_name **crdsysctrnm** **char(40)** **none**

The coordinate_system_center_name element identifies a named target, such as the Sun, a planet, a satellite or a spacecraft, as being the location of the center of the reference coordinate system. The coordinate_system_center_name element can also be used to identify a barycenter used for a SPICE s_ or p_kernel.

coordinate_system_desc **crdsysd** **char(60)** **none**

The coordinate_system_description element describes a named reference coordinate system in terms of the definitions of the axes and the "handedness" of the system. It also provides other necessary descriptive information, such as the rotation period for rotating coordinate systems.

coordinate_system_id **crdsysid** **char(8)** **none**

The coordinate_system_identification element provides an alphanumeric identifier for the referenced coordinate system.

coordinate_system_name **crdsysname** **char(30)** **none**

The coordinate_system_name element provides the full name of the coordinate system to which the state vectors are referenced. Example value: JUPITER SYSTEM III.

coordinate_system_ref_epoch **crdsysepoch** **float(17)** **d**

The coordinate_system_reference_epoch element provides the Julian date selected as the reference time for a geometric quantity that changes over time. For example, the location of a prime meridian may have a fixed value at a reference epoch, with additional time_dependent terms added.

create_date **createdate** **char(8)** **date**

This date is in YYYYMMDD format and is used for storing the create date of a table or query on the database.

criticality **critical** **char(1)** **none**

This column stores the criticality code for an attribute. A criticality id is assigned to each table's attribute so the criticality can be dependent on the usage within a table. This criticality is used by the catalog bulk load software during a template object validation step.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS

cross_cone_angle **crsconeang** **float(17)** **deg**

The cross_cone_angle element provides the value of an azimuthal measurement orthogonal to cone_angle.

cross_cone_offset_angle **crsconoffang** **float(17)** **deg**

The cross_cone_offset_angle element provides the azimuthal (in the cross-cone direction) between the pointing direction along which an instrument is mounted and the cross_cone axis of the spacecraft. See also cone_offset_angle, twist_offset_angle, and cross_cone_angle.

cycle_id **cycleid** **char(10)** **none**

The cycle_id element provides an identification for a particular cycle of the Voyager PLS instrument. The PLS is programed to execute a sequence of instrument modes at specific time intervals. These sequences repeat continuously in a given instrument cycle.

da_contact_pds_user_id **dapdsuserid** **char(60)** **none**

The da_contact_pds_user_id element provides the pds_user_id of the data administration contact at a node.

data_coverage_percentage **datacvgpct** **float(17)** **none**

The data_coverage_percentage element provides an indication of the fraction of samples available in a given time period compared to the maximum possible. The percentage value is defined as ((Number of samples available) divided by (total number of samples possible in the spacecraft time range)) multiplied by 100.

data_object_type **dataobjtype** **char(30)** **none**

The data_object_type element identifies the data object class of a given set of data, according to PDS Object Definition standards. Example values: IMAGE, MAP, SPECTRUM

data_path_type **datapathtype** **char(60)** **none**

The data_path_description element describes the telemetry path which data traversed from a spacecraft to the ground. Example Values: REAL_TIME PLAYBACK, RECORDED DATA PLAYBACK.

data_quality_desc **dataquald** **char(60)** **none**

The data_quality_description element describes the data quality which is associated with a particular data_quality_identification value. The various values of data_quality_identification and data_quality_description are instrument_dependent.

data_quality_id **dataqualid** **char(3)** **none**

The data_quality_identification element provides a numeric key which identifies the quality of data available for a particular time period. The data quality identification scheme is unique to a given instrument and is described by the associated data_quality_description element.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
data_rate	**datarate**	**float(17)**	**b/s**

The data_rate element provides the rate at which data were transmitted from a spacecraft to the ground (i.e., the telemetry rate).

data_set_acceptance_date	**dsacceptdate**	**char(8)**	**none**

Post Version 1.0 Data Element

data_set_bytes	**dsbytes**	**integer**	**none**

The data_set_bytes element provides the total number of bytes a data set requires for storage. This number supports the order function of PDS.

data_set_cost	**dscost**	**integer**	**us dollar**

The data_set_cost element provides the cost per granule for a data set and is used when checking the threshold levels for an order item. Each media type can have a different data set cost.

data_set_desc	**dsd**	**char(60)**	**none**

The data_set_description element describes the content and type of a data set and provides information required to use the data (such as binning information).

data_set_granule_name	**dsgranname**	**char(20)**	**none**

The data_set_granule_name element provides the name of the level of granularity for each data set media type a node can deliver.

data_set_id	**dsid**	**char(40)**	**none**

The data_set_identification element is a unique alphanumeric identifier for a data set or a data product. The data_set_identification value for a given data set or product is constructed according to PDS standards. Example value: MR9_MARS_UVS_EDR_V1.0 .

data_set_id_or_name	**dsidname**	**char(60)**	**none**

The data_set_id_or_name element provides either the identification of a given data set (its data_set_id), or the name of a given data set (its data_set_name). The values for both the data_set_id and the data_set_name are constructed according to PDS standards.

data_set_name	**dsname**	**char(60)**	**none**

The data_set_name element provides the full name given to a data set or a data product. The data_set_name is constructed according to PDS standards. The data_set_name typically identifies the instrument which acquired the data, the target of that instrument and the processing level of the data. Example value: MARINER 9 MARS ULTRAVIOLET SPECTROMETER ENGINEERING DATA RECORD.V1.0 .

data_set_or_inst_parm_desc	**dsinstparmd**	**char(60)**	**none**

The data_set_or_inst_parm_desc element describes either a data set or instrument parameter.

data_set_or_instrument_parm_nm | **dsinstparmnm** | **char(40)** | **none**

The data_set_or_instrument_parameter_name element provides either a data_set_parameter_name or an instrument_parameter_name. That is, this element may have values which are either the name of a parameter derived from measured data (the data_set_parameter_name) or the name of a parameter measured by an instrument (the instrument_parameter_name).

data_set_parameter_name | **dsparmname** | **char(40)** | **none**

The data_set_parameter_name element provides the name of the data set parameter which was derived from measured data. A description of the dataset parameter is provided by the data_set_or_inst_parm_desc. See also instrument_parameter_name. Example value: MAGNETIC FIELD INTENSITY

data_set_parameter_unit | **dsparmunit** | **char(60)** | **none**

The data_set_parameter_unit element specifies the unit of measure of associated data set parameters.

data_set_release_date | **dsreleasedt** | **char(8)** | **none**

The data_set_release_date element provides the date when a data set was released for use.

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data_set_threshold | **dsthrshld** | **integer** | **none**

The data_set_threshold element identifies the maximum number of granules which a node will distribute as a subset of a dataset. A request for a portion of a dataset which is greater than this threshold will result in distribution of the entire dataset.

data_source_desc | **datasourced** | **char(60)** | **none**

The data_source_desc element describes the source of a data value descriptive of a target body. The source may be a document, an individual, or an institution. See also data_source_identification.

data_source_id | **datasourceid** | **char(60)** | **none**

The data_source_identification element identifies the source of a data value descriptive of a target body. The source may be a document, an individual, or an institution, as described by the associated data_source_desc element.

declination | **declination** | **float(17)** | **deg**

The declination element provides the value of an angle, corresponding to latitude, used to fix position on the celestial sphere. Declination is measured positive north and negative south of the celestial equator, and is defined relative to a specified reference period or epoch. See right_ascension.

defining_authority_name | **defauthyname** | **char(60)** | **none**

The defining_authority_name element identifies the "Control Authority Office" (CAO) responsible for maintaining the definition of a particular SFDU format. CAOs are officially recognized by the

Consultative Committee on Space Data Systems (CCSDS).

delimiting_parameter_name **delimparmnm** **char(30)** **none**

The delimiting_parameter_name element provides the name of a parameter the values of which are used to establish the boundaries of a set of data. Example values: FRAME IDENTIFICATION, LOCAL TIME, MAXIMUM LATITUDE.

delivery_estimate_date **deliverydate** **char(8)** **none**

The delivery_date element identifies the date indicated by a science node for estimated delivery of ordered data.

density **density** **float(17)** **kg/m3**

The mass_density element provides the bulk density (mass per unit volume) of a target body. Bulk density is defined as the ratio of total mass to total volume.

detailed_catalog_flag **detailcatflg** **char(1)** **none**

The detailed_catalog_flag element is a yes-or-no flag which indicates whether additional information is available for this data set in a detailed-level catalog.

detector_aspect_ratio **detaspectrto** **float(17)** **none**

The detector_aspect_ratio element provides the ratio of the horizontal to the vertical field of view of a detector.

detector_desc **detd** **char(60)** **none**

The detector_desc element describes a detector utilized by an instrument.

detector_group_name **detgrpname** **char(20)** **none**

Post Version 1.0 Data Element

detector_groups **detgrps** **integer** **none**

Post Version 1.0 Data Element

detector_id **detid** **char(20)** **none**

The detector_id element identifies a particular instrument detector. The associated instrument_detector_description element describes the detector.

detector_type **dettype** **char(20)** **none**

The detector_type element identifies the type of an instrument's detector. Example values: SI CCD, INSB, GE, VIDICON, PHOTODIODE.

detectors **dets** **smallint** **none**

The detectors element provides the number of detectors of a specified type contained in the subject instrument.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
discipline_desc	**discd**	**char(60)**	**none**

The discipline_description element describes the discipline identified by the discipline_name element.

discipline_name	**discname**	**char(30)**	**none**

The discipline_name element identifies the major academic or scientific domain or specialty of interest to an individual or to a PDS Node.

display_format	**dspfmt**	**char(12)**	**none**

The display_format element provides display format information to software which formats data to an output device. Valid format types include: DATE(X) where X is the number of digits in a date. Usually DATE(6) (YYYY-MM) or DATE(8) (YYYY-MM-DD). TIME(X) where X is the number of digits in a time. Usually TIME(6) (HH:MM:SS) or TIME(4) (HH:MM). DATETIME for UTC date-times (MM-DD-YYYYTHH:MM:SS.HHH). JUSTLEFT for left-justified strings. JUSTRIGHT for right-justified strings. DIGIT(X) where X is the number of digits in an integer, so 897 would be DIGIT(3). SCI(X,Y) where X is the number of significant digits before the decimal in scientific notation, and Y is the number following the decimal, so 1.293E-2 would be SCI(1,3). FLOAT(X) where X is the total number of digits in a floating point number, so 33.018746 would be FLOAT(8). USDOLLAR for monetary amounts (floating point and integer. PHONE for 10-digit phone numbers. FTSPHONE for 7-digit phone numbers.

distribution_media_desc	**dstnmediad**	**char(60)**	**none**

The distribution_media_desc element provides the description of the distribution media for an order item. This description is only associated with an individual order item.

distribution_node_id	**distnodeid**	**char(10)**	**none**

The distribution_node_id element identifies the node which fills and distributes an order.

document_topic_type	**doctopictype**	**char(60)**	**none**

The document_topic_type element is a keyword which identifies the major topic of a reference document.

earth_base_desc	**ebd**	**char(60)**	**none**

The earth_base_description element describes the earth base from which particular instrument measurements where taken. An earth base can be a laboratory, observatory, etc., and is identified by the earth_base_id element.

earth_base_id	**ebid**	**char(4)**	**none**

The earth_base_id element provides a unique identifier for the laboratory, observatory, or other location of an earth- based instrument.

earth_base_institution_name	**ebinstnname**	**char(60)**	**none**

The earth_base_institution_name element identifies a university, research center, NASA center or other institution associated with a laboratory or observatory.

earth_base_name **ebname** **char(60)** **none**

The earth_base_name element identifies the name of the laboratory, observatory, or other location of a earth-based instrument.

earth_received_time **earthrcvdtm** **char(18)** **none**

The earth_received_time element provides the time at which a transmitted image was received on earth. This should be represented in the PDS standard (UTC) format. For real time data, the difference between this time and the spacecraft_event_time is the signal travel time from the spacecraft to earth.

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edit_mode_id **editmodeid** **char(20)** **none**

The edit_mode_id element indicates the amount of data read from an imaging instrument's vidicon. '1:1' indicates the full-resolution of the vidicon. Example values: (Voyager) 3:4, 1:2, 1:3, 1:5, and 1:1'.

edit_routine_name **editrtnname** **char(12)** **none**

The edit_routine_name element provides the name of a edit routine name that the catalog bulk loading software should execute during any validation procedures.

electronic_mail_id **elecmailid** **char(60)** **none**

The electronic_mail_id element provides an individual's mailbox name on the electronic mail system identified by the electronic_mail_type element (e.g., Telemail).

electronic_mail_type **elecmailtype** **char(20)** **none**

The electronic_mail_type element identifies an electronic mail system by name. Example values: TELEMAIL, VAX MAIL.

electronics_desc **elecsd** **char(60)** **none**

The electronics_desc element describes the electronics associated with a given instrument.

electronics_id **elecsid** **char(20)** **none**

The electronics_id element identifies the electronics associated with a given instrument.

elevation **elevation** **float(17)** **deg**

The elevation element provides the angular elevation of a point of interest (for example, the center point of an image of a solar system object taken from a lander or a rover) above the azimuthal reference plane. Elevation is measured in a spherical coordinate system. The zero elevation point lies in the azimuthal reference plane and positive elevation is measured toward the positive direction of the principal axis of the spherical coordinate system. See azimuth.

emission_angle **emissang** **float(17)** **deg**

The emission_angle element provides the value of the angle between the surface normal vector at the intercept point and a vector from the intercept point to the spacecraft. The emission_angle varies from 0 degrees when the spacecraft is viewing the subspacecraft point (nadir viewing) to 90 degrees when the intercept is tangent to the surface of the target body. Thus, higher values of emission_angle indicate more oblique viewing of the target.

equatorial_radius **equatradius** **float(17)** **km**

The equatorial_radius element provides the average radius in the equatorial plane of the best fit spheroid which approximates the target body.

event_name **evtname** **char(40)** **none**

The event_name element identifies an event. This may be a spacecraft event, a ground_based event or a system event.

event_start_hour **evtstrthour** **char(10)** **none**

The event_start_hour element provides the date and hour of the beginning of an event (whether a spacecraft event, a ground based event or a system event) in the PDS standard (UTC) format. The values associated with this element are derived from existing values of event_start_time and are used strictly for the PDS catalog performance enhancements.

event_start_time **evtstrttime** **char(18)** **none**

The event_start_time element provides the date and time of the beginning of an event (whether a spacecraft event, a ground based event or a system event) in the PDS standard (UTC) format.

FORMATION RULE: YYYY-MM-DDThh:mm:ss.ddd

event_stop_time **evtstoptime** **char(18)** **none**

The event_stop_time element provides the date and time of the end of an event (whether a spacecraft event, a ground based event or a system event) in the PDS standard (UTC) format.

FORMATION RULE: YYYY-MM-DDThh:mm:ss.ddd

event_type **evttype** **char(30)** **none**

The event_type element identifies the classification of an event. Example values: MAGNETOPAUSE CROSSING, VOLCANIC ERUPTION, SYSTEM CRASH.

event_type_desc **evttyped** **char(60)** **none**

The event_type_desc element describes the type of event identified by the event_type element.

expertise_area_desc **exprtaread** **char(60)** **none**

The expertise_area_description element describes a particular area of individual expertise.

expertise_area_type **exprtareatyp** **char(20)** **none**

The expertise_area_type element identifies an individual's area of expertise. The corresponding expertise_area_description element describes the area of expertise.

exposure_duration **exposdur** **float(17)** **ms**

The exposure_duration element provides the value of the time interval between the opening and closing of a camera shutter.

exposure_offset_flag **exposofffig** **char(3)** **none**

The exposure_offset_flag element indicates the (instrument_dependent) mode of the offset state of a camera. Offset is a constant value which is added to an instrument's output signal to increase or decrease the level of that output.

exposure_offset_number **exposoffnum** **float(17)** **none**

The exposure_offset_number element provides the value of a numerical constant which was added to the exposure duration for a given imaging instrument.

feature_name **featname** **char(40)** **none**

The feature_name element provides the proper IAU_approved name of a feature on a solar system body. Example value: OLYMPUS MONS.

feature_type **feattype** **char(30)** **none**

The feature_type element identifies the type of a particular feature, according to IAU standards. Example values: IMPACT CRATER, VOLCANO.

feature_type_desc **feattyped** **char(60)** **none**

The feature_type_description element provides the IAU standard definition for a particular feature_type.

filter_name **filtname** **char(20)** **none**

The filter_name element provides the commonly_used name of the instrument filter through which an image or measurement was acquired or which is associated with a given instrument mode. Example values: RED, GREEN. See also filter_number.

filter_number **filtnum** **char(4)** **none**

The filter_number element provides the number of an instrument filter through which an image or measurement was acquired or which is associated with a given instrument mode. Note that the filter_number is unique, while the filter_name is not.

filter_type **filttype** **char(30)** **none**

The filter_type element identifies the type of a given instrument filter. Example values: INTERFERENCE, MESH, BANDPASS, BLOCKING.

flattening **flattening** **float(17)** **none**

The flattening element provides the value of the geometric oblateness of a solar system body, defined as the ratio of the difference between the body's equatorial and polar radii to the equatorial radii ((a-c) divided by (a)).

format_desc **fmtd** **char(60)** **none**

The format_desc element provides a textual description of the format of the subject data.

format_type **fmttype** **char(10)** **none**

The format_type element identifies the format of a given set of data. Example values: ASCII, HEX.

fov_shape_name **fovshapename** **char(20)** **none**

The field_of_view_shape_name element identifies the geometric shape of the field of view of an instrument.

fovs **fovs** **smallint** **none**

The fovs (fields-of-view) element indicates the number of fields of view associated with a single fov shape within a section of an instrument.

frame_duration **framedur** **float(17)** **s**

The frame_duration element provides the value of the length of time required to measure one frame of data. The frame_duration is constant within a given instrument cycle, which is identified by the cycle_id element.

frame_id **frameid** **char(10)** **none**

The frame_id element provides an identification for a particular instrument measurement frame. A frame consists of a sequence of measurements made over a specified time interval, and may include measurements from different instrument modes. These sequences repeat from cycle to cycle and sometimes within a cycle.

frame_sequence_number **frameseqnum** **integer** **none**

The frame_sequence_number element indicates the location within a cycle at which a specific frame occurs. Frames are repeated in a specific order within each cycle.

frames **frames** **integer** **none**

The frames element provides the number of frames within a particular cycle, which is identified by the cycle_id element.

fts_number **ftsnum** **char(7)** **none**

The fts_number element provides the Federal Telecommunications System (FTS) telephone number of an individual.

full_name **fullname** **char(60)** **none**

The full_name element provides the complete name of an individual, including titles and suffixes (such as 'Jr.' or 'III'). Example value: DR. J. THOMAS RENFROW.

gain_mode_id **gainmodeid** **char(30)** **none**

The gain_mode_id element identifies the gain state of an instrument. Gain is a constant value which is multiplied with an instrument's output signal to increase or decrease the level of that output.

gain_modes **gainmodes** **integer** **none**

The gain_modes element provides the number of gain states of a particular instrument or section of an instrument.

granule_sequence_number **granseqnum** **smallint** **none**

The granule_sequence_number element identifies the sequence of data granules within an order item.

granule_start **granstrt** **char(25)** **none**

The granule_start element identifies the first or start valu a range of granules associated with a specific order item.

granule_stop **granstop** **char(25)** **none**

The granule_stop element identifies the last or stop value o a range of granules associated with a specific order item.

help_id **helpid** **smallint** **none**

The help_id element identifies a PDS topic for which help text is available.

help_name **helpname** **char(16)** **none**

The help_name element provides the key to help text used in the Inspect Data function.

help_text **helptext** **char(60)** **none**

The help_text element provides the ascii help text used for online help in the Inspect Data function.

horizontal_fov **horzfov** **float(17)** **deg**

The horizontal_field_of_view element provides the angular measure of the horizontal field of view of an instrument.

horizontal_pixel_fov **horzpixfov** **float(17)** **deg**

The horizontal_pixel_field_of_view element provides the angular measure of the horizontal field of view of a single pixel.

image_id **imageid** **char(30)** **none**

The image_id element is used to identify an image and typically consists of a sequence of characters representing 1) a routinely occurring measure, such as revolution number, 2) a letter identifying

the spacecraft, target, or camera, and 3) a representation of a count within the measure, such as picture number within a given revolution. Example: Mariner 9 - Levanthal Identifier - (orbit, camera, pic #, tot # of pic in orbit), Viking Orbiter - (orbit #, sc, pic # (FSC/16)), Viking Lander - (sc, camera, mars doy, diode (filter), pic # for that day), Voyager - (pic # for encounter, FDS for cruise)

image_key_id **imagekeyid** **char(30)** **none**

The image_key_id element provides a shorthand identifier for an image which is unique for a given spacecraft. The image_key_id and spacecraft_id together provide a unique identifier for any image within the PDS. The contents of image_key_id may be any common identifier of an image, but it is suggested that one of the following be used: 1) image_id (pic_no), 2) image_number (FSC), 3) spacecraft_clock_count (FDS). Guaranteeing uniqueness may require modification of the selected common identifier and is the responsibility of the data supplier. For example, in the case where an image was retransmitted, an alphabetic character could be appended. When unique identifiers are not supplied, PDS will assign a simple numeric identifier as the image_key_id. This identifier will range from 1 to the number of images associated with the specified spacecraft.

image_number **imagenum** **char(30)** **none**

The image_number element is a value obtained from the spacecraft_clock_start_count. The image number is another commonly used identifier for an image. Example: Viking - Frame Start Count (FSC), Voyager - Flight Data Subsystem (FDS) clock count (integer 7 digit)

image_observation_type **imageobstype** **char(10)** **none**

The image_observation_type element identifies the type or purpose of an observation that may be associated with an image. Image observation types include limb, black sky, spacecraft calibration, or other image attribute that may be used for identification. Observation types should not include features, regions, or standard target names.

image_time **imagetime** **char(18)** **none**

The image_time element provides the spacecraft event time at the time of frame acquisition. This should be represented in the PDS standard (UTC) format.

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important_instrument_parms **impinstparms** **smallint** **none**

The important_instrument_parameters element provides the number of instrument parameters which are required to derive a particular data set parameter. This value depends partly on the particular characteristics of the instruments providing the instrument parameters. For example, in the case of Voyager instruments, the data set parameter PLASMA BETA may be derived from the following set of instrument parameters: ELECTRON RATE, ION RATE, MAGNETIC FIELD COMPONENT. In that case, the value of the important_instrument_parameters element is 3.

incidence_angle **incidang** **float(17)** **deg**

The incidence_angle element provides a measure of the lighting condition at the intercept point. Incidence angle is the angle between the local vertical at the intercept point (surface) and a vector

from the intercept point to the sun. The incidence_angle varies from 0 degrees when the intercept point coincides with the sub_solar point to 90 degrees when the intercept point is at the terminator (i.e., in the shadowed or dark portion of the target body). Thus, higher values of incidence_angle indicate the existence of a greater number of surface shadows.

initiating_node_id **initnodeid** **char(10)** **none**

The initiating_node_id element identifies the node from which a user placed an order.

inner_periapsis_argument_angle **inperiargang** **float(17)** **deg**

The inner_periapsis_argument_angle element provides the value of the angle between the two vectors originating at the center of the central body and ending at 1) the ascending node of the inner_most portion of a ring and at 2) the periapsis of the inner_most portion of the same ring. The coordinate system used to reference the ascending node and periapsis is identified by the associated coordinate_system_identification.

instrument_calibration_desc **instcalibd** **char(60)** **none**

The instrument_calibration_description element explains the method of calibrating an instrument and identifies reference documents which explain in detail the calibration of the instrument. As an example, this element would explain whether the calibration was time_independent (i.e., a single algorithm was used) or time_dependent and whether the calibration was performed in_flight or in a laboratory.

instrument_desc **instd** **char(60)** **none**

The instrument_description element describes a given instrument.

instrument_height **instheight** **float(17)** **m**

The instrument_height element provides the physical height of an instrument.

instrument_host_id **insthostid** **char(4)** **none**

The instrument_host_id element provides a unique identifier for the host on which an instrument is based. This host can be either a spacecraft or an earth base. Thus, the instrument_host_id element can contain values which are either spacecraft_id values or earth_base_id values.

instrument_host_id_or_name **insthostidnm** **char(60)** **none**

The instrument_host_id_or_name element provides either an instrument_host_id or an instrument_host_name. That is, this element may have values which are either the identification of an instrument host (the instrument_host_id) or the name of an instrument host (the instrument_host_name).

instrument_host_name **insthostname** **char(60)** **none**

The instrument_host_name element provides the full name of the host on which an instrument is based. This host can be either a spacecraft or an earth base. Thus, the instrument_host_name element can contain values which are either spacecraft_name values or earth_base_name values.

instrument_host_type **insthosttype** **char(20)** **none**

The instrument_host_type element provides the type of host on which an instrument is based. For example, if the instrument is located on a spacecraft, the instrument_host_type element would have the value SPACECRAFT.

instrument_id **instid** **char(4)** **none**

The instrument_identification element provides an abbreviated name or acronym which identifies an instrument. Note that the instrument_identification is not a unique identifier for a given instrument. Note also that the associated instrument_name element provides the full name of the instrument. Example values: IRTM (for Viking Infrared Thermal Mapper), PWS (for plasma wave spectrometer).

instrument_id_or_name **instidname** **char(40)** **none**

The instrument_id_or_name element provides either an instrument_id or an instrument_name. That is, this element may have values which are either the identification of an instrument (the instrument_id) or the name of an instrument (the instrument_name).

instrument_length **instlength** **float(17)** **m**

The instrument_length element provides the physical length of an instrument.

instrument_manufacturer_name **instmfgname** **char(60)** **none**

The instrument_manufacturer_name element identifies the manufacturer of an instrument.

instrument_mass **instmass** **float(17)** **kg**

The instrument_mass element provides the mass of an instrument.

instrument_mode_desc **instmoded** **char(60)** **none**

The instrument_mode_description element describes the instrument mode which is identified by the instrument_mode_id element.

instrument_mode_id **instmodeid** **char(20)** **none**

The instrument_mode_identification element provides an instrument_dependent designation of operating mode. This may be simply a number, letter or code, or a word such as "normal," "full_resolution," "near encounter," or "fixed_grating."

instrument_mounting_desc **instmountd** **char(60)** **none**

The instrument_mounting_description element describes the mounting of an instrument (on a platform on spacecraft or a mounting at a lab) and the orientation of the instrument with respect to the platform.

instrument_name **instname** **char(40)** **none**

The instrument_name element provides the full name of an instrument. Note that the associated

instrument_identification element provides an abbreviated name or acronym for the instrument. Example values: FLUXGATE MAGNETOMETER, NEAR_INFRARED MAPPING SPECTROMETER.

instrument_parameter_name **instparmname** **char(40)** **none**

The instrument_parameter_name element provides the name of the data parameter which was measured by an instrument. As an example, the instrument_parameter_name value could be ELECTRIC FIELD COMPONENT. It is intended that the instrument_parameter_name element provide the name of the rawest measured value which has some physical significance. Thus, for example, while the detector of an instrument may actually record voltage differences, the electric field component which is proportional to those differences is considered to be the instrument parameter. Note that the associated dataset_or_instrument_parameter_description element describes the measured parameter.

instrument_parameter_ranges **instparmrngs** **integer** **none**

The instrument_parameter_ranges element provides the number of instrument parameter ranges for a given magnetometer detector. The magnetometer can measure in one of these ranges at a time. The actual range (minimum and maximum values) varies with the quantization of the instrument, which is expressed in the quantization_resolution element.

instrument_parameter_unit **instparmunit** **char(60)** **none**

The instrument_parameter_unit element specifies the unit of measure of associated instrument parameters.

instrument_power_consumption **instpwrcnsmp** **float(17)** **W**

The instrument_power_consumption element provides power consumption information for an instrument. Note that instrument_power_consumption may vary with different modes of instrument operation.

instrument_serial_number **instserlnum** **char(20)** **none**

The instrument serial number element provides the manufacturer's serial number assigned to an instrument. This number may be used to uniquely identify a particular instrument for tracing its components or determining its calibration history, for example.

instrument_type **insttype** **char(30)** **none**

The instrument_type element identifies the type of an instrument. Example values: POLARIMETER, RADIOMETER, REFLECTANCE SPECTROMETER, VIDICON CAMERA.

instrument_width **instwidth** **float(17)** **m**

The instrument_width element provides the physical width of an instrument.

journal_name **journalname** **char(60)** **none**

The journal_name element identifies, where applicable, the published work (e.g., journal or report) which contains a reference document.

keyword_default_value **kwddefault** **char(20)** **none**

The keyword_default_value element is used to initialize a template keyword value to a default value during construction of templates. When filling out template, the data supplier provides a value for all keywords except those which have a default value.

keyword_value_help_text **kwdhelptxt** **char(30)** **none**

The keyword_value_help_text element provides text which describes the information required from the data supplier to assign a value to a template keyword.

last_name **lastname** **char(30)** **none**

The last_name element provides the last name (surname) of an individual.

latitude **lat** **float(17)** **deg**

The latitude element provides the value of the mean planetographic latitude of a point of interest. The planetographic latitude of a point on a reference surface is defined as the angle between the equatorial plane and the normal to the reference surface at the point. Latitude is defined in terms of the IAU convention which identifies the north pole as that pole of rotation which lies on the north side of the invariable plane of the solar system. Latitude values range from -90.0 degrees at the southern pole to +90.0 degrees at the northern pole. Note that a current open issue within the PDS concerns the definition of latitude. Specifically, debate centers on the question of planetographic versus planetocentric latitude as the PDS standard. Resolution of this issue may affect the Data Dictionary definition of this element.

launch_date **launchdate** **char(8)** **none**

The launch_date element identifies the date of launch of a spacecraft or a spacecraft_carrying vehicle.

FORMATION RULE: YYYY-MM-DD

light_flood_state_flag **litefldstflg** **char(3)** **none**

The light_flood_state_flag element indicates the mode (on or off) of light flooding for a camera.

limb_angle **limbang** **float(17)** **deg**

The limb_angle element provides the value of the angle between the center of an instrument's field of view and the nearest point on the lit limb of the target body. Limb_angle values are positive off_planet and negative on_planet.

local_hour_angle **localhourang** **float(17)** **deg**

The local_hour_angle element provides a measure of the instantaneous apparent sun position at the subspacecraft point. The local_hour_angle is the angle between the extension of the vector from the Sun to the target body and the vector projection on the target body's ecliptic plane of a vector from the target body's planetocentric center to the observer (usually, the spacecraft). This angle is measured in a counterclockwise direction when viewed from north of the ecliptic plane. It may be converted from an angle in degrees to a local time, using the conversion of 15 degrees per hour,

for those planets for which the rotational direction corresponds with the direction of measure of the angle.

local_time **localtime** **float(17)** **local day/24**

The local_time element provides the local time of day at the center of the field of view of an instrument, measured in local hours from midnight. A local hour is defined as one twenty_fourth of a local solar day.

longitude **lon** **float(17)** **deg**

The longitude element provides the west longitude on the target body surface of the intercept point, measured in degrees. The surface distance between lines of longitude is proportional to the cosine of the latitude. Note that a current open issue within the PDS concerns the definition of longitude. Specifically, debate centers on the question of east versus west longitude as the PDS standard. Resolution of this issue may affect the Data Dictionary definition of this element.

magnetic_moment **magmoment** **float(17)** **J/T**

The magnetic_moment element provides the value of the magnetic moment of a target body.

mailing_address_line **mailaddrline** **char(60)** **none**

The mailing_address_line element provides one line of the mailing address of an individual or institution. The ordering of the mailing address lines is provided by the associated tuple_sequence_number.

mandatory_column **mandatorycol** **char(1)** **none**

The mandatory_column element denotes whether an attribute may be set to a null value. Example: Y or N

map_desc **mapd** **char(60)** **none**

The map_description element describes the contents and processing history of a given map.

map_name **mapname** **char(40)** **none**

The map_name element provides the name assigned to a map, and typically corresponds to the name of a prominent feature which appears on the map.

map_number **mapnum** **char(20)** **none**

The map_number element provides a numeric identifier for a given map.

map_projection_type **mapprojtype** **char(20)** **none**

The map_projection_type element identifies the type of projection characteristic of a given map. Note that this element is intended only to provide general information regarding a map, rather than a detailed explanation of the construction of the map. Example value: ORTHOGRAPHIC.

map_scale **mapscale** **float(17)** **none**

The map_scale element identifies the scale of a given map. The scale is defined as the ratio of the distance between two points on a map to the actual distance between the corresponding points on the surface of the target body.

map_series_id **mapserid** **char(20)** **none**

The map_series_identification element identifies a map series (as specified by the agency which issued the map).

map_sheet_number **mapsheetnum** **smallint** **none**

The map_sheet_number element provides the sequence number of a map which comprises multiple sheets.

map_type **maptype** **char(20)** **none**

The map_type element identifies the general type of information depicted on a given map. Example values: GEOLOGIC, TOPOGRAPHIC, SHADED_RELIEF.

mass **mass** **float(17)** **kg**

The mass element provides the estimated mass of a target body.

mass_density **massdensity** **float(17)** **g/cm^3**

The mass_density element provides the bulk density (mass per unit volume) of a target body. Bulk density is defined as the ratio of total mass to total volume.

maximum_brightness_temperature **maxbritetemp** **float(17)** **K**

The maximum_brightness_temperature element provides the maximum brightness temperature value measured within a given set of data or a given sequence. Brightness temperature is the temperature of an ideal blackbody whose radiant energy in a particular wavelength range is the same as that of an observed object or feature.

maximum_channel_id **maxchnlid** **char(4)** **none**

The maximum_channel_id element provides an identification of the highest energy channel from which PLS instrument data is telemetered to Earth while the instrument is operating in a particular mode in a given frame. Each mode consists of a specific number of energy/charge channels which sequentially measure current, but information from all measured channels may not be telemetered to Earth.

maximum_column_value **maxcolval** **float(17)** **none**

The maximum_column_value element provides the maximum real value currently allowed by the PDS catalog for a given table element. This value is updated when new limits are discovered. Note that these elements are unique to a table and may have different values depending on which table the element is associated with.

maximum_emission_angle **maxemissang** **float(17)** **deg**

The maximum_emission_angle element provides the maximum emission angle value. See emission_angle.

maximum_incidence_angle **maxincidang** **float(17)** **deg**

The maximum_incidence_angle element provides the maximum incidence angle value. See incidence_angle.

maximum_instrument_exposr_dur **maxexposdur** **float(17)** **ms**

The maximum_instrument_exposure_duration element provides the maximum possible exposure time for the instrument mode identified by the instrument_mode_identification element. See instrument_exposure_duration.

maximum_instrument_parameter **maxinstparm** **float(17)** **none**

The maximum_instrument_parameter element provides an instrument's maximum usefully detectable signal level for a given instrument parameter. This value indicates the physical value corresponding to the maximum digital output of an instrument. by the instrument_parameter_name element.

maximum_latitude **maxlat** **float(17)** **deg**

The maximum_latitude element specifies the northernmost latitude of a spatial area, such as a map, mosaic, bin, feature, or region. See latitude.

maximum_limb_angle **maxlimbang** **float(17)** **deg**

The maximum_limb_angle element provides the maximum value of the limb angle within a given set of data. See limb_angle.

maximum_local_time **maxlocaltime** **float(17)** **local day/24**

The maximum_local_time element provides the maximum local time of day on the target body, measured in hours from local midnight.

maximum_longitude **maxlon** **float(17)** **deg**

The maximum_longitude element specifies the westernmost (left_most) longitude of a spatial area, such as a map, mosaic, bin, feature, or region. See longitude. Note: for areas that cross the prime meridian, the maximum longitude will have an ordinal value less than the minimum value.

maximum_parameter **maxparm** **float(17)** **none**

The maximum_parameter element specifies the maximum allowable value for a parameter input to a given data processing program. The parameter constrained by this value is identified by the parameter_name element.

maximum_phase_angle **maxphsang** **float(17)** **deg**

The maximum_phase_angle element provides the maximum phase angle value. See phase_angle.

maximum_sampling_parameter **maxsampparm** **float(17)** **none**

The maximum_sampling_parameter element identifies the maximum value at which a given data item was sampled. For example, a spectrum that was measured in the 0.4 to 3.5 micrometer spectral region would have a maximum_sampling_parameter value of 3.5. The sampling parameter constrained by this value is identified by the sampling_parameter_name element. Note that the unit of measure for the sampling parameter is provided by the unit element.

maximum_slant_distance **maxslantdist** **float(17)** **km**

The maximum_slant_distance element provides the maximum slant distance value. See slant_distance.

maximum_solar_band_albedo **maxsolbndalb** **float(17)** **none**

The maximum_solar_band_albedo element provides the maximum solar bank albedo value measured within a given set of data or a given sequence.

maximum_spectral_contrast **maxspeccontr** **float(17)** **K**

The maximum_spectral_contrast element provides the maximum value of spectral contrast within a given set of data. See spectral_contrast_range.

maximum_surface_pressure **maxsurfpres** **float(17)** **bar**

The maximum_surface_pressure element provides the maximum surface pressure value for the atmosphere of a given body.

maximum_surface_temperature **maxsurftemp** **float(17)** **K**

The maximum_surface_temperature element provides the maximum equatorial surface temperature value for a given body during its year.

maximum_wavelength **maxwave** **float(17)** **micron**

The maximum_wavelength element identifies the maximum wavelength to which an instrument detector or filter is sensitive.

mean_inner_radius **meaninradius** **float(17)** **km**

The mean_inner_radius element provides the average radius of the inner boundary of a particular ring, measured from the center of the central body.

mean_orbital_radius **meanorbradi** **float(17)** **km**

The mean_orbital_radius element provides the mean distance between the center of a solar system object and the center of its primary (e.g., the primary body for a planet is the Sun, while the primary body for a satellite is the planet about which it orbits). As the radius of an elliptical orbit varies with time, the notion of mean radius allows for general, time-independent comparisons between the sizes of different bodies' orbits.

mean_outer_radius **meanoutradi** **float(17)** **km**

The mean_outer_radius element provides the average radius of the outer boundary of a particular ring, measured from the center of the central body.

mean_radius **meanradius** **float(17)** **km**

The mean_radius element is measured or derived using a variety of methods. It provides, approximately, an average of the equatorial and polar radii of the best fit spheroid (for planets) or ellipsoid (for satellites).

mean_solar_day **meansolarday** **float(17)** **d**

The mean_solar_day element provides the average interval required for successive transits of the Sun. This is computed as if planets and satellites move in circular orbits about their primaries with periods as specified by the revolution_period element, and as if planets and satellites have spin axes which are perpendicular to their orbit planes.

mean_surface_pressure **meansurfpres** **float(17)** **bar**

The mean_surface_pressure element provides the mean equatorial atmospheric pressure value at the mean equatorial surface of a body, averaged over the body's year.

mean_surface_temperature **meansurftemp** **float(17)** **K**

The mean_surface_temperature element provides the mean equatorial surface temperature of a body, averaged over the body's year.

measurement_atmosphere_desc **measatmd** **char(60)** **none**

The measurement_atmosphere_description element describes the atmospheric conditions through which ground data were taken.

measurement_source_desc **meassourced** **char(60)** **none**

The measurement_source_description element describes the source of a laboratory_ or observatory_generated data set.

measurement_standard_desc **measstdd** **char(60)** **none**

The measurement_standard_description element identifies the standard object on which observations are performed in order to calibrate an instrument.

measurement_wave_calbrt_desc **measwvcalibd** **char(60)** **none**

The measurement_wavelength_calibration_description element identifies the technique and procedure used to calibrate wavelength.

media_units **mediaunits** **smallint** **none**

The media_units element identifies the number of media units (for example, the number of reels of magnetic tape) required to store an entire media set.

medium **medium** **char(30)** **none**

The media_type element identifies the type of media on which data are stored or by which data are distributed. Example values: TAPE, MAGNETIC DISK, OPTICAL DISK.

medium_desc **mediad** **char(60)** **none**

The media_desc element provides the textual description for the media used in the distribution of an ordered data set.

method_desc **methodd** **char(60)** **none**

The method_desc element describes the method used to perform a particular observation.

midnight_longitude **midnightlon** **float(17)** **deg**

The midnight_longitude element identifies the longitude on the target body at which midnight was occurring at the time of the start of an observation sequence. Midnight_longitude is used to assist in geometry calculations.

minimum_available_sampling_int **minavlsampiv** **float(17)** **none**

The minimum_available_sampling_interval element identifies the finest sampling at which a particular set of data is available. For example, magnetometer data are available in various sampling intervals ranging from 1.92 seconds to 96 seconds. Thus, for magnetometer data the value of the minimum_available_sampling_interval would be 1.92. Note that the unit of measure for the sampling interval is provided by the unit element.

minimum_brightness_temperature **minbritetemp** **float(17)** **K**

The minimum_brightness_temperature element provides the minimum brightness temperature value measured within a given set of data or a given sequence. Brightness temperature is the temperature of an ideal blackbody whose radiant energy in a particular wavelength range is the same as that of an observed object or feature.

minimum_channel_id **minchnlid** **char(4)** **none**

The minimum_channel_id element provides an identification of the lowest energy channel from which PLS instrument data is telemetered to Earth while the instrument is operating in a particular mode in a given frame. Each mode consists of a specific number of energy/charge channels which sequentially measure current, but information from all measured channels may not be telemetered to Earth.

minimum_column_value **mincolval** **float(17)** **none**

The minimum_column_value provides the minimum real value currently allowed by the PDS catalog for a given table element. This value is updated when new limits are discovered. Note that these elements are unique to a table and may have different values depending on which table the element is associated with.

minimum_emission_angle **minemissang** **float(17)** **deg**

The minimum_emission_angle element provides the minimum emission angle value. See emission_angle.

minimum_incidence_angle **minincidang** **float(17)** **deg**

The minimum_incidence_angle element provides the minimum incidence angle value. See incidence_angle.

minimum_instrument_exposr_dur **minexposdur** **float(17)** **ms**

The minimum_instrument_exposure_duration element provides the minimum possible exposure time for the instrument mode identified by the instrument_mode_identification element. See instrument_exposure_duration.

minimum_instrument_parameter **mininstparm** **float(17)** **none**

The minimum_instrument_parameter element provides an instrument's minimum usefully detectable signal level for a given instrument parameter. This value indicates the physical value corresponding to the minimum digital output of an instrument. The instrument parameter to which this relates is identified by the instrument_parameter_name element.

minimum_latitude **minlat** **float(17)** **deg**

The minimum_latitude element specifies the southernmost latitude of a spatial area, such as a map, mosaic, bin, feature, or region. See latitude.

minimum_limb_angle **minlimbang** **float(17)** **deg**

The minimum_limb_angle element provides the minimum value of the limb angle within a given set of data. See limb_angle.

minimum_local_time **minlocaltime** **float(17)** **local day/24**

The minimum_local_time element provides the minimum local time of day on the target body, measured in hours from local midnight.

minimum_longitude **minlon** **float(17)** **deg**

The minimum_longitude element specifies the easternmost (right_most) longitude of a spatial area, such as a map, mosaic, bin, feature, or region. See longitude. Note: for areas that cross the prime meridian, the minimum longitude will have an ordinal value greater than the maximum value.

minimum_parameter **minparm** **float(17)** **none**

The minimum_parameter element specifies the minimum allowable value for a parameter input to a given data processing program. The parameter constrained by this value is identified by the parameter_name element.

minimum_phase_angle **minphsang** **float(17)** **deg**

The minimum_phase_angle element provides the minimum phase angle value. See phase_angle.

minimum_sampling_parameter **minsampparm** **float(17)** **none**

The minimum_sampling_parameter element identifies the minimum value at which a given data

item was sampled. For example, a spectrum that was measured in the 0.4 to 3.5 micrometer spectral region would have a minimum_sampling_parameter value of 0.4. The sampling parameter constrained by this value is identified by the sampling_parameter_name element. Note that the unit of measure for the sampling parameter is provided by the unit element.

minimum_slant_distance **minslantdist** **float(17)** **km**

The minimum_slant_distance element provides the minimum slant distance value. See slant_distance.

minimum_solar_band_albedo **minsolbndalb** **float(17)** **none**

The minimum_solar_band_albedo element provides the minimum solar band albedo value measured within a given set of data or a given sequence.

minimum_spectral_contrast **minspeccontr** **float(17)** **K**

The minimum_spectral_contrast element provides the minimum value of spectral contrast within a given set of data. See spectral_contrast_ range.

minimum_surface_pressure **minsurfpres** **float(17)** **bar**

The minimum_surface_pressure element provides the minimum surface pressure value for the atmosphere of a given body.

minimum_surface_temperature **minsurftemp** **float(17)** **K**

The minimum_surface_temperature element provides the minimum equatorial surface temperature value for a given body during its year.

minimum_wavelength **minwave** **float(17)** **micron**

The minimum_wavelength element identifies the minimum wavelength to which an instrument detector or filter is sensitive.

mission_alias_name **msnaliasname** **char(30)** **none**

The mission_alias_name element provides an official name of a mission used during the initial design, implementation, or prelaunch phases. Example values: mission_name:MAGELLAN, mission_alias_name:VENUS RADAR MAPPER.

mission_desc **msnd** **char(60)** **none**

The mission_description element summarizes major aspects of a planetary mission or project, including the number and type of spacecraft, the target body or bodies and major accomplishments.

mission_name **msnname** **char(30)** **none**

The mission_name element identifies a major planetary mission or project. A given planetary mission may be associated with one or more spacecraft.

mission_name_or_alias **msnnamealias** **char(30)** **none**

The mission_name_or_alias element provides the capability to enter either a mission name or a mission alias name in a single input parameter field of a user view.

mission_objectives_summary **msnobjsmy** **char(60)** **none**

The mission_objectives_summary element describes the major scientific objectives of a planetary mission or project.

mission_phase_desc **msnphsd** **char(60)** **none**

The mission_phase_description element summarizes key aspects of a mission phase.

mission_phase_start_time **msnphsstrttm** **char(18)** **none**

The mission_phase_start_time element provides the date and time of the beginning of a mission phase in the PDS standard (UTC) format.

FORMATION RULE: YYYY-MM-DDThh:mm:ss.ddd

mission_phase_stop_time **msnphsstoptm** **char(18)** **none**

The mission_phase_stop_time element provides the date and time of the end of a mission phase in the PDS standard (UTC) format.

FORMATION RULE: YYYY-MM-DDThh:mm:ss.ddd

mission_phase_type **msnphstype** **char(20)** **none**

The mission_phase_type element identifies the type of a major segment or "phase" of a spacecraft mission. Example values: LAUNCH, CRUISE, ENCOUNTER. The concept of a mission phase name exists only implicitly in the PDS via the combination of spacecraft_id, target_name, and mission_phase_type.

mission_start_date **msnstrtdate** **char(8)** **none**

The mission_start_date element provides the date of the beginning of a mission in the PDS standard (UTC) format.

FORMATION RULE: YYYY-MM-DDThh:mm:ss.ddd

mission_stop_date **msnstopdate** **char(8)** **none**

The mission_stop_date element provides the date of the end of a mission in the PDS standard (UTC) format.

FORMATION RULE: YYYY-MM-DDThh:mm:ss.ddd

mode_continuation_flag **modecontflag** **char(1)** **none**

The mode_continuation_flag element is a yes_or_no flag which indicates if the first mode in a frame is a continuation of a measurement from the previous frame. Some modes require longer than one frame to make a measurement, resulting in their continuation to a subsequent frame. In that case, the mode_ continuation_flag element would have the value YES.

mode_integration_duration **modeintgdur** **float(17)** **s**

The mode_integration_duration element provides the length of time required to measure all the channels which are sampled when the instrument is operating in a given mode.

mosaic_desc **mosaicd** **char(60)** **none**

The mosaic_description element provides a brief textual description of a mosaic.

mosaic_images **mosaicimages** **smallint** **none**

The mosaic_images element identifies the number of images which are contained in a given mosaic.

mosaic_production_parameter **mosaicprdprm** **char(10)** **none**

The mosaic_production_parameter element identifies the method of production of a mosaic product (e.g., manual vs. digital).

mosaic_sequence_number **mosaicseqnum** **smallint** **none**

The mosaic_sequence_number element is a numeric identifier which defines a group of related images on a single mosaic. The mosaic_sequence_number is necessary when several groups of images covering different regions are printed on one photo_product.

mosaic_series_id **mosaicserid** **char(30)** **none**

The mosaic_series_identification element is an alphanumeric identifier for mosaics from a given mission.

mosaic_sheet_number **mosaicshtnum** **smallint** **none**

The mosaic_sheet_number element is a numeric identifier for a mosaic series or for a mosaic within a mosaic series.

naif_data_set_id **naifdsid** **char(40)** **none**

The naif_data_set_id element provides the data_set_id which contains the position information for the instrument.

native_start_time **nativestrttm** **char(40)** **none**

The native_start_time element provides a time value at the beginning of a time period of interest. Native time is "native to" (that is, resident within) a given set of data, in those cases in which the native time field is in a format other than the standard PDS (UTC) format. For example, the spacecraft clock count could be a native time value.

native_stop_time **nativestoptm** **char(40)** **none**

The native_stop_time element provides a time value at the end of a time period of interest. Native time is "native to" (that is, resident within) a given set of data, in those cases in which the native time field is in a format other than the standard PDS (UTC) format. For example, the spacecraft clock count could be a native time value.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
node_desc	**noded**	**char(60)**	**none**

The node_desc element describes a PDS Node.

node_id	**nodeid**	**char(10)**	**none**

The node_id element provides the node id assigned to a science community node.

node_institution_name	**ndinstnname**	**char(60)**	**none**

The node_institution_name element identifies a university, research center, NASA center or other institution associated with a PDS node.

node_manager_pds_user_id	**mgrpdsuserid**	**char(60)**	**none**

The node_manager_pds_user_id element provides the pds_user_id of the node manager.

node_name	**nodename**	**char(60)**	**none**

The node_name element provides the officially recognized name of a PDS Node.

node_order_item_id	**nodeorditmid**	**char(30)**	**none**

The node_order_item_desc provides a node's order item reference number and is not controlled by the Central Node order function but is allowed for tracking to the node's system.

noise_level	**noiselevel**	**float(17)**	**none**

The noise_level element identifies the threshold at which signal is separable from noise in a given data set or for measurements performed by a particular instrument. For instruments the noise level is a function primarily of the instrument characteristics, while for data sets or data products the noise level can also be a function of the data processing history.

nominal_energy_resolution	**nomenergyres**	**float(17)**	**none**

The nominal_energy_resolution element provides an approximation of the energy resolution obtained during a particular instrument mode. Energy resolution is defined as the width of an energy channel divided by the average energy of that channel. A nominal value is given as this quantity varies between channels.

nominal_operating_temperature	**nomopertemp**	**float(17)**	**K**

The nominal_operating_temperature element identifies the operating temperature as given in the specifications for an instrument detector.

non_clustered_key	**nonclustkey**	**char(1)**	**none**

The non_clustered_key element indicates whether a column in a table has a nonclustered index. This index is not unique does not determines the sorting order of the data, but is intended purely for query performance optimization.

north_azimuth	**northaz**	**float(17)**	**deg**

The north_azimuth element provides the value of the angle between a line from the image center to the north pole and a reference line in the image plane. The reference line is a horizontal line from the image center to the middle right edge of the image. This angle increases in a clockwise direction.

note **note** **char(60)** **none**

The note element is a text field which provides miscellaneous notes or comments (for example, concerning a given data set or a given data processing program).

notebook_entry_time **noteentrytm** **char(18)** **none**

The notebook_entry_time element provides the date and time at which an experimenter made a particular entry in the experimenter notebook.

object_attribute_value **objattrval** **char(80)** **none**

The object_attribute_value element is the supplier's input he/she assigned to a catalog template keyword. This value may represent any type of data (i.e. text, integer, real). The values are ultimately copied into the PDS catalog.

object_name **objname** **char(12)** **none**

The object_name element provides the template object name assigned by the Central Node data administrator to a logical template used in the PDS.

obliquity **obliquity** **float(17)** **deg**

The obliquity element provides the value of the angle between the plane of the equator and the orbital plane of a target body.

observation_id **obsid** **char(30)** **none**

The observation_id element identifies a specific observation sequence.

observation_type **obstype** **char(30)** **none**

The observation_type element identifies the general type of an observation.

operational_consid_desc **operconsidd** **char(60)** **none**

The operational_considerations_description element provides a brief description of operational characteristics which affect the measurements made by an instrument.

operations_contact_pds_user_id **opspdsuserid** **char(60)** **none**

The operations_contact_pds_user_id element provides the pds_user_id of the operations contact at a node.

optics_desc **opticsd** **char(60)** **none**

The optics_description element provides a textual description of the physical and operational characteristics of the optics of an instrument.

orbit_direction_type **orbdirtype** **char(30)** **none**

The orbit_direction_type element provides the direction of movement along the orbit about the primary as seen from the north pole of the "invariable plane of the solar system", which is the plane passing through the center of mass of the solar system and perpendicular to the angular momentum vector of the solar system orbit motion, RETROGRADE for clockwise orbit motion.

orbit_number **orbnum** **float(17)** **none**

The orbit_number element identifies the number of the orbital revolution of the spacecraft, counted since orbit insertion.

orbital_eccentricity **orbecc** **float(17)** **none**

The orbital_eccentricity element provides a measure of the non_circularity or flattening of the orbit of a planetary body. The orbit of a comet, for example, could be either parabolic or hyperbolic. Circular orbits are defined as having an eccentricity of 0, and the eccentricity value is greater than 0 for non_circular orbits. Elliptical orbits have eccentricities between (but not equal to) 0 and 1. Parabolic orbits have an eccentricity of 1, while hyperbolic orbits have eccentricities greater than 1.

orbital_inclination **orbincln** **float(17)** **deg**

The orbital_inclination element provides the value of the angle between the orbital plane of a target body and the ecliptic.

orbital_semimajor_axis **orbsemimajax** **float(17)** **km**

The orbital_semimajor_axis element provides the value of the semimajor axis of the orbit of a target body. The semimajor axis is one_half of the maximum dimension of an orbit.

order_date **orddate** **char(8)** **date**

The order_date element provides the date of when an order was placed for a data set.

order_initiator **ordinitr** **char(60)** **none**

The order_initiator element identifies the initiator of a PDS order which is associated with a specific order number.

order_item_bytes **orditmbytes** **integer** **none**

The order_item_bytes element provides the total number of bytes that an order item requires for storage.

order_item_desc **orditmd** **char(30)** **none**

The order_item_desc element provides a textual description of an order item accepted by the PDS.

order_item_media_cost **orditmmedcst** **integer** **us dollar**

The order_item_media_cost element provides the total cost associated with an order item.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
order_item_number	**orditmnum**	**smallint**	**none**

The order_item_number element provides a sequential computer generated number for each item within an order number.

order_item_processing_cost	**orditmprccst**	**integer**	**none**

The order_item_processing_cost element identifies the total cost associated with processing a data order.

order_item_quantity	**orditmqty**	**smallint**	**none**

The order_item_quantity element provides the order item quantity ordered.

order_item_ship_quantity	**orditmshpqty**	**smallint**	**none**

The order_item_shipping_quantity element provides the quantity shipped per status change of an order item.

order_item_shipping_cost	**orditmshpcst**	**integer**	**none**

cost in shipping a data order, including packing and mailing

order_item_shipping_instr	**orditmshpin**	**char(60)**	**none**

The order_item_shipping_instructions element provides any special shipping instructions for an order item.

order_item_special_instr	**orditmspcin**	**char(60)**	**none**

The order_item_special_instructions element provides any special instructions for an order item, allowing the person placing the order to indicate any special processing request.

order_item_status	**orditmstatus**	**char(20)**	**none**

The order_item_status element provides the status associated with PDS order items accepted by the PDS order function.

order_item_status_date	**orditmstsdt**	**char(8)**	**date**

The order_item_status_date element provides the date of an order item status change.

order_item_status_desc	**orditmstsd**	**char(60)**	**none**

The order_item_status_desc element provides the status description for an order item accepted by the PDS order function. This is an optional function provided by the system to help fully describe any reasons for an order item status change.

order_item_status_sequence_num	**orditmstsseq**	**smallint**	**none**

The order_item_status_sequence_num element identifies the sequence of tuples used to describe the status of order items.

order_number **ordnum** **integer** **none**

The order_number element is a unique system_generated number which is used to identify an order. function.

order_preference_id **ordprefid** **smallint** **none**

The order_preference_id element indicates a user's preference for one of a set of alternatives for electronic distribution of an order.

order_ship_carrier_name **ordshpcarrnm** **char(20)** **none**

The order_ship_carrier_name element provides the shipping carrier name associated with an order item.

order_status **ordstatus** **char(10)** **none**

The order_status element provides the status associated with orders and order items accepted by the PDS order function.

order_status_date **ordstsdate** **char(8)** **date**

The order_status_date element provides the effective date of an order status change.

order_status_desc **ordstatusd** **char(60)** **none**

The order_status_desc element details the status of an order.

order_status_id **ordstatusid** **char(20)** **none**

The order_status_id element identifies the status of an order.

order_status_sequence_number **ordstsseqnum** **smallint** **none**

The order_status_sequence_number element provides an integer which indicates the sequence of status changes within an order.

order_status_staff_name **orditmstaff** **char(60)** **none**

The order_item_staff element provides the name of the person filling an order item for a PDS order.

order_status_time **ordstatustm** **char(18)** **none**

The order_status_time element gives the date (and time, where applicable) as of which the status of an order was changed.

outer_periapsis_argument_angle **otperiargang** **float(17)** **deg**

The outer_periapsis_argument_angle element provides the value of the angle between the two vectors originating at the center of the central body and ending at 1) the ascending node of the outer_most portion of a ring and at 2) the periapsis of the outer_most portion of the same ring. The coordinate system used to reference the ascending node and periapsis is identified by the associated coordinate_system_identification.

output_flag **outputflag** **char(1)** **none**

The output_flag element indicates whether standard values shall be output for hardcopy display.

parameter_desc **parmd** **char(60)** **none**

The parameter_desc element defines the input or output parameter identified by the parameter_name element, including units, derivation (where applicable), and associated parameters.

parameter_name **parmname** **char(30)** **none**

The parameter_name element identifies a parameter input to or output from a program or algorithm.

parameter_sequence_number **parmseqnum** **smallint** **none**

The parameter_sequence_number element provides an ordering sequence number for parameters used in user views and associated queries.

parameter_type **parmtype** **char(1)** **none**

The parameter_type element provides the type of parameter (input or output) used in user views and associated queries.

parent_template **parenttmplt** **char(12)** **none**

The parent_template element contains the name of the template which provides the loader software with a keyword value which occurred elsewhere in the same or a different template. For example: the value for the data_set_id keyword is required in several templates to map the template information to the proper dataset, yet to avoid redundant data supplier effort it appears only on the DATASET template. For these templates, the parenttmplt provides the source of the data_set_id value, i.e. the DATASET template.

particle_species_name **partspecsnm** **char(20)** **none**

The particle_species_name element provides the name of a particle detected by a given instrument. Example values: ELECTRON, ION, PROTON, HYDROGEN, HELIUM, OXYGEN, etc. For ions, the specific atomic number designation may be used (e.g., Z=1, Z=2, Z=8, etc.).

pds_supplier_name **pdssuplrname** **char(30)** **none**

The pds_supplier_name element provides the name of a person who supplied a completed catalog template. This person is the primary contact for any questions on the contents of the catalog template.

pds_user_id **pdsuserid** **char(16)** **none**

The pds_user_id element provides a unique identifier for each individual who is allowed access to the PDS. The system manager at the Central Node assigns this identifier at the time of user registration.

peer_review_data_set_status **peerrvwdssts** **char(20)** **none**

The peer_review_data_set_status element provides status for data sets which have been peer reviewed.

peer_review_id **peerrevwid** **char(40)** **none**

The peer_review_id element provides a unique identifier assigned by the bulk loading software to each peer review information set saved in the PDS database.

peer_review_results_desc **peerrvwrslts** **char(60)** **none**

The peer_review_results element provides the textual description of the results of a peer review.

peer_review_role **peerrevwrole** **char(30** **none**

The peer_review_role element provides the role of a member of a peer review committee.

peer_review_start_date **revwstrtdate** **char(8)** **date**

The peer_review_start_date element provides the beginning date for a peer review in YYYYMMDD format.

peer_review_stop_date **revwstopdate** **char(8)** **date**

The peer_review_stop_date element provides the final date for a peer review in YYYYMMDD format.

periapsis_argument_angle **periargang** **float(17)** **deg**

The periapsis_argument_angle element provides the value of the periapsis argument angle, which is defined as the angle measured from the ascending node of the orbit of a target body (relative to the reference plane) to the point in the orbit at which the target body obtains its closest approach to the primary body. See also ascending_node_longitude.

person_institution_name **persinstnnm** **char(60)** **none**

The person_institution_name element identifies a university, research center, NASA center or other institution associated with an individual involved with the PDS.

personnel_shipping_account_num **pershpcaract** **char(20)** **none**

The personnel_shipping_account_num element identifies the shipping carrier account number for a PDS user.

personnel_shipping_carrier_nam **persshpcarr** **char(30)** **none**

The personnel_shipping_carrier_name element provides the name of the user's default shipping carrier.

personnel_shipping_instruction **persshpin** **char(60)** **none**

The personnel_shipping_instruction element identifies default shipping instructions.

phase_angle **phsang** **float(17)** **deg**

The phase_angle element provides a measure of the relationship between the spacecraft viewing position and incident solar light. Phase_angle is defined as the angle between a vector from the intercept point to the sun and a vector from the intercept point to the spacecraft. Low values of phase angle indicate lighting from behind the spacecraft. Phase angle varies from 0 degrees, when the sun is directly behind the spacecraft, to 180 degrees, when the sun is opposite the spacecraft.

pi_pds_user_id **pipdsuserid** **char(60)** **none**

The pi_pds_user_id element provides the pds_user_id of the principal investigator associated with an instrument.

pin_software_id **pinswid** **char(20)** **none**

The pin_software_id element identifies a partially integrated node (PIN) software package available through a science node.

planet_day_number **planetdaynum** **float(17)** **d**

The planet_day_number element indicates the number of days elapsed since the landing day (landing day number is zero) for data obtained by a lander or a rover.

platform_or_mounting_desc **platmountd** **char(60)** **none**

The platform_or_mounting_description element describes the spacecraft platform or laboratory mounting frame on which an instrument is mounted.

platform_or_mounting_name **platmountnm** **char(30)** **none**

The platform_or_mounting_name element identifies the spacecraft platform or the laboratory mounting frame on which an instrument is mounted. Example values: SCAN_PLATFORM, PROBE, MAGNETOMETER_BOOM.

pole_declination **poledecl** **float(17)** **deg**

The pole_declination element provides the value of the declination of the polar axis of a target body. See declination.

pole_right_ascension **polera** **float(17)** **deg**

The pole_right_ascension element provides the value of the right_ascension of the polar axis of a target body. See right_ascension.

position_time **positiontime** **char(18)** **none**

The position_time element provides the time when the location information of an event is derived, in the PDS standard (UTC) format.

FORMATION RULE: YYYY-MM-DDThh:mm:ss.ddd

precession_rate **precessrate** **float(17)** **deg/s**

The precession_rate element provides the approximate precession rate of a particular planetary body or ring.

preference_id **preferenceid** **smallint** **none**

The preference_identification element indicates a user's degree of preference for one of a set of alternatives (for example, preference for a particular electronic mail system such as Telemail). Values range from 1 to 4, with 1 indicating the highest preference.

primary_body_name **primbodyname** **char(30)** **none**

The primary_body_name element identifies the primary body with which a given target body is associated as a secondary body.

process_version_id **procverid** **char(20)** **none**

The process_version_id element identifies the version (e.g., the method of processing) of a mosaic.

processing_control_parm_name **procctlprmnm** **char(30)** **none**

The processing_control_parm_name element identifies a parameter which allows a user to tailor a program or an algorithm to specific needs, such as outputting planetary surface coordinates in planetocentric or planetographic coordinates, specifying the units of the parameters to be plotted or specifying the scale of a map to be output.

processing_level_desc **proclvld** **char(60)** **none**

The processing_level_description element provides the CODMAC standard definition corresponding to a particular processing_level_id value.

processing_level_id **proclvlid** **char(1)** **none**

The processing_level_identification element identifies the processing level of a set of data according to the eight_level CODMAC standard.

processing_start_time **procstrttime** **char(18)** **none**

The processing_start_time element gives the beginning date (and time, where appropriate) of processing for a particular set of data.

FORMATION RULE: YYYY-MM-DDThh:mm:ss.ddd

processing_stop_time **procstoptime** **char(18)** **none**

The processing_stop_time element gives the ending date (and time, where appropriate) of processing for a particular set of data.

FORMATION RULE: YYYY-MM-DDThh:mm:ss.ddd

producer_full_name **prodfullname** **char(60)** **none**

The producer_full_name element provides the full_name of the individual mainly responsible for the production of a data set. This individual does not have to be registered with the PDS.

producer_institution_name **prodinstnnm** **char(60)** **none**

The producer_institution_name element identifies a university, research center, NASA center or

other institution associated with the production of a data set. This would generally be an institution associated with the element producer_full_name.

product_data_set_id **proddsid** **char(40)** **none**

The product_data_set_id element provides the data_set_id of a PDS cataloged data set which resulted from the application of the processing software to the source data sets. The data set name associated with the product data set is provided by the data_set_name element.

programming_language_name **pgmlangname** **char(20)** **none**

The programming_language_name element identifies the major programming language in which a given data processing program or algorithm is written.

publication_date **publdate** **char(8)** **none**

The publication_date element provides the publication date of a reference document.

FORMATION RULE: YYYY-MM-DD

quantization_resolution **quantzres** **float(17)** **nT**

The quantization_resolution element provides the value of the magnetic field which corresponds to a single count from the magnetometer.

query_context **querycontext** **char(1)** **none**

The query_context element identifies the context of a query for the purpose of identifying an appropriate set of standard values. Example values: H (High Level), F (Fields and Particles), I (Images).

query_desc **queryd** **char(60)** **none**

The query_desc element provides the ascii text description of a query used in the PDS. These queries are also known as stored commands.

query_name **queryname** **char(12)** **none**

The query_name element provides a unique name assigned to a pre-defined query used in the PDS.

rationale_desc **ratld** **char(60)** **none**

The rationale_desc element describes the rationale for performing a particular observation.

reference_desc **refd** **char(60)** **none**

The reference_description element provides a standard reference citation in the format used by the Journal of Geophysical Research. In the case where the reference has more than one author, all authors should be listed. This element enables material such as articles, books, JPL documents, etc. to be completely referenced so that they may be used to provide more detailed information than is stored in the PDS catalog.

reference_key_id **refkeyid** **char(20)** **none**

The reference_key_id element provides the PDS Catalog with an identifier for a reference document. Additionally, it may be used in various catalog descriptions, for example data_set_desc, as a shorthand notation to reference the appropriate document.

This identifier is constructed by using the following criteria:

(4.) The reference_key_id element has a data type of CHAR(20) and is defined as follows:

(a.)

(i.) <author's last name> is a maximum of 15 characters. Author's last name may need to be truncated.

(ii.) <first author's last name> &<second author's last name> is a maximum of 15 characters including the ampersand. The second author's last name may need to be truncated.

(iii.) <first author's last name>ETAL is a maximum of 15 characters including ETAL. Author's last name may need to be truncated.

(b.) <year> is 4 characters for the year published.

(c.) <letter> is optional and consist of one character used to denote uniqueness of multiple papers by the same author(s) in the same year.

(5.) If there is one author then reference_key_id is a concatenation of the author's last name and the year published.

reference_key_id = <author's last name><year>

example: SCARF1980

(6.) If there are two authors then reference_key_id is a concatenation of the two author's last names separated by '&' and the year published.

reference_key_id = <first author's last name> &<second author's last name><year>

example: SCARF&GURNETT1977

(7.) If there are more than two authors then reference_key_id is a concatenation of the first author's last name, 'ETAL', and the year published.

reference_key_id = <first author's last name>ETAL<year>

example: GURNETTETAL1979

(8.) If the same author(s) published more than one paper in the same year, then append a capitalized letter to the year.

reference_key_id = <author's last name><year><letter>

or

<first author's last name>&<second author's last name> <year><letter>

or

<first author's lastname>ETAL<year><letter>

example: SCARF1980A

SCARF1980B

reference_object_name **refobjname** **char(60)** **none**

The reference_object_name element identifies the point, vector, or plane used as the origin from which an angle or a distance is measured. As an example, the reference object could be the center of a given planet (a point), the spacecraft z_axis (a vector) or the equatorial plane.

reference_target_name **reftargname** **char(30)** **none**

The reference_target_name element provides the name of the target body being used as the reference to help define a particular vector_component_identification. For example, the RJ\$ vector component is defined with the spacecraft as the reference target.

region_desc **regiond** **char(60)** **none**

The region_description element describes a particular region of a planetary surface, indicating its historical significance, identifying major geological features and providing other descriptive information.

region_name **regionname** **char(30)** **none**

The region_name element identifies a region of a planetary surface. In many cases, the name of a region derives from the major geologic features found within the region.

registration_date **regdate** **char(8)** **none**

The registration_date element provides the date as of which an individual is registered as an authorized user of the PDS system.

FORMATION RULE: YYYY-MM-DD

remote_node_privileges_id **remnodeprvid** **char(20)** **none**

The remote_node_priviledges_id element identifies the systems at a remote node (or nodes) which a user is priviledged to access.

request_desc **requestd** **char(60)** **none**

The request_desc element describes a user's request for support.

request_time **requesttime** **char(18)** **none**

The request_time element provides the date (and time, where appropriate) as of which a user's request is received by the Customer Support function.

required_memory_bytes **reqmembytes** **integer** **none**

The required_memory_bytes element indicates the amount of memory, in bytes, required to run the subject software.

research_topic_desc **rschtopicd** **char(60)** **none**

The research_topic_desc element describes the topic of scientific research identified by the research_topic_name element.

research_topic_name **rschtopicnm** **char(60)** **none**

The research_topic_name element provides the name of a topic of scientific research.

resolution_desc **resd** **char(60)** **none**

The resolution_desc element describes the resolution of and the approach used to resolve a user's request for support.

resolution_time **restime** **char(18)** **none**

The resolution_time element provides the date (and time, where appropriate) as of which a user's request is resolved.

reticle_point_number **retpointnum** **char(1)** **none**

The reticle_point_number element provides the number of an image reticle point, as follows: 1 upper left, 3 - upper right, 5 - middle, 7 - lower left, 9 - lower right.

revolution_period **revper** **float(17)** **d**

The revolution_period element provides the time period of revolution of a solar system object about its spin axis.

right_ascension **ra** **float(17)** **deg**

The right_ascension element provides the right ascension value. Right_ascension is defined as the arc of the celestial equator between the vernal equinox and the point where the hour circle through the given body intersects the Earth's mean equator (reckoned eastward). See declination.

ring_ascending_node_longitude **ringascndlon** **float(17)** **deg**

The ring_ascending_node_longitude element provides the value of the angle measured along the ecliptic from the vernal equinox to the ascending node of the orbit of a ring. The ascending node of the orbit of a ring is defined as that point at which the orbit intersects the ecliptic in an ascending direction. The coordinate system used to reference the ascending node is identified by the coordinate_system_identification element.

ring_desc **ringd** **char(60)** **none**

The ring_description element describes a particular ring, including its shape (e.g., arc, circular, elliptical, eccentric), thickness range and precessional characteristics.

ring_eccentricity **ringecc** **float(17)** **none**

The ring_eccentricity element provides the value of the average eccentricity (non_circularity) of a particular ring's orbit.

ring_inclination **ringincln** **float(17)** **deg**

The ring_inclination element provides the value of the angle between the equatorial plane of a primary body and a ring.

ring_name	**ringname**	**char(30)**	**none**

The ring_name element identifies a ring by name according to IAU nomenclature standards.

ring_system_summary	**ringsyssmy**	**char(60)**	**none**

The ring_system_summary element provides a brief and general description of the rings or ring_like features associated with a particular solar system body.

rings	**rings**	**smallint**	**none**

The rings element specifies the approximate number of rings or ring_like features associated with a particular solar system body.

role_desc	**roled**	**char(60)**	**none**

The role_desc element describes the role of an individual during his or her association with a particular institution. Note that the term 'role' is a more specific characterization of the individual's activities than is 'specialty' (see the specialty_name element).

rotation_direction_type	**rotdirtype**	**char(30)**	**none**

The rotation_direction_type element provides the direction of rotation as viewed from the north pole of the "invariable plane of the solar system", which is the plane passing through the center of mass of the solar system and perpendicular to the angular momentum vector of the solar system for clockwise rotation, and SYNCHRONOUS for satellites which are tidally locked with the primary. Sidereal_rotation_ period and rotation_direction_type are unknown for a number of satellites, and are Not Applicable (N/A) for satellites which are tumbling.

rows	**rows**	**smallint**	**none**

The rows element provides the number of rows a displayed fields requires. This number is used by software when painting a display device.

sample_bits	**sampbits**	**integer**	**none**

The sample_bits element specifies the number of bits which comprise a single sample.

sampling_desc	**sampd**	**char(60)**	**none**

The sampling_description element describes how instrument parameters are sampled within an instrument or a section of an instrument. Generally, this includes information on the timing of samples and how they are taken as a function of energy, frequency, wavelength, position, etc.

sampling_factor	**sampfact**	**float(17)**	**none**

The sampling_factor element provides the value N, where every Nth data point was kept from the original data set by selection or averaging.

sampling_parameter_interval **sampparmiv** **float(17)** **none**

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.

sampling_parameter_name **sampparmname** **char(40)** **none**

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.

sampling_parameter_resolution **sampparmres** **float(17)** **none**

The sampling_parameter_resolution element identifies the resolution along the sampling parameter axis. For example, spectral data may be sampled every 0.0005 cm in wavelength, but the smallest resolvable width of a feature could be 0.001 cm. In this example, the sampling parameter resolution would be 0.001. Note that the unit element identifies the unit of measure of the sampling parameter resolution.

sampling_parameter_unit **sampparmunit** **char(60)** **none**

The sampling_parameter_unit element specifies the unit of measure of associated data sampling parameters.

satellite_resonance_desc **satresond** **char(60)** **none**

The satellite_resonance_description element describes a satellite_associated ring resonance. For example, when the dynamics of a particular satellite's orbit cause a ring division to occur, this element will describe those dynamics and their effect on the ring structure. The name given to the satellite resonance is provided by the satellite_resonance_name element.

satellite_resonance_name **satresonname** **char(40)** **none**

The satellite_resonance_name element provides the name given to a ring resonance associated with a satellite orbit. The description of the named resonance is provided by the satellite_resonance_description element.

scaled_image_height **scaleimageht** **float(17)** **km**

The scaled_image_height element provides the height on the target surface of the projection of an image onto the surface. This is the distance on the surface between intercept points 2 (upper middle) and 8 (lower middle).

scaled_image_width **scaleimagewd** **float(17)** **km**

The scaled_image_width element provides the width on the target surface of the projection of an image onto the surface. This is the distance on the surface between intercept points 4 (middle left) and 6 (middle right).

scaled_pixel_height **scalepixht** **float(17)** **km**

The scaled_pixel_height element provides the scaled height of a pixel at a given reticle point within an image. Scaled pixel height is defined as the height on the surface of the target of the projection of a pixel onto the surface.

scaled_pixel_width **scalepixwd** **float(17)** **km**

The scaled_pixel_width element provides the scaled width of a pixel at a given reticle point within an image. Scaled pixel width is defined as the width on the surface of the target of the projection of a pixel onto the surface.

scan_mode_id **scanmodeid** **char(8)** **none**

The scan_mode_id element provides the identification of different internal rates of acquiring data for an instrument. For example, the rate at which an imaging instrument acquires an image, scan_rate, is typically expressed as a ratio, and is not to be confused with the rate at which a spacecraft scan platform moves. Example values: 1:1, 2:1.

scientific_objectives_summary **sciobjsmy** **char(60)** **none**

The scientific_objectives_summary element explains the science data_gathering purposes for a particular type of observation, for a particular observation sequence or for which an instrument was designed.

scientist_funding_id **scifundid** **char(12)** **none**

The scientist_funding_id is the NASA code which supplies funding to the scientist.

screen_id **screenid** **char(10)** **none**

The screen_id element is a unique identifier assigned to a screen which is used by software in building a screen for a display device.

section_id **sectid** **char(4)** **none**

The section_id element provides a unique identifier for a section of an instrument. An instrument section is a logical view of an instrument's operating functions, and is distinct from the instrument's physical composition. Essentially, instrument sections are a device to describe the instrument's functioning in terms of a set of "black boxes", which are themselves described parametrically by the data which are produced. Various operational parts of the instrument, such as detectors, filters, and electronics, are considered to participate by providing data from a section, but have no direct physical relationship with the section, since the section is not a physical object. Instrument modes consist of sets of sections, and the physical implementation of a mode is the union of those physical units which are processing data for each section participating in the mode.

selection_query_desc **selcqueryd** **char(60)** **none**

The selection_query_description element provides a query statement, in SQL or another query language, which constrains the set of items requested in an order.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
sensitivity_desc	**sensd**	**char(60)**	**none**

The sensitivity_description element provides a textual description of the minimum response threshold of a detector.

sequence_number	**seqnum**	**char(2)**	**none**

The sequence_number element identifies a particular sequence within a revolution. The first sequence in each revolution is numbered 1. Subsequent sequences in a revolution–through the last sequence which began in that revolution–are numbered consecutively.

sequence_samples	**seqsamps**	**smallint**	**none**

The sequence_samples element specifies the number of samples in a given observation sequence.

sequence_title	**seqtitle**	**char(60)**	**none**

The sequence_title element provides the title assigned to a particular observation sequence during planning or data processing.

sfdu_format_id	**sfdufmtid**	**char(12)**	**none**

The sfdu_format_id element provides the 12-character Standard Format Data Unit (SFDU) identification for a particular set of data.

shipping_address_line	**shpaddrline**	**char(60)**	**none**

PDS data set orders. The address may consist of many sixty (60) character lines.

shipping_carrier_name	**shpcarriernm**	**char(30)**	**none**

The shipping_carrier_name element identifies a shipping carrier for use in distributing data.

shutter_mode_id	**shutmodeid**	**char(20)**	**none**

The shutter_mode_id element identifies the state of an imaging instrument's shutter during image acquisition. Note: the instrument shutter mode affects the radiometric properties of the camera. Example values: (VOYAGER) NAONLY - narrow angle camera shuttered only, WAONLY - wide angle camera shuttered only, BOTSIM - both cameras shuttered simultaneously, BSIMAN - BOTSIM mode followed by NAONLY, BODARK - shutter remained closed for narrow and wide angle camera, NADARK - narrow angle read out without shuttering, WADARK - wide angle read out without shuttering.

sidereal_rotation_period	**sidrotper**	**float(17)**	**d**

The sidereal_rotation_period element provides the time period required for a solar system object to complete one full rotation about its primary, with respect to the stars.

slant_distance	**slantdist**	**float(17)**	**km**

The slant_distance element provides a measure of the distance from the spacecraft to the intercept point on the body surface.

software_accessability_desc **swaccessd** **char(60)** **none**

The software_access_desc element provides a description of the software's accessibility related to the software_type element. For example, software with a software_type of PIN implies that the software accessibility is "accessible through the PDS catalog system." Software with a software_type of NIN implies that the software accessibility is "not accessible through the PDS catalog system - Contact Node."

software_desc **swd** **char(60)** **none**

The software_desc element describes the functions performed by the data processing software. If the subject software is a program library, this element may provide a list of the contents of the library.

software_flag **swflag** **char(1)** **none**

The software_flag element is a yes_or_no flag which indicates whether documented software exists which can be used to process this data set. (Currently this software may be either partially-integrated (PIN) or non-integrated (NIN) software).

software_name **swname** **char(30)** **none**

The software_name element identifies data processing software such as a program or a program library.

software_release_date **swreleasedt** **char(8)** **none**

The software_release_date element provides the date as of which a program was released for use.

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software_type **swtype** **char(30)** **none**

The software_type element associates a PDS software type with the processing software. This type can be either PIN (partially integrated) or NIN (non integrated) software.

software_version_id **swverid** **char(4)** **none**

The software_version_id element indicates the version (development level) of software which was used to process science data or which is available through the PDS.

solar_distance **soldist** **float(17)** **km**

The solar_distance element provides the distance from the center of the sun to the center of a target body.

solar_latitude **sollat** **float(17)** **deg**

The solar_latitude element provides the subsolar latitude value. Subsolar latitude is defined as the latitude of the point on the target body surface that would be intersected by a straight line from the center of the sun to the center of the target body.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS

solar_longitude **sollon** **float(17)** **deg**

The solar_longitude element provides the value of the angle between the body_Sun line at the time of interest and the body_Sun line at the vernal equinox. This provides a measure of season on a target body, with values of 0 to 90 degrees representing northern spring, 90 to 180 degrees representing northern summer, 180 to 270 degrees representing northern autumn and 270 to 360 degrees representing northern winter.

source_data_set_id **sourcedsid** **char(30)** **none**

The source_data_set_identification element identifies a set of data which was used to produce the subject data set, data product or SPICE kernel.

spacecraft_altitude **scalt** **float(17)** **km**

The spacecraft_altitude element provides the distance from the spacecraft to the sub_spacecraft point on the surface of the target body.

spacecraft_clock_start_count **sclkstrtcnt** **char(30)** **none**

The spacecraft_clock_start_count element provides the value of the spacecraft clock at the time of frame acquisition. Example: Voyager - Flight Data Subsystem (FDS) clock count (floating point 5.2), Mariner 9 - Data Automation Subsystem, Mariner 10 - FDS - spacecraft_clock

spacecraft_clock_stop_count **sclkstopcnt** **char(20)** **none**

The spacecraft_clock_stop_count element provides the value of the spacecraft clock at the end of a time period of interest.

spacecraft_desc **scd** **char(60)** **none**

The spacecraft_description element describes the characteristics of a particular spacecraft. This description addresses the complement of instruments carried, the onboard communications and data processing equipment, the method of stabilization, the source of power and the capabilities or limitations of the spacecraft design which are related to data_taking activities. The description may be a synopsis of available mission documentation.

spacecraft_id **scid** **char(4)** **none**

The spacecraft_identification element provides a synonym or mnemonic for the name of a spacecraft which is uniquely associable with the spacecraft name.

spacecraft_id_or_name **scidname** **char(30)** **none**

The spacecraft_id_or_name element provides either a spacecraft_id or a spacecraft_name. That is, this element may have values which are either the identification of a spacecraft (the spacecraft_id) or the name of a spacecraft (the spacecraft_name).

spacecraft_operating_mode_id **scopermodeid** **char(10)** **none**

The spacecraft_operating_mode_id element identifies a particular configuration in which the spacecraft takes and returns data.

spacecraft_operations_type **scopertype** **char(60)** **none**

The spacecraft_operation_type element provides the type of mode of operation of a spacecraft. Example values: SUN-SYNCHRONOUS, GEOSTATIONARY, LANDER, ROVER, FLYBY.

specialty_desc **spcld** **char(60)** **none**

The specialty_desc element describes an individual's area of specialization during his or her association with a particular institution. Note that "specialty" is a more general characterization of the individual's activities than is "role." See role_description.

spectrum_integrated_radiance **specintgrdnc** **float(17)** **J/(m^2)/s**

The spectrum_integrated_radiance element provides the radiance value derived from integration across an entire spectrum.

spectrum_number **specnum** **smallint** **none**

The spectrum_number element provides the number which identifies a particular spectrum.

spectrum_samples **specsamps** **smallint** **none**

The spectrum_samples element provides the number of samples which form a given spectrum.

sql_format **sqlfmt** **char(15)** **none**

The sql_format element provides the standard sql data type and is used as an alias to the Britton Lee sql type. This element is used primarily for documentation.

standard_value_type **stdvaltype** **char(10)** **none**

The standard_value_type element indicates the type of standard value which exists for a PDS data element. Example values: static - values for the data element exist in a defined and fixed set of standard values, dynamic - values for the data element must either exist in a set of defined standard values or be approved by peer review for inclusion to the set of standard values, suggest - values for the data element must exist in a set of defined standard values or may be added to the set of standard values with no requirement for peer review, range - values for the data element must fall within a default range specified with the minimum_column_value and maximum_column_value elements, formation - values for the data element must conform to a formation rule.

start_delimiting_parameter **strtdelimprm** **float(17)** **none**

The start_delimiting_parameter element provides the beginning parameter value which, together with the stop_delimiting_parameter value, delimits a subset of data.

start_julian_date **strtjuldate** **integer** **d**

The start_julian_date element provides the julian date of the start of a time period of interest. Julian date is defined as an integer count of days elapsed since noon, January 1, 4713 B.C. Thus, the julian date of January 1, 1960 (A.D.) is 2436935.

start_page_number **strtpagenum** **char(8)** **none**

The start_page_number element identifies the beginning page number of a reference document which appears (as an article, for example) in a journal, report or other published work.

start_sample_number **strtsampnum** **smallint** **none**

The start_sample_number element identifies the lowest of the sample numbers which define the orbit sequence portion located within a given bin.

start_sequence_number **strtseqnum** **char(2)** **none**

The start_sequence_number element provides the number of the first sequence in a revolution. See sequence_number.

start_time_base **strttimebase** **float(17)** **s**

The start_time_base element provides the elapsed time from the beginning of each frame to the beginning of a particular mode.

start_time_from_closest_aprch **strtmclsapr** **float(17)** **time**

The start_time_from_closest_approach element provides the time from spacecraft periapsis at the beginning of a sequence. See time_from_closest_approach.

stop_delimiting_parameter **stopdelimprm** **float(17)** **none**

The stop_delimiting_parameter element provides the ending parameter value which, together with the start_delimiting_parameter value, delimits a subset of data.

stop_sample_number **stopsampnum** **smallint** **none**

The stop_sample_number element identifies the highest of the sample numbers which define the orbit sequence portion located within a given bin.

stop_sequence_number **stopseqnum** **char(2)** **none**

The stop_sequence_number element provides the number of the last sequence in a revolution. See sequence_number.

stop_time_from_closest_aprch **stoptmclsapr** **float(17)** **time**

The stop_time_from_closest_approach element provides the time from spacecraft periapsis at the end of a sequence. See time_from_closest_approach.

storage_level_id **storlvlid** **char(10)** **none**

The storage_level_id element identifies a particular storage level. For example, if the complete pathname for a stored data file is 'JPLPDS::DISK$USER1:[JJEANS.UNIVERSE]DESCRPTR.LIS' then the storage_level_identification element value will be one of the following: JPLPDS, DISK$USER1, JJEANS, UNIVERSE, DESCRPTR.LIS.

storage_level_number **storlvlnum** **smallint** **none**

The storage_level_number element describes the position of a given storage level within the overall

storage hierarchy of an entire data set, data product, or SPICE kernal. As many storage levels are documented as are necessary to identify the data. Level 0 indicates the highest storage level, which successively higher level numbers indicate successively lower levels in the storage hierarchy.

storage_level_type **storlvltype** **char(10)** **none**

The storage_level_type element identifies the type of storage structure to which a given storage_level_number refers. Example values: DATABASE, PHOTOGRAPHIC FRAME NUMBER, TAPE REEL NUMBER, VAX COMPUTER, VAX DIRECTORY, VAX FILE, VAX SUBDIRECTORY.

sub_object_name **subobjname** **char(12)** **none**

The sub_object_name element provides the template object name for a child object name subordinate to a parent object name. This object name is used by the catalog bulk loading software to establish a hiearchy between template objects.

sub_solar_azimuth **subsolaz** **float(17)** **deg**

The sub_solar_azimuth element provides the value of the angle between the line from the center of an image to the subsolar point and a horizontal reference line (in the image plane) extending from the image center to the middle right edge of the image. The values of this angle increase in a clockwise direction.

sub_solar_latitude **subsollat** **float(17)** **deg**

The sub_solar_latitude element provides the latitude of the subsolar point. The subsolar point is that point on a body which lies directly beneath the sun.

sub_solar_longitude **subsollon** **float(17)** **deg**

The sub_solar_longitude element provides the longitude of the subsolar point. The subsolar point is that point on a body which lies directly beneath the sun.

sub_spacecraft_azimuth **subscaz** **float(17)** **deg**

The sub_spacecraft_azimuth element provides the value of the angle between the line from the center of an image to the subspacecraft point and a horizontal reference line (in the image plane) extending from the image center to the middle right edge of the image. The values of this angle increase in a clockwise direction.

sub_spacecraft_latitude **subsclat** **float(17)** **deg**

The sub_spacecraft_latitude element provides the latitude of the subspacecraft point. The subspacecraft point is that point on a body which lies directly beneath the spacecraft.

sub_spacecraft_longitude **subsclon** **float(17)** **deg**

The sub_spacecraft_longitude element provides the longitude of the subspacecraft point. The subspacecraft point is that point on a body which lies directly beneath the spacecraft.

support_request_date **supreqdate** **char(8)** **date**

The support_request_date element provides the date that a support request was taken by the PDS operator.

support_request_desc **supreqd** **char(60)** **none**

The support_request_desc element provides a textual description of an official PDS support request as recorded by the PDS operator after talking with a PDS user about a problem with the PDS.

support_request_no **suprequestnu** **integer** **none**

The support_request_number provides a computer assigned unique number given to each support request recorded by the Central Node PDS operator.

support_resolution **supres** **char(60)** **none**

The support_resolution element provides the textual description of the resolution to a problem recorded by the PDS operator.

support_resolution_date **supresdate** **char(8)** **date**

The support_resolution_date element provides the date that a support request was resolved by the PDS.

support_staff_full_name **supstaffname** **char(60)** **none**

The support_staff_name element provides the full name of the PDS person entering the support request information into the PDS.

surface_clarity_percentage **surfclarpct** **float(17)** **none**

The surface_clarity_percentage element provides an estimate of the fraction of an image or observation of a surface which is unobscured (as by clouds). Surface_clarity_percentage is defined as the ratio of the unobscured area to the total observed area. See also surface_clarity_description.

surface_gravity **surfgrav** **float(17)** **m/s^2**

The surface_gravity element provides the average gravitational acceleration at the surface of a target body. Surface_gravity is computed from the mass and mean radius of the target body.

synodic_rotation_period **synrotper** **float(17)** **day**

The synodic_rotation_period element provides the time period required for a solar system object to complete one full rotation about its primary, returning to the same position in space relative to its primary.

system_event_coordinator **sysevtcrd** **char(60)** **none**

The system_event_coordinator element provides the name of the PDS person coordinating a PDS scheduled system event.

system_event_date **sysevtdate** **char(8)** **date**

The system_event_date element provides the beginning date of a PDS scheduled event.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS

system_event_id **sysevtid** **integer** **none**

The system_event_id element provides a computer generated unique number assigned for every PDS scheduled system event.

system_event_location **sysevtloc** **char(60)** **none**

The system_event_location provides the name of the location on a PDS scheduled system event.

system_event_name **sysevtname** **char(60)** **none**

The system_event_name element provides a name for a PDS scheduled system event assigned by the PDS management.

system_event_start_time **sysevtstrttm** **char(18)** **none**

The system_event_start_time element provides the military time of day that a PDS scheduled system event will be starting.

system_event_stop_time **sysevtstoptm** **char(18)** **none**

The system_event_stop_time element provides the military time of day that a PDS scheduled system event will be ending.

system_event_user_note **sysevtusernt** **char(60)** **none**

The system_event_user_note element provides information about a system event. Example value: THE SYSTEM WILL BE DOWN FOR PREVENTATIVE MAINTENANCE FROM NOON UNTIL MIDNIGHT.

system_expertise_level **sysexprtlvl** **char(10)** **none**

The system_expertise_level element identifies an individual's level of expertise in the use of the PDS capabilities.

table_bl_name **tblblname** **char(12)** **none**

The table_bl_name element represents the database tersename used by the loader software to map a template value to a column in a table. There exists a unique mapping for each template keyword=value occurrence identifies the database column. The formulation of the tblblname is governed by rules and abbreviations as defined in the PDS Data Administration Plan document.

table_desc **tbld** **char(60)** **none**

The table_desc element provides the ascii text description for a table in the PDS database.

table_name **tblname** **char(12)** **none**

The table_name element provides a unique name for a table in the PDS database. All tables in the database will have a name and a description.

table_type **tbltype** **char(1)** **none**

The table_type element denotes whether the table contains High Level Catalog data, Detailed Level Catalog Data (Image), Detailed Level Catalog (Fields and Particles) data, or system data. Examples: H, F, I, or S

target_center_distance **targctrdist** **float(17)** **km**

The target_center_distance element provides the distance between a spacecraft and the center of the named target.

target_name **targname** **char(30)** **none**

The target_name element identifies a target. The target may be a planetary body, satellite, ring, region, feature, asteroid or comet. See target_type.

target_parameter_epoch **targprmepoch** **char(18)** **none**

The target_parameter_epoch element provides the reference epoch for the value associated with a particular target parameter, whose name is provided in the target_parameter_name element. The reference epoch is the date and time associated with measurement of a quantity which may vary with time. For example, the value provided for the obliquity of a planet will be given for a measurement taken at a specified time. That time will be referenced in the target_parameter_epoch element. See also target_parameter_value.

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target_parameter_name **targparmname** **char(30)** **none**

The target_parameter_name element provides the name of a dynamic or physical parameter associated with a given target. This element may take as values only those names which are proper element names for the various dynamic and physical parameters cataloged as part of the PDS target information. Example values: BOND_ALBEDO, MEAN_SURFACE_TEMPERATURE, OBLIQUITY, ORBITAL_INCLINATION.

target_parameter_uncertainty **targparmunct** **char(40)** **none**

The target_parameter_uncertainty element provides the numeric value of the uncertainty associated with the value given for a particular target parameter, whose name is provided in the associated target_parameter_name element. The uncertainty is expressed in the same units as the value of the parameter itself, and gives some measure of the provider's estimate of the reliability of a particular value stored in the PDS catalog. See also target_parameter_value.

target_parameter_value **targparmval** **char(40)** **none**

The target_parameter_value element provides the numeric value associated with a particular target parameter, whose name is provided in the associated target_parameter_name element. Each value provided is associated with a particular source, which is completely referenced in the associated data_source_description. See also target_parameter_uncertainty, target_parameter_epoch.

target_type **targtype** **char(20)** **none**

The target_type element identifies the type of a named target. Example values: PLANET, SATEL-

LITE, RING, REGION, FEATURE, ASTEROID, COMET.

task_name **taskname** **char(40)** **none**

The task_name element identifies the task with which an individual is or was affiliated during his or her association with a particular institution. Note that "task" affiliations are distinct from "mission" affiliations.

telephone_number **telephonenum** **char(10)** **none**

The telephone_number element provides the area code, telephone number and extension (if any) of an individual or node. See also fts_number and home_telephone_number.

telescope_diameter **tlscpdiam** **float(17)** **m**

The telescope_diameter element provides the diameter of the primary mirror of a telescope.

telescope_f_number **tlscpfnum** **float(17)** **none**

The telescope_f_number element provides the value of the ratio of the focal length to the aperture of a telescope.

telescope_focal_length **tlscpfoclen** **float(17)** **m**

The telescope_focal_length element provides the total optical path distance from the first element of the optics to the focal point of a telescope.

telescope_id **tlscpid** **char(60)** **none**

The telescope_id element uniquely identifies a particular telescope.

telescope_resolution **tlscpres** **float(17)** **rad**

The telescope_resolution element provides the achievable angular resolution of a telescope.

telescope_serial_number **tlscpserlnum** **char(20)** **none**

The telescope_serial_number element provides the serial number of a telescope.

telescope_t_number **tlscptnum** **float(17)** **none**

The telescope_t_number element provides the effective f_number of a telescope. Note that the t_number differs from the f_number due to losses in the optical system.

telescope_t_number_error **tlscptnumerr** **float(17)** **none**

The telescope_t_number_error element indicates the error associated with the t_number value for a particular telescope.

telescope_transmittance **tlscpxmit** **float(17)** **none**

The telescope_transmittance element provides the transmittance value for a telescope. Transmittance is defined as the ratio of transmitted to incident flux through the telescope.

temperature_translation_desc **temptransd** **char(60)** **none**

The temperature_translation_description element provides the conversion necessary to translate an instrument's transmitted temperature reading to a value which is relative to a standard temperature scale.

template_bl_name **tmpltblname** **char(12)** **none**

The template_bl_name element represents the database terse name associated with a template keyword. This tersename is used during construction of templates to provide a reference to the keyword a full data element name rather than the terse representation. The formulation of the tmpltblname is governed by rules and abbreviations as defined in the PDS Data Administration Plan document.

template_load_date **tmpltloddate** **char(8)** **date**

The template_load_date element provides the current date the loader program is run. This date is supplied by the host operating system.

template_load_time **tmpltlodtime** **char(6)** **none**

The template_load_time provides the current time the loader program is run. This time indicates the host operating system time at the beginning of the catalog template parsing.

template_name **tmpltname** **char(60)** **none**

The template_name element provides the name of a template object used in the PDS system and the bulk loading software.

template_note **tmpltnote** **char(60)** **none**

The template_note element provides the textual description of the purpose for a template object as related to the data supplier. This description is distributed whenever a template is sent to a data supplier.

template_revision_date **tmpltrevdate** **char(8)** **none**

The template_revision_date element indicates the latest revision date for a template (i.e. 11/22/88).

template_status **tmpltstatus** **char(40)** **none**

The template_status element is updated by the loader software after certain events in the catalog loading process. The value of this field indicates the current status of a template or sub-template in the load process.

template_type **tmplttype** **char(12)** **none**

The template_type element provides a type or class of template object.

template_use_indicator **tmpltuseind** **char(1)** **none**

The template_use_indicator element indicates whether or not template may occur more than once

in a set of templates whic describe a single dataset.

terse_name **tersename** **char(12)** **none**

The terse_name element represents the name of a column in a database table, specifically the DBMS implementation name of that column. Thus, the tersename is the physical database identifier for a particular data element. The formulation o the tersename is governed by rules and abbreviations as defined in the PDS Data Administration Plan document.

text_flag **txtflag** **char(1)** **none**

The text_flag element indicates whether or not a data elemen contains variable-length textual information (i.e. a descrip tion, a note, or a summary).

text_string_value **txtstrval** **char(60)** **none**

The text_string_value element contains textual data of a descriptive nature.

threshold_bytes **thrshldbytes** **integer** **none**

The threshold_bytes element provides a maximum byte count which is compared to the order item's calculated byte count. When the threshold bytes is exceeded, the order item is not accepted by the PDS order function.

threshold_cost **thrshldcost** **integer** **us dollar**

The threshold_cost element provides the maximum cost which is compared to the order item's calculated cost. When the threshold cost is exceeded, the order item is not accepted by the PDS order function.

time_from_closest_approach **timeclsapr** **float(17)** **time**

The time_from_closest_approach element provides the time from spacecraft periapsis. The time values are negative prior to periapsis and positive after periapsis.

total_data_set_granules **totaldsgran** **integer** **none**

The total_data_set_granules element provides the total number of granules that a dataset consists of. This number is associated with the dtsetgrnlnam column.

total_fovs **totfovs** **smallint** **none**

The total_fovs (fields-of-view) element indicates the total number of fields of view associated with a single section of an instrument.

true_anomaly_angle **trueanomang** **float(17)** **deg**

The true_anomaly_angle element provides the value of the angle between the line connecting an orbiting spacecraft and the body around which it is orbiting and the line connecting the periapsis position and the target. True_anomaly_angle is measured in the spacecraft's orbital plane counterclockwise from periapsis.

tuple_sequence_number **tupseqnum** **smallint** **none**

The tuple_seqnuence_number element is used in all text tables where the ordering of the ascii text rows is' required. This element is used in all text type tables in the PDS database.

twist_offset_angle **twistoffang** **float(17)** **deg**

The twist_offset_angle element provides the angle at which an instrument is mounted, measured perpendicular to the plane defined by the cone and cross-cone axes. See also cone_offset_angle and cross_cone_offset_angle.

unit_name **unitname** **char(30)** **none**

The unit_name element provides the full name of a unit of measurement for a column in a database table. Example values: square meter, ampere per meter, meter per second.

unit_quantity **unitqty** **char(40** **none**

The unit_quantity element indicates the quantity which is measured by the column_unit_type data element. For example, the ampere column_unit_type measures electric current.

user_view_category_full_name **uvcatgryfull** **char(50)** **none**

The user_view_category_full_name element identifies a user view category by a text-like name. Example: DATASET AND PRODUCT INFORMATION

user_view_category_name **uvcatgryname** **char(12)** **none**

The user_view_category_name element identifies a category of user views. A user view category groups a set of user views by related function. This name is a terse version of a text-like user view name which is contained in the user_view_full_name element. The formulation of the user_view_category_name is governed by rules and abbreviations as defined in the PDS Catalog Design Document.

user_view_desc **uvd** **char(60)** **none**

The user_view_desc element provides a high-level functional description of a specific user view. The user view inputs a outputs are described in general terms.

user_view_full_name **uvfullname** **char(50)** **none**

The user_view_full_name element identifies a specific user view by a text-like name. Example: General Data Set Information

user_view_name **uvname** **char(12)** **none**

The user_view_name element identifies a specific user view. This name is a terse version of a text-like user view name which is contained in the user_view_full_name element. The formulation of the user_view_name is governed by rules and abbreviations as defined in the PDS Catalog Design Document.

user_view_type **uvtype** **char(1)** **none**

The user_view_type element indicates whether a specific user view is logically associated with the

PDS High Level catalog, the Detail Level catalog, or with system data.

user_view_warning **uvwarning** **char(60)** **none**

The user_view_warning element provides a single line of text that may warn or comment on some aspect of either the user view or the data displayed. For example, a user view displaying target data may suggest that a user contact the NAIF node if values with more precision are required.

vector_component_1 **vectcomp1** **float(17)** **none**

The vector_component_1 element provides the magnitude of the first component of a vector. The particular vector component being measured is identified by the vector_component_identification_1 element.

vector_component_2 **vectcomp2** **float(17)** **none**

The vector_component_2 element provides the magnitude of the second component of a vector. The particular vector component being measured is identified by the vector_component_identification_2 element.

vector_component_3 **vectcomp3** **float(17)** **none**

The vector_component_3 element provides the magnitude of the third component of a vector. The particular vector component being measured is identified by the vector_component_identification_3 element.

vector_component_id **vectcompid** **char(8)** **none**

The vector_component_identification element identifies a vector component without reference to a particular vector component value.

vector_component_id_1 **vectcompid1** **char(8)** **none**

The vector_component_identification_1 element identifies the first component of a vector. The magnitude of the first component of the vector is provided by the vector_component_1 element. Example value: RJ\$ (a radial distance).

vector_component_id_2 **vectcompid2** **char(8)** **none**

The vector_component_identification_2 element identifies the second component of a vector. The magnitude of the second component of the vector is provided by the vector_component_2 element. Example value: LATJ\$S3 (a latitude).

vector_component_id_3 **vectcompid3** **char(8)** **none**

The vector_component_identification_3 element identifies the third component of a vector. The magnitude of the third component of the vector is provided by the vector_component_3 element. Example value: LONJ\$S3 (a longitude).

vector_component_type **vectcomptype** **char(12)** **none**

The vector_component_type element identifies the type of information which is provided by a particular vector component identification element. Example values: LATITUDE, LONGITUDE,

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS

CO-LATITUDE.

vector_component_type_desc **vectcomptypd** **char(60)** **none**

The vector_component_type element identifies the type of information which is provided by a particular vector component identification element. Example values: LATITUDE, LONGITUDE, CO_LATITUDE.

vector_component_unit **vectcompunit** **char(60)** **none**

The vector_component_unit element specifies the unit of measure of associated dataset or sampling parameters. For example, in the ring information entity the unit element specifies that a given set of ring radii are measured in kilometers.

vertical_fov **vertfov** **float(17)** **deg**

The vertical_field_of_view element provides the angular measure of the vertical field of view of an instrument.

vertical_pixel_fov **vertpixfov** **float(17)** **deg**

The vertical_pixel_field_of_view element provides the angular measure of the vertical field of view of a single pixel.

2.4 STANDARD VALUES FOR COLUMNS

The PDS science community has identified all database elements for which a standard list of values should be given. This section identifies these elements, and their set of associated values. Additionally, it identifies a standard value type which defines the set of associated values as being either a list of values, a range or a formation rule and indicates how the set may be updated. The *Provided By* column is used by the Central Node to keep track of the providers of the standard values; (e.g. A for Atmospheres, C for Central Node, F for Fields and Particles, I for Image, N for NAIF, R for Radiometry, U for possible values that have been provided but have not been utilized. This information is entered and maintained by the Central Node. There will be elements that will not appear in the Standard Values list because their associated values simply have to conform to the Data Dictionary element definition. The Standard Value types are described below.

STATIC

The list of values may not be updated, although the Central Node can do so. For example, the element detailed_catalog_flag has static standard values "Y" or "N" suggesting whether or not detailed catalog information exists for a data set.

DYNAMIC

The list of values may be updated; however, an update will have to be approved during the Peer Review Procedure before it can be applied to the Standard Values list. For example, the element instrument_id had a dynamic standard value of "VIS" for imaging instruments. The data suppliers for the Image Peer Review needed to uniquely identify two cameras on the spacecraft. This required the addition of "VISA" and "VISB" denoting cameras A and B.

SUGGEST

The list of values may be updated without approval by the Peer Review Committee. For example, the element role_desc has suggested standard values such as "TEAM LEADER" but the data supplier will be allowed to add his own specific role if not represented.

RANGE

This is for elements that require either a floating point or integer value. The value has the requirement that it be within a specified range and in the specified unit. For floating point type elements, these ranges and units are included in the MINIMUM/MAXIMUM list located in Section 6.3.1 . The values and units in this list were provided by the PDS Science Community and is maintained by the Central Node. Additionally, in section 6.3.2, the Units of Measurements list shows the unit's name and measured quantity. For integer type elements not listed here, these ranges are the limits of the system. For this system these limits are -32768 and 32767 for small integer and -2147483648 and 2147483647 for integer.

FORMATION

This is for elements that require values to conform to a formation rule; (e.g. data_set_id, event_start_time). These formation rules are listed in the Science Standards section of the *PDS Data Submission Standards and Procedures* document rules were determined by the Data Design Team.

There are two cases where an element would be assigned a TBD. One is when the standard value type is TBD. This indicates that an element is not currently being used in the catalog design and has not been analyzed as to what type of standard values will be associated with it. The other case is when the list of values is TBD. This means either no data has been ingested for this element or

the element is not in the current catalog design but has been assigned a standard value type.

Data Dictionary Name: **a_axis_radius**
Standard Value Type: RANGE

Data Dictionary Name: **ascending_node_longitude**
Standard Value Type: RANGE

Data Dictionary Name: **azimuth**
Standard Value Type: RANGE

Data Dictionary Name: **b_axis_radius**
Standard Value Type: RANGE

Data Dictionary Name: **bandwidth**
Standard Value Type: RANGE

Data Dictionary Name: **bond_albedo**
Standard Value Type: RANGE

Data Dictionary Name: **brightness_temperature_id**
Standard Value Type: TBD

Data Dictionary Name: **browse_flag**
Standard Value Type: STATIC

Standard Values:	Provided By:
N	F
Y	F

Data Dictionary Name: **build_date**
Standard Value Type: FORMATION

Data Dictionary Name: **c_axis_radius**
Standard Value Type: RANGE

Data Dictionary Name: **center_filter_wavelength**
Standard Value Type: RANGE

Data Dictionary Name: **center_frequency**
Standard Value Type: RANGE

Data Dictionary Name: **channel_geometric_factor**
Standard Value Type: RANGE

Data Dictionary Name:	**channel_group_name**
Standard Value Type:	DYNAMIC

Standard Values:	Provided By:
FAR ENCOUNTER	F
FAR-NEAR ENCOUNTER	F
NEAR ENCOUNTER	F

Data Dictionary Name: **channel_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
1	F
10	F
100	F
101	F
102	F
103	F
104	F
105	F
106	F
107	F
108	F
109	F
11	F
110	F
111	F
112	F
113	F
114	F
115	F
116	F
117	F
118	F
119	F
12	F
120	F
121	F
122	F
123	F
124	F
125	F
126	F
127	F
128	F
13	F
14	F
15	F
16	F
17	F
18	F
19	F
2	F
20	F
21	F
22	F
23	F

24	F
25	F
26	F
27	F
28	F
29	F
3	F
30	F
31	F
32	F
33	F
34	F
35	F
36	F
37	F
38	F
39	F
4	F
40	F
41	F
42	F
43	F
44	F
45	F
46	F
47	F
48	F
49	F
5	F
50	F
51	F
52	F
53	F
54	F
55	F
56	F
57	F
58	F
59	F
6	F
60	F
61	F
62	F
63	F
64	F
65	F
66	F
67	F
68	F

69	F
7	F
70	F
71	F
72	F
73	F
74	F
75	F
76	F
77	F
78	F
79	F
8	F
80	F
81	F
82	F
83	F
84	F
85	F
86	F
87	F
88	F
89	F
9	F
90	F
91	F
92	F
93	F
94	F
95	F
96	F
97	F
98	F
99	F
AB10	F
AB12	F
AB13	F
AD03	F
AD04	F
AL01	F
AL02	F
CH1	F
CH10	F
CH11	F
CH12	F
CH13	F
CH14	F
CH15	F
CH16	F

CH2	F
CH3	F
CH32	F
CH33	F
CH34	F
CH35	F
CH36	F
CH38	F
CH39	F
CH4	F
CH5	F
CH6	F
CH7	F
CH8	F
CH9	F
D1F1	F
D1F2	F
DA03	F
DA04	F
DP09	F
DP10	F
DP11	F
DZ01	F
EB01	F
EB02	F
EB03	F
EB04	F
EB05	F
EBD1	F
EBD2	F
EBD3	F
EBD4	F
EBD5	F
EG06	F
EG07	F
EG08	F
EG09	F
ESA0	F
ESB0	F
PD09	F
PD10	F
PD11	F
PL01	F
PL02	F
PL03	F
PL04	F
PL05	F
PL06	F
PL07	F

PL08	F
PL1	F
PSA1	F
PSA2	F
PSA3	F
PSB1	F
PSB2	F
PSB3	F
WIDE	F
ZD01	F

Data Dictionary Name: **channel_integration_duration**
Standard Value Type: RANGE

Data Dictionary Name: **cone_angle**
Standard Value Type: RANGE

Data Dictionary Name: **cone_offset_angle**
Standard Value Type: RANGE

Data Dictionary Name: **contamination_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
-1	F
1	F
2	F
3	F
4	F
5	F
6	F
7	F
8	F

Data Dictionary Name: **coordinate_system_center_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
JUPITER	F
PLANET'S CENTER	F
SATURN	F
URANUS	F

Data Dictionary Name: **coordinate_system_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
-JUPSYS3	F
-SATSYS3	F
-URNSYS3	F
PLSCYL	F

Data Dictionary Name: **coordinate_system_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
JUPITER MINUS SYSTEM III	F
PLANET CENTERED CYLINDRICAL	F
SATURN MINUS LONGITUDE SYSTEM	F
URANUS MINUS LONGITUDE SYSTEM	F

Data Dictionary Name: **coordinate_system_ref_epoch**
Standard Value Type: RANGE

Data Dictionary Name: **cross_cone_angle**
Standard Value Type: RANGE

Data Dictionary Name: **cross_cone_offset_angle**
Standard Value Type: RANGE

Data Dictionary Name: **cycle_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
GS3	F
GS5	F

Data Dictionary Name: **data_coverage_percentage**
Standard Value Type: RANGE

Data Dictionary Name: **data_object_type**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
HISTOGRAM	U
IMAGE	I
MAP	U
SPECTRUM	IR
TABLE	AR
TIME SERIES	F
TRAJECTORY AND EPHEMERIS DATA	N

Data Dictionary Name: **data_path_type**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
N/A	U
REALTIME	AFR
RECORDED DATA PLAYBACK	F

Data Dictionary Name: **data_quality_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
-1	F
0	F
1	F
2	F
3	F
4	F

Data Dictionary Name: **data_rate**
Standard Value Type: RANGE

Data Dictionary Name: **data_set_granule_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
DATA SET	C
DAY	C
IMAGE	C
N/A	C
ROW	C
SPECTRUM	C

Data Dictionary Name: **data_set_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
EAR-A-8CPS-3-RDR-8COL-V1.0	I
EAR-A-DBP-3-RDR-26COL-V1.0	I
MR6/MR7-M-IRS-3-V1.0	R
MR9/VO1/VO2-M-ISS/VIS-5-CLOUD-V1.0	A
VG1-J-6-SPK-V1.0	N
VG1-J-LECP-4-15MIN	F
VG1-J-LECP-4-BR-15MIN	F
VG1-J-MAG-4-1.92SEC	F
VG1-J-MAG-4-48.0SEC	F
VG1-J-MAG-4-9.60SEC	F
VG1-J-PLS-5-ION-MOM-96.0SEC	F
VG1-J-PLS/PRA-5-ELE-MOM-96.0SEC	F
VG1-J-POS-4-48.0SEC	F
VG1-J-PWS-2-SA-4.0SEC	F
VG1-J-PWS-4-SA-48.0SEC	F
VG1-S-6-SPK-V1.0	N
VG1-S-LECP-4-15MIN	F
VG1-S-LECP-4-BR-15MIN	F
VG1-S-MAG-4-1.92SEC	F
VG1-S-MAG-4-48.0SEC	F
VG1-S-MAG-4-9.60SEC	F
VG1-S-PLS-5-ELE-BR-96.0SEC	F
VG1-S-PLS-5-ELE-PAR-96.0SEC	F
VG1-S-PLS-5-ION-FBR-96.0SEC	F
VG1-S-PLS-5-ION-FIT-96.0SEC	F
VG1-S-PLS-5-ION-MOM-96.0SEC	F
VG1-S-POS-4-48.0SEC	F
VG1-S-PWS-2-SA-4.0SEC	F
VG1-S-PWS-4-SA-48.0SEC	F
VG2-J-6-SPK-V1.0	N
VG2-J-LECP-4-15MIN	F
VG2-J-LECP-4-BR-15MIN	F
VG2-J-MAG-4-1.92SEC	F
VG2-J-MAG-4-48.0SEC	F
VG2-J-MAG-4-9.60SEC	F
VG2-J-PLS-5-ELE-MOM-96.0SEC	F
VG2-J-PLS-5-ION-MOM-96.0SEC	F
VG2-J-POS-4-48.0SEC	F
VG2-J-PWS-2-SA-4.0SEC	F
VG2-J-PWS-4-SA-48.0SEC	F
VG2-S-6-SPK-V1.0	N
VG2-S-LECP-4-15MIN	F
VG2-S-LECP-4-BR-15MIN	F
VG2-S-MAG-4-1.92SEC	F
VG2-S-MAG-4-48.0SEC	F

VG2-S-MAG-4-9.60SEC	F
VG2-S-PLS-5-ELE-BR-96.0SEC	F
VG2-S-PLS-5-ELE-PAR-96.0SEC	F
VG2-S-PLS-5-ION-FBR-96.0SEC	F
VG2-S-PLS-5-ION-FIT-96.0SEC	F
VG2-S-PLS-5-ION-MOM-96.0SEC	F
VG2-S-POS-4-48.0SEC	F
VG2-S-PWS-2-SA-4.0SEC	F
VG2-S-PWS-4-SA-48.0SEC	F
VG2-U-6-SPK-V1.0	N
VG2-U-LECP-4-15MIN	F
VG2-U-LECP-4-BR-15MIN	F
VG2-U-MAG-4-1.92SEC	F
VG2-U-MAG-4-48.0SEC	F
VG2-U-MAG-4-9.60SEC	F
VG2-U-PLS-5-ELE-BR-48SEC	F
VG2-U-PLS-5-ELE-PAR-48SEC	F
VG2-U-PLS-5-ION-FBR-48SEC	F
VG2-U-PLS-5-ION-FIT-48SEC	F
VG2-U-POS-4-48.0SEC	F
VG2-U-PWS-2-SA-4.0SEC	F
VG2-U-PWS-4-SA-48.0SEC	F
VL1-M-MET-4-BINNED-P-T-V-CORR-V1.0	A
VL1/VL2-M-LCS-5-ATMOS-OPTICAL-DEPTH-V1.0	A
VL1/VL2-M-MET-3-P-V1.0	A
VL1/VL2-M-MET-4-BINNED-P-T-V-V1.0	A
VL1/VL2-M-MET-4-DAILY-AVG-PRESSURE-V1.0	A
VO1-M-VIS-4-SURVEY-V1.0	I
VO1/VO2-M-IRTM-4-V1.0	R
VO1/VO2-M-IRTM-5-BINNED/CLOUDS-V1.0	A
VO1/VO2-M-MAWD-4-V1.0	A
VO1/VO2-M-VIS-2-EDR-V1.0	I

Data Dictionary Name: **data_set_id_or_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
EAR-A-8CPS-3-RDR-8COL-V1.0	I
EAR-A-DBP-3-RDR-26COL-V1.0	I
EARTH ASTEROID 8CPS SURVEY REFLECT SPECTRA V1.0	I
EARTH ASTEROID DBP CALIB 26COL SURVEY REFLECT SPECTRA V1.0	I
MR6/MR7 MARS INFRARED SPECTROMETER CALIBRATED DATA V1.0	R
MR6/MR7-M-IRS-3-V1.0	R
MR9/VO1/VO2 MARS IMAGING SCIENCE SUBSYSTEM/VIS 5 CLOUD V1.0	A
MR9/VO1/VO2-M-ISS/VIS-5-CLOUD-V1.0	A
VG1-J-6-SPK-V1.0	N
VG1-J-LECP-4-15MIN	F
VG1-J-LECP-4-BR-15MIN	F
VG1-J-MAG-4-1.92SEC	F
VG1-J-MAG-4-48.0SEC	F
VG1-J-MAG-4-9.60SEC	F
VG1-J-PLS-5-ION-MOM-96.0SEC	F
VG1-J-PLS/PRA-5-ELE-MOM-96.0SEC	F
VG1-J-POS-4-48.0SEC	F
VG1-J-PWS-2-SA-4.0SEC	F
VG1-J-PWS-4-SA-48.0SEC	F
VG1-S-6-SPK-V1.0	N
VG1-S-LECP-4-15MIN	F
VG1-S-LECP-4-BR-15MIN	F
VG1-S-MAG-4-1.92SEC	F
VG1-S-MAG-4-48.0SEC	F
VG1-S-MAG-4-9.60SEC	F
VG1-S-PLS-5-ELE-BR-96.0SEC	F
VG1-S-PLS-5-ELE-PAR-96.0SEC	F
VG1-S-PLS-5-ION-FBR-96.0SEC	F
VG1-S-PLS-5-ION-FIT-96.0SEC	F
VG1-S-PLS-5-ION-MOM-96.0SEC	F
VG1-S-POS-4-48.0SEC	F
VG1-S-PWS-2-SA-4.0SEC	F
VG1-S-PWS-4-SA-48.0SEC	F
VG2-J-6-SPK-V1.0	N
VG2-J-LECP-4-15MIN	F
VG2-J-LECP-4-BR-15MIN	F
VG2-J-MAG-4-1.92SEC	F
VG2-J-MAG-4-48.0SEC	F
VG2-J-MAG-4-9.60SEC	F
VG2-J-PLS-5-ELE-MOM-96.0SEC	F
VG2-J-PLS-5-ION-MOM-96.0SEC	F
VG2-J-POS-4-48.0SEC	F
VG2-J-PWS-2-SA-4.0SEC	F
VG2-J-PWS-4-SA-48.0SEC	F
VG2-S-6-SPK-V1.0	N

VG2-S-LECP-4-15MIN	F
VG2-S-LECP-4-BR-15MIN	F
VG2-S-MAG-4-1.92SEC	F
VG2-S-MAG-4-48.0SEC	F
VG2-S-MAG-4-9.60SEC	F
VG2-S-PLS-5-ELE-BR-96.0SEC	F
VG2-S-PLS-5-ELE-PAR-96.0SEC	F
VG2-S-PLS-5-ION-FBR-96.0SEC	F
VG2-S-PLS-5-ION-FIT-96.0SEC	F
VG2-S-PLS-5-ION-MOM-96.0SEC	F
VG2-S-POS-4-48.0SEC	F
VG2-S-PWS-2-SA-4.0SEC	F
VG2-S-PWS-4-SA-48.0SEC	F
VG2-U-6-SPK-V1.0	N
VG2-U-LECP-4-15MIN	F
VG2-U-LECP-4-BR-15MIN	F
VG2-U-MAG-4-1.92SEC	F
VG2-U-MAG-4-48.0SEC	F
VG2-U-MAG-4-9.60SEC	F
VG2-U-PLS-5-ELE-BR-48SEC	F
VG2-U-PLS-5-ELE-PAR-48SEC	F
VG2-U-PLS-5-ION-FBR-48SEC	F
VG2-U-PLS-5-ION-FIT-48SEC	F
VG2-U-POS-4-48.0SEC	F
VG2-U-PWS-2-SA-4.0SEC	F
VG2-U-PWS-4-SA-48.0SEC	F
VL1 MARS METEOROLOGY DATA RESAMPLED DATA BINNED-P-T-V V1.0	A
VL1-M-MET-4-BINNED-P-T-V-CORR-V1.0	A
VL1/VL2 MARS LCS DERIVED ATMOSPHERIC OPTICAL DEPTH V1.0	A
VL1/VL2 MARS METEOROLOGY DATA CALIBRATED DATA PRESSURE V1.0	A
VL1/VL2 MARS METEOROLOGY RESAMPLED DAILY AVG PRESSURE V1.0	A
VL1/VL2 MARS METEOROLOGY RESAMPLED DATA BINNED-P-T-V V1.0	A
VL1/VL2-M-LCS-5-ATMOS-OPTICAL-DEPTH-V1.0	A
VL1/VL2-M-MET-3-P-V1.0	A
VL1/VL2-M-MET-4-BINNED-P-T-V-V1.0	A
VL1/VL2-M-MET-4-DAILY-AVG-PRESSURE-V1.0	A
VO1 MARS VISUAL IMAGING SUBSYSTEM DATA FOR SURVEY MISSION	I
VO1-M-VIS-4-SURVEY-V1.0	I
VO1/VO2 MARS ATMOSPHERIC WATER DETECTOR 4 V1.0	A
VO1/VO2 MARS INFRARED THERMAL MAPPER RESAMPLED DATA V1.0	R
VO1/VO2 MARS IRTM BINNED DATA AND DERIVED CLOUDS V1.0	A
VO1/VO2 MARS VISUAL IMAGING SUBSYSTEM EXPERIMENT DATA RECORD	I
VO1/VO2-M-IRTM-4-V1.0	R
VO1/VO2-M-IRTM-5-BINNED/CLOUDS-V1.0	A
VO1/VO2-M-MAWD-4-V1.0	A
VO1/VO2-M-VIS-2-EDR-V1.0	I
VOYAGER 1 JUP LOW ENERGY CHARGED PARTICLE CALIB. 15MIN	F
VOYAGER 1 JUP LOW ENERGY CHARGED PARTICLE CALIB. BR 15MIN	F
VOYAGER 1 JUP PLASMA WAVE SPECTROMETER EDITED SPEC 4.0SEC	F

VOYAGER 1 JUP PLASMA WAVE SPECTROMETER RESAMP SPEC 48.0SEC	F
VOYAGER 1 JUP PLASMA/RADIO ASTRON. DERIVED ELECTRON MOM 96S	F
VOYAGER 1 JUPITER MAGNETOMETER RESAMPLED DATA 1.92 SEC	F
VOYAGER 1 JUPITER MAGNETOMETER RESAMPLED DATA 48.0 SEC	F
VOYAGER 1 JUPITER MAGNETOMETER RESAMPLED DATA 9.60 SEC	F
VOYAGER 1 JUPITER PLASMA DERIVED ION MOMENTS 96 SEC	F
VOYAGER 1 JUPITER POSITION RESAMPLED DATA 48.0 SECONDS	F
VOYAGER 1 JUPITER SPICE S- AND P-EPHEM. KERNELS	N
VOYAGER 1 SAT LOW ENERGY CHARGED PARTICLE CALIB. 15MIN	F
VOYAGER 1 SAT LOW ENERGY CHARGED PARTICLE CALIB. BR 15MIN	F
VOYAGER 1 SAT PLASMA WAVE SPECTROMETER RESAMP SPEC 48.0SEC	F
VOYAGER 1 SATURN MAGNETOMETER RESAMPLED DATA 1.92 SEC	F
VOYAGER 1 SATURN MAGNETOMETER RESAMPLED DATA 48.0 SEC	F
VOYAGER 1 SATURN MAGNETOMETER RESAMPLED DATA 9.60 SEC	F
VOYAGER 1 SATURN PLASMA DERIVED ELECTRON BROWSE 96 SEC	F
VOYAGER 1 SATURN PLASMA DERIVED ELECTRON PARAMETERS 96 SEC	F
VOYAGER 1 SATURN PLASMA DERIVED ION FITS 96 SEC	F
VOYAGER 1 SATURN PLASMA DERIVED ION FITS BROWSE 96 SEC	F
VOYAGER 1 SATURN PLASMA DERIVED ION MOMENTS 96 SEC	F
VOYAGER 1 SATURN PLASMA WAVE SPECTROMETER EDITED SPEC 4.0SEC	F
VOYAGER 1 SATURN POSITION RESAMPLED DATA 48.0 SECONDS	F
VOYAGER 1 SATURN S- AND P-EPHEMERIS KERNELS	N
VOYAGER 1 SATURN SPICE S- AND P-EPHEM. KERNELS	N
VOYAGER 2 JUP LOW ENERGY CHARGED PARTICLE CALIB. 15MIN	F
VOYAGER 2 JUP LOW ENERGY CHARGED PARTICLE CALIB. BR 15MIN	F
VOYAGER 2 JUP PLASMA WAVE SPECTROMETER EDITED SPEC 4.0SEC	F
VOYAGER 2 JUP PLASMA WAVE SPECTROMETER RESAMP SPEC 48.0SEC	F
VOYAGER 2 JUPITER MAGNETOMETER RESAMPLED DATA 1.92 SEC	F
VOYAGER 2 JUPITER MAGNETOMETER RESAMPLED DATA 48.0 SEC	F
VOYAGER 2 JUPITER MAGNETOMETER RESAMPLED DATA 9.60 SEC	F
VOYAGER 2 JUPITER PLASMA DERIVED ELECTRON MOMENTS 96 SEC	F
VOYAGER 2 JUPITER PLASMA DERIVED ION MOMENTS 96 SEC	F
VOYAGER 2 JUPITER POSITION RESAMPLED DATA 48.0 SECONDS	F
VOYAGER 2 JUPITER S- AND P-EPHEMERIS KERNELS	N
VOYAGER 2 JUPITER SPICE S- AND P-EPHEM. KERNELS	N
VOYAGER 2 SAT LOW ENERGY CHARGED PARTICLE CALIB. 15MIN	F
VOYAGER 2 SAT LOW ENERGY CHARGED PARTICLE CALIB. BR 15MIN	F
VOYAGER 2 SAT PLASMA WAVE SPECTROMETER RESAMP SPEC 48.0SEC	F
VOYAGER 2 SATURN MAGNETOMETER RESAMPLED DATA 1.92 SEC	F
VOYAGER 2 SATURN MAGNETOMETER RESAMPLED DATA 48.0 SEC	F
VOYAGER 2 SATURN MAGNETOMETER RESAMPLED DATA 9.60 SEC	F
VOYAGER 2 SATURN PLASMA DERIVED ELECTRON BROWSE 96 SEC	F
VOYAGER 2 SATURN PLASMA DERIVED ELECTRON PARAMETERS 96 SEC	F
VOYAGER 2 SATURN PLASMA DERIVED ION FITS 96 SEC	F
VOYAGER 2 SATURN PLASMA DERIVED ION FITS BROWSE 96 SEC	F
VOYAGER 2 SATURN PLASMA DERIVED ION MOMENTS 96 SEC	F
VOYAGER 2 SATURN PLASMA WAVE SPECTROMETER EDITED SPEC 4.0SEC	F
VOYAGER 2 SATURN POSITION RESAMPLED DATA 48.0 SECONDS	F
VOYAGER 2 SATURN S- AND P-EPHEMERIS KERNELS	N

VOYAGER 2 SATURN SPICE S- AND P-EPHEM. KERNELS	N
VOYAGER 2 URAN LOW ENERGY CHARGED PARTICLE CALIB. 15MIN	F
VOYAGER 2 URAN LOW ENERGY CHARGED PARTICLE CALIB. BR 15MIN	F
VOYAGER 2 URAN PLASMA WAVE SPECTROMETER RESAMP SPEC 48.0SEC	F
VOYAGER 2 URANUS MAGNETOMETER RESAMPLED DATA 1.92 SECONDS	F
VOYAGER 2 URANUS MAGNETOMETER RESAMPLED DATA 48.0 SECONDS	F
VOYAGER 2 URANUS MAGNETOMETER RESAMPLED DATA 9.60 SECONDS	F
VOYAGER 2 URANUS PLASMA DERIVED ELECTRON BROWSE 48 SEC	F
VOYAGER 2 URANUS PLASMA DERIVED ELECTRON BROWSE 96 SEC	F
VOYAGER 2 URANUS PLASMA DERIVED ELECTRON PARAMETERS 48 SEC	F
VOYAGER 2 URANUS PLASMA DERIVED ELECTRON PARAMETERS 96 SEC	F
VOYAGER 2 URANUS PLASMA DERIVED ION FITS 48 SEC	F
VOYAGER 2 URANUS PLASMA DERIVED ION FITS BROWSE 48 SEC	F
VOYAGER 2 URANUS PLASMA WAVE SPECTROMETER EDITED SPEC 4.0SEC	F
VOYAGER 2 URANUS POSITION RESAMPLED DATA 48.0 SECONDS	F
VOYAGER 2 URANUS S- AND P-EPHEMERIS KERNELS	N
VOYAGER 2 URANUS SPICE S- AND P-EPHEM. KERNELS	N

Data Dictionary Name: **data_set_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
EARTH ASTEROID 8CPS SURVEY REFLECT SPECTRA V1.0	I
EARTH ASTEROID DBP CALIB 26COL SURVEY REFLECT SPECTRA V1.0	I
MR6/MR7 MARS INFRARED SPECTROMETER CALIBRATED DATA V1.0	R
MR9/VO1/VO2 MARS IMAGING SCIENCE SUBSYSTEM/VIS 5 CLOUD V1.0	A
VL1 MARS METEOROLOGY DATA RESAMPLED DATA BINNED-P-T-V V1.0	A
VL1/VL2 MARS LCS DERIVED ATMOSPHERIC OPTICAL DEPTH V1.0	A
VL1/VL2 MARS METEOROLOGY DATA CALIBRATED DATA PRESSURE V1.0	A
VL1/VL2 MARS METEOROLOGY RESAMPLED DAILY AVG PRESSURE V1.0	A
VL1/VL2 MARS METEOROLOGY RESAMPLED DATA BINNED-P-T-V V1.0	A
VO1 MARS VISUAL IMAGING SUBSYSTEM DATA FOR SURVEY MISSION	I
VO1/VO2 MARS ATMOSPHERIC WATER DETECTOR 4 V1.0	A
VO1/VO2 MARS INFRARED THERMAL MAPPER RESAMPLED DATA V1.0	R
VO1/VO2 MARS IRTM BINNED DATA AND DERIVED CLOUDS V1.0	A
VO1/VO2 MARS VISUAL IMAGING SUBSYSTEM EXPERIMENT DATA RECORD	I
VOYAGER 1 JUP LOW ENERGY CHARGED PARTICLE CALIB. 15MIN	F
VOYAGER 1 JUP LOW ENERGY CHARGED PARTICLE CALIB. BR 15MIN	F
VOYAGER 1 JUP PLASMA WAVE SPECTROMETER EDITED SPEC 4.0SEC	F
VOYAGER 1 JUP PLASMA WAVE SPECTROMETER RESAMP SPEC 48.0SEC	F
VOYAGER 1 JUP PLASMA/RADIO ASTRON. DERIVED ELECTRON MOM 96S	F
VOYAGER 1 JUPITER MAGNETOMETER RESAMPLED DATA 1.92 SEC	F
VOYAGER 1 JUPITER MAGNETOMETER RESAMPLED DATA 48.0 SEC	F
VOYAGER 1 JUPITER MAGNETOMETER RESAMPLED DATA 9.60 SEC	F
VOYAGER 1 JUPITER PLASMA DERIVED ION MOMENTS 96 SEC	F
VOYAGER 1 JUPITER POSITION RESAMPLED DATA 48.0 SECONDS	F
VOYAGER 1 JUPITER SPICE S- AND P-EPHEM. KERNELS	N
VOYAGER 1 SAT LOW ENERGY CHARGED PARTICLE CALIB. 15MIN	F
VOYAGER 1 SAT LOW ENERGY CHARGED PARTICLE CALIB. BR 15MIN	F
VOYAGER 1 SAT PLASMA WAVE SPECTROMETER RESAMP SPEC 48.0SEC	F
VOYAGER 1 SATURN MAGNETOMETER RESAMPLED DATA 1.92 SEC	F
VOYAGER 1 SATURN MAGNETOMETER RESAMPLED DATA 48.0 SEC	F
VOYAGER 1 SATURN MAGNETOMETER RESAMPLED DATA 9.60 SEC	F
VOYAGER 1 SATURN PLASMA DERIVED ELECTRON BROWSE 96 SEC	F
VOYAGER 1 SATURN PLASMA DERIVED ELECTRON PARAMETERS 96 SEC	F
VOYAGER 1 SATURN PLASMA DERIVED ION FITS 96 SEC	F
VOYAGER 1 SATURN PLASMA DERIVED ION FITS BROWSE 96 SEC	F
VOYAGER 1 SATURN PLASMA DERIVED ION MOMENTS 96 SEC	F
VOYAGER 1 SATURN PLASMA WAVE SPECTROMETER EDITED SPEC 4.0SEC	F
VOYAGER 1 SATURN POSITION RESAMPLED DATA 48.0 SECONDS	F
VOYAGER 1 SATURN S- AND P-EPHEMERIS KERNELS	N
VOYAGER 1 SATURN SPICE S- AND P-EPHEM. KERNELS	N
VOYAGER 2 JUP LOW ENERGY CHARGED PARTICLE CALIB. 15MIN	F
VOYAGER 2 JUP LOW ENERGY CHARGED PARTICLE CALIB. BR 15MIN	F
VOYAGER 2 JUP PLASMA WAVE SPECTROMETER EDITED SPEC 4.0SEC	F
VOYAGER 2 JUP PLASMA WAVE SPECTROMETER RESAMP SPEC 48.0SEC	F
VOYAGER 2 JUPITER MAGNETOMETER RESAMPLED DATA 1.92 SEC	F

VOYAGER 2 JUPITER MAGNETOMETER RESAMPLED DATA 48.0 SEC	F
VOYAGER 2 JUPITER MAGNETOMETER RESAMPLED DATA 9.60 SEC	F
VOYAGER 2 JUPITER PLASMA DERIVED ELECTRON MOMENTS 96 SEC	F
VOYAGER 2 JUPITER PLASMA DERIVED ION MOMENTS 96 SEC	F
VOYAGER 2 JUPITER POSITION RESAMPLED DATA 48.0 SECONDS	F
VOYAGER 2 JUPITER S- AND P-EPHEMERIS KERNELS	N
VOYAGER 2 JUPITER SPICE S- AND P-EPHEM. KERNELS	N
VOYAGER 2 SAT LOW ENERGY CHARGED PARTICLE CALIB. 15MIN	F
VOYAGER 2 SAT LOW ENERGY CHARGED PARTICLE CALIB. BR 15MIN	F
VOYAGER 2 SAT PLASMA WAVE SPECTROMETER RESAMP SPEC 48.0SEC	F
VOYAGER 2 SATURN MAGNETOMETER RESAMPLED DATA 1.92 SEC	F
VOYAGER 2 SATURN MAGNETOMETER RESAMPLED DATA 48.0 SEC	F
VOYAGER 2 SATURN MAGNETOMETER RESAMPLED DATA 9.60 SEC	F
VOYAGER 2 SATURN PLASMA DERIVED ELECTRON BROWSE 96 SEC	F
VOYAGER 2 SATURN PLASMA DERIVED ELECTRON PARAMETERS 96 SEC	F
VOYAGER 2 SATURN PLASMA DERIVED ION FITS 96 SEC	F
VOYAGER 2 SATURN PLASMA DERIVED ION FITS BROWSE 96 SEC	F
VOYAGER 2 SATURN PLASMA DERIVED ION MOMENTS 96 SEC	F
VOYAGER 2 SATURN PLASMA WAVE SPECTROMETER EDITED SPEC 4.0SEC	F
VOYAGER 2 SATURN POSITION RESAMPLED DATA 48.0 SECONDS	F
VOYAGER 2 SATURN S- AND P-EPHEMERIS KERNELS	N
VOYAGER 2 SATURN SPICE S- AND P-EPHEM. KERNELS	N
VOYAGER 2 URAN LOW ENERGY CHARGED PARTICLE CALIB. 15MIN	F
VOYAGER 2 URAN LOW ENERGY CHARGED PARTICLE CALIB. BR 15MIN	F
VOYAGER 2 URAN PLASMA WAVE SPECTROMETER RESAMP SPEC 48.0SEC	F
VOYAGER 2 URANUS MAGNETOMETER RESAMPLED DATA 1.92 SECONDS	F
VOYAGER 2 URANUS MAGNETOMETER RESAMPLED DATA 48.0 SECONDS	F
VOYAGER 2 URANUS MAGNETOMETER RESAMPLED DATA 9.60 SECONDS	F
VOYAGER 2 URANUS PLASMA DERIVED ELECTRON BROWSE 48 SEC	F
VOYAGER 2 URANUS PLASMA DERIVED ELECTRON BROWSE 96 SEC	F
VOYAGER 2 URANUS PLASMA DERIVED ELECTRON PARAMETERS 48 SEC	F
VOYAGER 2 URANUS PLASMA DERIVED ELECTRON PARAMETERS 96 SEC	F
VOYAGER 2 URANUS PLASMA DERIVED ION FITS 48 SEC	F
VOYAGER 2 URANUS PLASMA DERIVED ION FITS BROWSE 48 SEC	F
VOYAGER 2 URANUS PLASMA WAVE SPECTROMETER EDITED SPEC 4.0SEC	F
VOYAGER 2 URANUS POSITION RESAMPLED DATA 48.0 SECONDS	F
VOYAGER 2 URANUS S- AND P-EPHEMERIS KERNELS	N
VOYAGER 2 URANUS SPICE S- AND P-EPHEM. KERNELS	N

Data Dictionary Name: **data_set_or_instrument_parm_nm**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
1.4 MICROMETER BRIGHTNESS	A
ATMOSPHERIC PRESSURE	A
ATMOSPHERIC TEMPERATURE	A
ATOMIC NUMBER (Z)	F
BRIGHTNESS	U
BRIGHTNESS TEMPERATURE	AR
BRIGHTNESS TEMPERATURE STANDARD DEVIATN	A
CLOUD COUNT	A
CLOUD TYPE	A
COLUMN WATER ABUNDANCE	A
DATA NUMBER	I
DERIVATIVE OF MODEL WITH ALBEDO	R
DERIVATIVE OF MODEL WITH INERTIA	R
ELECTRIC FIELD COMPONENT	F
ELECTRIC FIELD INTENSITY	F
ELECTRIC FIELD SPECTRAL DENSITY	F
ELECTRIC FIELD VECTOR	F
ELECTRIC FIELD WAVEFORM	F
ELECTRON ANGULAR DISTRIBUTION	F
ELECTRON CURRENT	F
ELECTRON DENSITY	F
ELECTRON DIFFERENTIAL FLUX	F
ELECTRON DIFFERENTIAL INTENSITY	F
ELECTRON DISTRIBUTION FUNCTION	F
ELECTRON ENERGY SPECTRUM	F
ELECTRON FLUX	F
ELECTRON INTENSITY	F
ELECTRON INTENSTIY	F
ELECTRON PITCH ANGLE DISTRIBUTION	F
ELECTRON PRESSURE	F
ELECTRON RATE	F
ELECTRON TEMPERATURE	F
ENERGETIC NEUTRAL ATOM FLUX	F
ENERGY/NUCLEON	F
FLUX RATIO	I
ION ANGULAR DISTRIBUTION	F
ION COMPOSITION	F
ION CURRENT	F
ION DENSITY	F
ION DIFFERENTIAL FLUX	F
ION DIFFERENTIAL INTENSITY	F
ION DISTRIBUTION FUNCTION	F
ION ENERGY SPECTRUM	F
ION FLUX	F
ION INTENSITY	F

ION PITCH ANGLE DISTRIBUTION	F
ION PRESSURE	F
ION RATE	F
ION TEMPERATURE	F
ION THERMAL SPEED	F
LAMBERT ALBEDO	AR
LAMBERT ALBEDO STANDARD DEVIATION	A
MAGNETIC FIELD COMPONENT	F
MAGNETIC FIELD INTENSITY	F
MAGNETIC FIELD SPECTRAL DENSITY	F
MAGNETIC FIELD VECTOR	F
MAGNETIC PRESSURE	F
MINNAERT ALBEDO	R
MODEL TEMPERATURE	R
N/A	R
OBSERVATION COUNT	A
OPTICAL DEPTH	A
PARTICLE MULTIPLE PARAMETERS	F
PARTICLE RATE	F
PHASE CORRECTED ALBEDO	AR
PHASE CORRECTED ALBEDO STANDARD DEVIATN	A
PHOTON FLUX	I
PLASMA BETA	F
PLASMA DENSITY	F
PLASMA FLOW	F
PLASMA PRESSURE	F
PLASMA VELOCITY	F
PLASMA WAVE SPECTRUM	F
POSITION VECTOR	F
POWER FLUX	F
PRESSURE	A
RADIANCE	AI
RADIANCE FACTOR	I
RADIANCE_A	R
RADIANCE_B	R
RADIANCE_C1	R
RADIANCE_C2	R
RADIANCE_C3	R
RADIANCE_CHANNEL_1	A
RADIANCE_CHANNEL_2	A
RADIANCE_CHANNEL_3	A
RADIANCE_CHANNEL_4	A
RADIANCE_CHANNEL_5	A
RADIANCE_D	R
RADIO WAVE SPECTRUM	F
SINGLE POINT THERMAL INERTIA	R
SPECTRAL INTENSITY	R
SPECTRAL RADIANCE	U
TEMPERATURE	A

VELOCITY	F
VISUAL BRIGHTNESS	R
WAVE ELECTRIC FIELD INTENSITY	F
WAVE MAGNETIC FIELD INTENSITY	F
WIND DIRECTION	U
WIND VELOCITY	A

Data Dictionary Name: **data_set_parameter_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
1.4 MICROMETER BRIGHTNESS	A
ATMOSPHERIC PRESSURE	A
BRIGHTNESS TEMPERATURE	AR
BRIGHTNESS TEMPERATURE STANDARD DEVIATN	A
CLOUD COUNT	A
CLOUD TYPE	A
COLUMN WATER ABUNDANCE	A
DATA NUMBER	I
DERIVATIVE OF MODEL WITH ALBEDO	R
DERIVATIVE OF MODEL WITH INERTIA	R
ELECTRIC FIELD COMPONENT	F
ELECTRIC FIELD INTENSITY	F
ELECTRIC FIELD SPECTRAL DENSITY	F
ELECTRIC FIELD VECTOR	F
ELECTRIC FIELD WAVEFORM	F
ELECTRON ANGULAR DISTRIBUTION	F
ELECTRON CURRENT	F
ELECTRON DENSITY	F
ELECTRON DIFFERENTIAL FLUX	F
ELECTRON DIFFERENTIAL INTENSITY	F
ELECTRON ENERGY SPECTRUM	F
ELECTRON FLUX	F
ELECTRON INTENSITY	F
ELECTRON INTENSTIY	F
ELECTRON PITCH ANGLE DISTRIBUTION	F
ELECTRON PRESSURE	F
ELECTRON RATE	F
ELECTRON TEMPERATURE	F
ENERGETIC NEUTRAL ATOM FLUX	F
FLUX RATIO	I
ION ANGULAR DISTRIBUTION	F
ION COMPOSITION	F
ION CURRENT	F
ION DENSITY	F
ION DIFFERENTIAL FLUX	F
ION DIFFERENTIAL INTENSITY	F
ION ENERGY SPECTRUM	F
ION FLUX	F
ION INTENSITY	F
ION PITCH ANGLE DISTRIBUTION	F
ION PRESSURE	F
ION RATE	F
ION TEMPERATURE	F
ION THERMAL SPEED	F
LAMBERT ALBEDO	AR

LAMBERT ALBEDO STANDARD DEVIATION	A
MAGNETIC FIELD COMPONENT	F
MAGNETIC FIELD INTENSITY	F
MAGNETIC FIELD SPECTRAL DENSITY	F
MAGNETIC FIELD VECTOR	F
MINNAERT ALBEDO	R
MODEL TEMPERATURE	R
N/A	U
OBSERVATION COUNT	A
OPTICAL DEPTH	A
PARTICLE MULTIPLE PARAMETERS	F
PHASE CORRECTED ALBEDO	AR
PHASE CORRECTED ALBEDO STANDARD DEVIATN	A
PLASMA BETA	F
PLASMA DENSITY	F
PLASMA FLOW	F
PLASMA PRESSURE	F
PLASMA VELOCITY	F
PLASMA WAVE SPECTRUM	F
POSITION VECTOR	F
POWER FLUX	F
RADIANCE	AI
RADIANCE FACTOR	I
RADIO WAVE SPECTRUM	F
SINGLE POINT THERMAL INERTIA	R
SPECTRAL INTENSITY	R
TEMPERATURE	A
VELOCITY	F
VISUAL BRIGHTNESS	R
WAVE ELECTRIC FIELD INTENSITY	F
WAVE MAGNETIC FIELD INTENSITY	F
WIND VELOCITY	A

Data Dictionary Name: **data_set_parameter_unit**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
10**-6 WATT / CM**-2 / STERADIAN / WAVENUMBER	A
10^(-3)*CAL*CM^(-2)*S^(-1/2)*K^(-1)	R
CM-3	F
COUNTS/SECOND	F
DEGREES	R
DEGREES CELSIUS	A
DIMENSIONLESS	I
EV	F
EV-3	F
KELVIN	AR
KELVIN / (10^(-3)*CAL*CM^(-2)*S^(-1/2)*K^(-1))	R
KM/S	F
METERS/SECOND	A
MILLIBAR	A
N/A	AFINR
NANOTESLA	F
PRECIPITABLE MICROMETERS	A
VOLT/METER	F
WATT/(METER*METER)/STERADIAN	IR

Data Dictionary Name: **data_set_release_date**
Standard Value Type: FORMATION

Data Dictionary Name: **data_source_id**
Standard Value Type: SUGGEST

Standard Values:	Provided By:
CONNERNEY	N
ELEMENTS-PLANET	N
EQUATRADIUS-SUN	N
HANEL	N
MAGMOMENT-PLANET	N
MAGMOMENT-SATURN	N
MAGMOMENT-URANUS	N
MASS-SUN	N
MEANSOLARDAY-PLANET	N
NAUTICAL ALMANAC 1989	N
NESS	N
ORBSEMIMAJAX-PLANET	N
PERIARGANG-PLANET	N
PHYSICAL-PLANET	N
PHYSICAL-SUN	N
RADIUS-PLANET	N
REVPER-PLANET	N
ROTATION-PLANET	N
ROTATION-SUN	N
RUSSELL	N
SURFGRAV-PLANET	N
SURFGRAV-SUN	N
VEVERKA	N

Data Dictionary Name: **declination**
Standard Value Type: RANGE

Data Dictionary Name: **defining_authority_name**
Standard Value Type: TBD

Data Dictionary Name: **delimiting_parameter_name**
Standard Value Type: TBD

Data Dictionary Name: **detailed_catalog_flag**
Standard Value Type: STATIC

Standard Values:	Provided By:
N	AINR
Y	FI

Data Dictionary Name: **detector_aspect_ratio**
Standard Value Type: RANGE

Data Dictionary Name: **detector_group_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
TBD	

Data Dictionary Name: **detector_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
A	FR
AMBIENT TEMPERATURE	A
B	F
C	F
CH1	A
CH2	A
CH3	A
CH4	A
CH5	A
D	F
HFM1	F
HFM2	F
HFM3	F
LECP	F
LFM1	F
LFM2	F
LFM3	F
PRESSURE	A
PWS ANTENNA	F
REFERENCE TEMP	A
VISA	I
VISB	I
WIND QUADRANT	A
WIND SPEED	A

Data Dictionary Name: **detector_type**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
DIPOLE ANTENNA	F
FARADAY CUP	F
HG:GE	R
HOT-FILM ANEMOMETER	A
PBS	A
PBSE	R
RESIST THERMOMETER	A
RING CORE	F
SOLID STATE	F
THERMOCOUPLE	A
THERMOPILE ARRAY	R
VARIABLE RELUCTANCE	A
VIDICON	I

Data Dictionary Name: **discipline_name**
Standard Value Type: STATIC

Standard Values:	Provided By:
ATMOSPHERES	C
GEOSCIENCES	C
PLASMA INTERACTIONS	C
RADIOMETRY	R
SMALL BODIES	C

Data Dictionary Name: **document_topic_type**
Standard Value Type: SUGGEST

Standard Values:	Provided By:
CALIBRATION DESCRIPTION	U
CALIBRATION REPORT	I
CURRENTS IN SATURN'S MAGNETOSPHERE	F
DATA ANALYSIS	U
DATA RECOVERY TECHNIQUES AND ANALYSIS	U
DATA SET DERIVATION AND INTERPRETATIONS	U
DATA SET DESCRIPTION	I
DATA SET DESCRIPTION, DERIVATION TECHNIQUE, AND ANALYSIS	U
DATA SET DESCRIPTION, DERIVATION, AND INTERPRETATIONS	U
DERIVATION AND ANALYSIS TECHNIQUES	U
EXPERIMENT RESULTS	U
IMAGE PROCESSING	I
INITIAL EXPERIMENT RESULTS	U
INSTRUMENT DESCRIPTION	FI
JOVIAN MAGNETOTAIL AND CURRENT SHEET	F
JUPITER ELECTRONS	F
JUPITER IONS	F
LECP DOCUMENTATION	F
LECP JUPITER DOCUMENTATION	F
LECP SATURN DOCUMENTATION	F
LECP URANUS DOCUMENTATION	F
MAGNETIC FIELD AND PLASMA FLOW IN JUPITER MAGNETOSHEATH	F
MAGNETIC FIELD CURRENT STRUCTURES MAGNETOSPHERE URANUS	F
MAGNETIC FIELD EXPERIMENT FOR VOYAGER 1 AND 2	F
MAGNETIC FIELD STUDIES AT JUPITER BY VOYAGER 1	F
MAGNETIC FIELD STUDIES AT JUPITER BY VOYAGER 2	F
MAGNETIC FIELD STUDIES URANUS	F
MAGNETIC FIELD STUDIES VOYAGER 1 AT SATURN PRELIMINARY	F
MAGNETIC FIELD STUDIES VOYAGER 2 SATURN PRELIMINARY	F
MAGNETIC FIELD URANUS	F
MAGNETOTAIL URANUS	F
MAPPING DESCRIPTION AND RESULTS	U
MISSION DESCRIPTION	C
MISSION DESCRIPTION AND INSTRUMENT OVERVIEW	U
MODELING JOVIAN CURRENT SHEET AND INNER MAGNETOSPHERE	F
OPERATIONS REPORT	I
PHYSICS OF JOVIAN MAGNETOSPHERE COORDINATE SYSTEMS	F
PLS INSTRUMENT DESCRIPTION	F
PROJECT FINAL REPORT	C
SATURN ELECTRONS	F
SATURN IONS	F
STRUCTURE DYNAMICS SATURN'S OUTER MAGNETOSPHERE BOUNDARY	F
SURFACE WAVES URANUS MAGNETOPAUSE	F
URANUS ELECTRONS	F
URANUS IONS	F

VG1 PWS JUPITER OVERVIEW	F
VG1 PWS SATURN OVERVIEW	F
VG2 PWS JUPITER OVERVIEW	F
VG2 PWS SATURN OVERVIEW	F
VG2 PWS URANUS OVERVIEW	F
VOYAGER MEASUREMENT ROTATION PERIOD SATURN MAGNETIC FIELD	F
Z3 ZONAL HARMONIC MODEL SATURN'S MAGNETIC FIELD ANALYSIS	F

Data Dictionary Name: **earth_base_id**
Standard Value Type: STATIC

Standard Values:	Provided By:
C154	I
GSR	I
KP36	I
KP50	I
KP84	I
LO72	I
MK88	I
PGD	I
S229	I

Data Dictionary Name: **earth_base_institution_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
HAWAII INSTITUTE OF GEOPHYSICS	I
KITT PEAK NATIONAL OBSERVATORY	I
LOWELL OBSERVATORY	I
MAUNA KEA OBSERVATORY	I
UNITED STATES GEOPHYSICAL SURVEY, RESTON	I
UNIVERSITY OF ARIZONA	I

Data Dictionary Name: **earth_received_time**
Standard Value Type: FORMATION

Data Dictionary Name: **edit_mode_id**
Standard Value Type: TBD

Data Dictionary Name: **electronic_mail_type**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
ARPANET	F
BITNET	U
GSFC	U
INTERNET	FIN
MAIL (GTE TELENET)	U
N/A	ACR
NASAMAIL	FIN
NSFNET	U
SPAN	FIN
TELEMAIL	F

Data Dictionary Name: **electronics_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
IRS	R
IRTM	R
LECP	F
MAWD	A
MEA	A
P	F
PLS	F
PWS	F
S	F
VISA	I
VISB	I

Data Dictionary Name: **elevation**
Standard Value Type: RANGE

Data Dictionary Name: **emission_angle**
Standard Value Type: RANGE

Data Dictionary Name: **equatorial_radius**
Standard Value Type: RANGE

Data Dictionary Name: **event_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
N/A	F
VOYAGER 1 JUPITER BOWSHOCK CROSSING	F
VOYAGER 1 JUPITER MAGNETOPAUSE CROSSING	F
VOYAGER 2 JUPITER BOWSHOCK CROSSING	F
VOYAGER 2 JUPITER MAGNETOPAUSE CROSSING	F
VOYAGER 2 JUPITER PLASMA SHEET CROSSING	F

Data Dictionary Name: **event_start_time**
Standard Value Type: FORMATION

Data Dictionary Name: **event_stop_time**
Standard Value Type: FORMATION

Data Dictionary Name: **event_type**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
ALFVEN WING CROSSING	U
BOWSHOCK CROSSING	F
CLOSEST APPROACH	F
CURRENT SHEET CROSSING	U
FLUX TUBE CROSSING	F
INTERPLANETARY SHOCK CROSSING	U
L-SHELL CROSSING	F
MAGNETOPAUSE CROSSING	F
NEUTRAL SHEET CROSSING	F
OCCULTATION	U
PLASMA SHEET CROSSING	F

Data Dictionary Name: **expertise_area_type**
Standard Value Type: STATIC

Standard Values:	Provided By:
COMPUTER SCIENCE	C
ENGINEERING	C
GEOSCIENCE	C
LIBRARY SCIENCE	C
MANAGEMENT	C
N/A	U
SCIENCE	C

Data Dictionary Name: **exposure_duration**
Standard Value Type: RANGE

Data Dictionary Name: **exposure_offset_flag**
Standard Value Type: STATIC

Standard Values:	Provided By:
OFF	I
ON	I

Data Dictionary Name: **exposure_offset_number**
Standard Value Type: RANGE

Data Dictionary Name: **feature_name**
Standard Value Type: STATIC

Standard Values:	Provided By:
TBD (IAU GAZETTER)	C

Data Dictionary Name: **feature_type**
Standard Value Type: STATIC

Standard Values:	Provided By:
TBD (IAU GAZETTER)	C

Data Dictionary Name: **filter_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
BLUE	I
CLEAR	I
GREEN	I
LONGWAVE	R
MINUS BLUE	I
N/A	AF
RED	I
SHORTWAVE	R
SOLAR UV-22	R
T11	R
T15	R
T20	R
T7	R
T9	R
VIOLET	I

Data Dictionary Name: **filter_number**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
1	I
2	I
3	I
4	I
5	I
6	I
A	R
B	R
C1	R
C2	R
C3	R
D	R
N/A	U

Data Dictionary Name: **filter_type**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
ABSORPTION	I
CIRCULAR-VARIABLE INTERFERENCE	R
INTERFERENCE	I
MULTILAYER INTERFERENCE	R
N/A	AFI
RESTSTRAHLEN	R

Data Dictionary Name: **flattening**
Standard Value Type: RANGE

Data Dictionary Name: **fov_shape_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
CIRCULAR	R
DIPOLE	F
N/A	AF
RECTANGULAR	AIR

Data Dictionary Name: **frame_duration**
Standard Value Type: RANGE

Data Dictionary Name: **frame_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
LELE1	F
LELE2	F
LELEM	F
M2	F
M3	F
M4	F
MELE1	F
MELE2	F

Data Dictionary Name: **gain_mode_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
HIGH	FI
LOW	I
N/A	FR

Data Dictionary Name: **horizontal_fov**
Standard Value Type: RANGE

Data Dictionary Name: **horizontal_pixel_fov**
Standard Value Type: RANGE

Data Dictionary Name: **image_observation_type**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
BLACK SKY	I
LIMB	I

Data Dictionary Name: **image_time**
Standard Value Type: FORMATION

Data Dictionary Name: **incidence_angle**
Standard Value Type: RANGE

Data Dictionary Name: **inner_periapsis_argument_angle**
Standard Value Type: RANGE

Data Dictionary Name: **instrument_height**
Standard Value Type: RANGE

Data Dictionary Name: **instrument_host_id**
Standard Value Type: STATIC

Standard Values:	Provided By:
C154	I
GSR	I
KP36	I
KP50	I
KP84	I
LO72	I
MK88	I
MR6	R
MR7	R
MR9	A
N/A	C
PGD	I
S229	I
VG1	FN
VG2	FN
VL1	A
VL2	A
VO1	AIR
VO2	AIR

Data Dictionary Name: **instrument_host_id_or_name**
Standard Value Type: STATIC

Standard Values:	Provided By:
C154	I
GSR	I
KITT PEAK NATIONAL OBSERVATORY 36 INCH (0.914M) TELESCOPE	I
KITT PEAK NATIONAL OBSERVATORY 50 INCH (1.27M) TELESCOPE	I
KITT PEAK NATIONAL OBSERVATORY 84 INCH (2.13M) TELESCOPE	I
KP36	I
KP50	I
KP84	I
LO72	I
LOWELL OBSERVATORY 72 INCH (1.83M) TELESCOPE	I
MARINER 6	R
MARINER 7	R
MARINER 9	A
MAUNA KEA OBSERVATORY 88 INCH (2.24M) TELESCOPE	I
MK88	I
MR6	R
MR7	R
MR9	A
N/A	C
PGD	I
PLANETARY GEOSCIENCES DIVISION SPECTROSCOPY LAB	I
S229	I
UNIVERSITY OF ARIZONA 1.54M CATALINA REFLECTOR	I
UNIVERSITY OF ARIZONA 2.29M STEWARD OBSERVATORY REFLECTOR	I
USGS RESTON SPECTROSCOPY LABORATORY	I
VG1	FN
VG2	FN
VIKING LANDER 1	A
VIKING LANDER 2	A
VIKING ORBITER 1	AIR
VIKING ORBITER 2	AIR
VL1	A
VL2	A
VO1	AIR
VO2	AIR
VOYAGER 1	FN
VOYAGER 2	FN

Data Dictionary Name: **instrument_host_name**
Standard Value Type: STATIC

Standard Values:	Provided By:
KITT PEAK NATIONAL OBSERVATORY 36 INCH (0.914M) TELESCOPE	I
KITT PEAK NATIONAL OBSERVATORY 50 INCH (1.27M) TELESCOPE	I
KITT PEAK NATIONAL OBSERVATORY 84 INCH (2.13M) TELESCOPE	I
LOWELL OBSERVATORY 72 INCH (1.83M) TELESCOPE	I
MARINER 6	R
MARINER 7	R
MARINER 9	A
MAUNA KEA OBSERVATORY 88 INCH (2.24M) TELESCOPE	I
N/A	C
PLANETARY GEOSCIENCES DIVISION SPECTROSCOPY LAB	I
UNIVERSITY OF ARIZONA 1.54M CATALINA REFLECTOR	I
UNIVERSITY OF ARIZONA 2.29M STEWARD OBSERVATORY REFLECTOR	I
USGS RESTON SPECTROSCOPY LABORATORY	I
VIKING LANDER 1	A
VIKING LANDER 2	A
VIKING ORBITER 1	AIR
VIKING ORBITER 2	AIR
VOYAGER 1	FN
VOYAGER 2	FN

Data Dictionary Name: **instrument_host_type**
Standard Value Type: STATIC

Standard Values:	Provided By:
EARTH BASED	C
N/A	C
SPACECRAFT	C

Data Dictionary Name: **instrument_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
8CPS	I
CAM1	A
CAM2	A
DBP	I
FC1B	I
FC2A	I
FC3A	I
GCMS	U
IPP	U
IRIS	U
IRR	U
IRS	R
IRTM	AR
ISS	A
LECP	F
MAG	F
MAWD	A
MET	A
N/A	C
PLS	F
POS	F
PPS	U
PWS	F
RSS	U
SEIS	U
UVS	U
VIS	U
VISA	AI
VISB	AI
XRFS	U

Data Dictionary Name: **instrument_id_or_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
8 COLOR PHOTOMETRIC SYSTEM	I
8CPS	I
CAM1	A
CAM2	A
CAMERA 1	A
CAMERA 2	A
DBP	I
DUAL BEAM PHOTOMETER	I
FC1B	I
FC2A	I
FC3A	I
FLUXGATE MAGNETOMETER	F
GAS CHROMATOGRAPH MASS SPECTROMETER	U
GCMS	U
IMAGING PHOTOPOLARIMETER	U
IMAGING SCIENCE SUBSYSTEM	A
INFRARED INTERFEROMETER SPECTROMETER AND RADIOMETER	U
INFRARED RADIOMETER	U
INFRARED SPECTROMETER	R
INFRARED THERMAL MAPPER	AR
IPP	U
IRIS	U
IRR	U
IRS	R
IRTM	AR
ISS	A
LECP	F
LOW ENERGY CHARGED PARTICLE	F
MAG	F
MARS ATMOSPHERIC WATER DETECTOR	A
MAWD	A
MET	A
METEOROLOGY	A
N/A	C
PHOTOPOLARIMETER SUBSYSTEM	U
PLASMA SCIENCE EXPERIMENT	F
PLASMA WAVE RECEIVER	F
PLS	F
POS	F
PPS	U
PWS	F
RADIO SCIENCE SUBSYSTEM	U
RSS	U
SEIS	U
SEISMOMETER	U

ULTRAVIOLET SPECTROMETER	U
UVS	U
VIKING METEOROLOGY INSTRUMENT SYSTEM	A
VIS	U
VISA	AI
VISB	AI
VISUAL IMAGING SUBSYSTEM	U
VISUAL IMAGING SUBSYSTEM - CAMERA A	AI
VISUAL IMAGING SUBSYSTEM - CAMERA B	AI
X-RAY FLORESCENCE	U
XRFS	U

Data Dictionary Name: **instrument_length**
Standard Value Type: RANGE

Data Dictionary Name: **instrument_mass**
Standard Value Type: RANGE

Data Dictionary Name: **instrument_mode_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
...	I
..D	I
.G.	I
.GD	I
CRUISE	F
E1-LONG	F
E1-SHORT	F
E2-LONG	F
E2-SHORT	F
ENCOUNTER	F
FAR ENCOUNTER	F
FAR ENCOUNTER STOW	F
FIXED PLANET	R
FIXED REFERENCE	R
FIXED SPACE	R
GS3GAINHI/WFMPWRON	F
L-LONG	F
L-SHORT	F
L..	I
L.D	I
LG.	I
LGD	I
M-LONG	F
M-SHORT	F
MODIFIED NORMAL	R
NEAR ENCOUNTER	F
NORMAL	AR
OPERATING	R
URANUS SCAN CYCLIC	F
WAVELENGTH_SCANNING	A

Data Dictionary Name: **instrument_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
8 COLOR PHOTOMETRIC SYSTEM	I
CAMERA 1	A
CAMERA 2	A
DUAL BEAM PHOTOMETER	I
FLUXGATE MAGNETOMETER	F
GAS CHROMATOGRAPH MASS SPECTROMETER	U
IMAGING PHOTOPOLARIMETER	U
IMAGING SCIENCE SUBSYSTEM	A
INFRARED INTERFEROMETER SPECTROMETER AND RADIOMETER	U
INFRARED RADIOMETER	U
INFRARED SPECTROMETER	R
INFRARED THERMAL MAPPER	AR
LOW ENERGY CHARGED PARTICLE	F
MARS ATMOSPHERIC WATER DETECTOR	A
METEOROLOGY	A
N/A	C
PHOTOPOLARIMETER SUBSYSTEM	U
PLASMA SCIENCE EXPERIMENT	F
PLASMA WAVE RECEIVER	F
RADIO SCIENCE SUBSYSTEM	U
SEISMOMETER	U
ULTRAVIOLET SPECTROMETER	U
VIKING METEOROLOGY INSTRUMENT SYSTEM	A
VISUAL IMAGING SUBSYSTEM	U
VISUAL IMAGING SUBSYSTEM - CAMERA A	AI
VISUAL IMAGING SUBSYSTEM - CAMERA B	AI
X-RAY FLORESCENCE	U

Data Dictionary Name: **instrument_parameter_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
ATMOSPHERIC PRESSURE	A
ATMOSPHERIC TEMPERATURE	A
ATOMIC NUMBER (Z)	F
BRIGHTNESS	U
ELECTRIC FIELD COMPONENT	F
ELECTRIC FIELD WAVEFORM	F
ELECTRON CURRENT	F
ELECTRON RATE	F
ENERGY/NUCLEON	F
ION CURRENT	F
ION RATE	F
MAGNETIC FIELD COMPONENT	F
N/A	R
PARTICLE MULTIPLE PARAMETERS	F
PARTICLE RATE	F
PHOTON FLUX	I
PRESSURE	A
RADIANCE	I
RADIANCE_A	R
RADIANCE_B	R
RADIANCE_C1	R
RADIANCE_C2	R
RADIANCE_C3	R
RADIANCE_CHANNEL_1	A
RADIANCE_CHANNEL_2	A
RADIANCE_CHANNEL_3	A
RADIANCE_CHANNEL_4	A
RADIANCE_CHANNEL_5	A
RADIANCE_D	R
SPECTRAL INTENSITY	R
SPECTRAL RADIANCE	U
TEMPERATURE	A
WAVE ELECTRIC FIELD INTENSITY	F
WAVE MAGNETIC FIELD INTENSITY	F
WIND DIRECTION	U
WIND VELOCITY	A

Data Dictionary Name: **instrument_parameter_unit**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
10**-6 WATT / CM**-2 / STERADIAN / WAVENUMBER	A
AMPS	F
COUNTS/SECOND	F
DEGREES CELSIUS	A
METERS/SECOND	A
MEV X MEV	F
MEV/NUCLEON	F
MILLIBAR	A
N/A	U
NANOTESLA	F
NUMBER OF NUCLEAR PROTONS	F
VOLT/METER	F
WATT/(METER*METER)/STERADIAN	I
WATT_METER^-2_MICROMETER^-1	R

Data Dictionary Name: **instrument_power_consumption**
Standard Value Type: RANGE

Data Dictionary Name: **instrument_type**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
ANEMOMETER	U
BAROMETER	U
CHARGED PARTICLE ANALYZER	F
IN SITU METEOROLOGY	A
INFRARED INTERFEROMETER	U
INFRARED SPECTROMETER	AR
MAGNETOMETER	F
N/A	CF
PHOTOMETER	U
PHOTOPOLARIMETER	U
PLASMA INSTRUMENT	F
PLASMA WAVE SPECTROMETER	F
RADIOMETER	R
THERMOMETER	U
ULTRAVIOLET SPECTROMETER	U
VIDICON CAMERA	I
VISIBLE SPECTROMETER	U

Data Dictionary Name: **instrument_width**
Standard Value Type: RANGE

Data Dictionary Name: **journal_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
APPLIED OPTICS	I
ASTEROIDS	I
GEOPHYSICAL RESEARCH LETTERS	U
ICARUS	U
ICARUS-INTERNATIONAL JOURNAL OF SOLAR SYSTEM STUDIES	C
J. GEOPHYS. RES.	U
JOURNAL OF ATMOSPHERIC SCIENCES	U
JOURNAL OF GEOPHYSICAL RESEARCH	FI
JOURNAL OF GEOPHYSICAL RESEARCH LETTERS	F
JOURNAL OF SPACECRAFT AND ROCKETS	I
JPL PUBLICATION	I
JPL TECHNICAL REPORT 32-1550, VOL.V	C
JUORNAL OF GEOPHYSICAL RESEARCH	U
N/A	U
NASA CONFERENCE PUBLICATION	I
NASA PUBLICATION	I
NATURE	U
PHOTOGRAMMETRIC ENGINEERING AND REMOTE SENSING	I
PHYSICS OF THE JOVIAN MAGNETOSPHERE	F
PROC_SYMPOSIUM_PLANET_ATMOS_ROYAL_SOC_CANADA	A
SCIENCE	F
SPACE SCI. REV.	U
SPACE SCIENCE REVIEWS	F
THE ASTRONOMICAL JOURNAL	U
THESIS	U
UC SPACE SCIENCE LAB SERIES	U
YALE PLANETARY EXPLORATION SERIES	I

Data Dictionary Name: **latitude**
Standard Value Type: RANGE

Data Dictionary Name: **launch_date**
Standard Value Type: FORMATION

Data Dictionary Name: **light_flood_state_flag**
Standard Value Type: STATIC

Standard Values:	Provided By:
OFF	I
ON	I

Data Dictionary Name: **limb_angle**
Standard Value Type: RANGE

Data Dictionary Name: **local_hour_angle**
Standard Value Type: RANGE

Data Dictionary Name: **local_time**
Standard Value Type: RANGE

Data Dictionary Name: **longitude**
Standard Value Type: RANGE

Data Dictionary Name: **magnetic_moment**
Standard Value Type: RANGE

Data Dictionary Name: **map_name**
Standard Value Type: TBD

Data Dictionary Name: **map_number**
Standard Value Type: TBD

Data Dictionary Name: **map_projection_type**
Standard Value Type: TBD

Data Dictionary Name: **map_scale**
Standard Value Type: RANGE

Data Dictionary Name: **map_series_id**
Standard Value Type: TBD

Data Dictionary Name: **map_type**
Standard Value Type: TBD

Data Dictionary Name: **mass**
Standard Value Type: RANGE

Data Dictionary Name: **mass_density**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_brightness_temperature**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_emission_angle**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_incidence_angle**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_instrument_exposr_dur**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_instrument_parameter**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_latitude**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_limb_angle**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_local_time**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_longitude**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_parameter**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_phase_angle**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_sampling_parameter**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_slant_distance**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_solar_band_albedo**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_spectral_contrast**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_surface_pressure**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_surface_temperature**
Standard Value Type: RANGE

Data Dictionary Name: **maximum_wavelength**
Standard Value Type: RANGE

Data Dictionary Name: **mean_inner_radius**
Standard Value Type: RANGE

Data Dictionary Name: **mean_outer_radius**
Standard Value Type: RANGE

Data Dictionary Name: **mean_radius**
Standard Value Type: RANGE

Data Dictionary Name: **mean_solar_day**
Standard Value Type: RANGE

Data Dictionary Name: **mean_surface_pressure**
Standard Value Type: RANGE

Data Dictionary Name: **mean_surface_temperature**
Standard Value Type: RANGE

Data Dictionary Name: **medium**
Standard Value Type: STATIC

Standard Values:	Provided By:
CDROM	C
ELECTRONIC	C
MAG TAPE	C
N/A	C

Data Dictionary Name: **midnight_longitude**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_available_sampling_int**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_brightness_temperature**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_emission_angle**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_incidence_angle**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_instrument_exposr_dur**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_instrument_parameter**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_latitude**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_limb_angle**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_local_time**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_longitude**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_parameter**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_phase_angle**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_sampling_parameter**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_slant_distance**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_solar_band_albedo**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_spectral_contrast**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_surface_pressure**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_surface_temperature**
Standard Value Type: RANGE

Data Dictionary Name: **minimum_wavelength**
Standard Value Type: RANGE

Data Dictionary Name: **mission_alias_name**
Standard Value Type: STATIC

Standard Values:	Provided By:
MARINER 6 & 7	C
MJS77	C
N/A	C
VIKING75	C
VRM	C

Data Dictionary Name: **mission_name**
Standard Value Type: STATIC

Standard Values:	Provided By:
GALILEO	C
MAGELLAN	C
MARINER69	C
MARINER71	C
MARS OBSERVER	C
N/A	C
VIKING	C
VOYAGER	C

Data Dictionary Name: **mission_name_or_alias**
Standard Value Type: STATIC

Standard Values:	Provided By:
GALILEO	C
MAGELLAN	C
MARINER 6 & 7	C
MARINER69	C
MARINER71	C
MARS OBSERVER	C
MJS77	C
N/A	C
VIKING	C
VIKING75	C
VOYAGER	C
VRM	C

Data Dictionary Name: **mission_phase_start_time**
Standard Value Type: FORMATION

Data Dictionary Name: **mission_phase_stop_time**
Standard Value Type: FORMATION

Data Dictionary Name: **mission_phase_type**
Standard Value Type: STATIC

Standard Values:	Provided By:
CRUISE	C
ENCOUNTER	C
LANDED	C
LAUNCH	C
ORBITAL	C
PRELAUNCH	C

Data Dictionary Name: **mission_start_date**
Standard Value Type: FORMATION

Data Dictionary Name: **mission_stop_date**
Standard Value Type: FORMATION

Data Dictionary Name: **mode_continuation_flag**
Standard Value Type: STATIC

Standard Values:	Provided By:
N	F
Y	F

Data Dictionary Name: **mode_integration_duration**
Standard Value Type: RANGE

Data Dictionary Name: **mosaic_production_parameter**
Standard Value Type: TBD

Data Dictionary Name: **mosaic_series_id**
Standard Value Type: TBD

Data Dictionary Name: **naif_data_set_id**
Standard Value Type: FORMATION

Data Dictionary Name: **node_id**
Standard Value Type: STATIC

Standard Values:	Provided By:
ATMOS	A
CN	C
F&P-APL	F
F&P-IOWA	F
F&P-JPL	F
F&P-MIT	F
F&P-UCLA	F
IMAGE-JPL	I
IMAGE-UH	I
IMAGE-WU	I
N/A	C
NAIF	N
NSSDC	C
RAD	R
RINGS	P

Data Dictionary Name: **node_institution_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
GODDARD SPACE FLIGHT CENTER	U
JET PROPULSION LABORATORY	IN
MASSACHUSETTS INSTITUTE OF TECHNOLOGY	F
N/A	C
THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY	F
THE UNIVERSITY OF IOWA	F
UNITED STATES GEOLOGICAL SURVEY	R
UNIVERSITY OF CALIFORNIA	F
UNIVERSITY OF COLORADO	A
UNIVERSITY OF HAWAII	I
WASHINGTON UNIVERSITY	I

Data Dictionary Name: **node_name**
Standard Value Type: STATIC

Standard Values:	Provided By:
CENTRAL	C
FIELDS AND PARTICLES	F
IMAGE	I
N/A	C
NATIONAL SPACE SCIENCE DATA CENTER	C
NAVIGATION ANCILLARY INFORMATION FACILITY	N
PLANETARY ATMOSPHERES	A
PLANETARY RINGS	P
RADIOMETRY	R

Data Dictionary Name: **noise_level**
Standard Value Type: RANGE

Data Dictionary Name: **nominal_energy_resolution**
Standard Value Type: RANGE

Data Dictionary Name: **nominal_operating_temperature**
Standard Value Type: RANGE

Data Dictionary Name: **north_azimuth**
Standard Value Type: RANGE

Data Dictionary Name: **obliquity**
Standard Value Type: RANGE

Data Dictionary Name: **observation_id**
Standard Value Type: TBD

Data Dictionary Name: **observation_type**
Standard Value Type: TBD

Data Dictionary Name: **orbit_direction_type**
Standard Value Type: STATIC

Standard Values:	Provided By:
N/A	N
PROGRADE	N
RETROGRADE	N

Data Dictionary Name: **orbital_eccentricity**
Standard Value Type: RANGE

Data Dictionary Name: **orbital_inclination**
Standard Value Type: RANGE

Data Dictionary Name: **orbital_semimajor_axis**
Standard Value Type: RANGE

Data Dictionary Name: **order_preference_id**
Standard Value Type: STATIC

Standard Values:	Provided By:

Data Dictionary Name: **outer_periapsis_argument_angle**
Standard Value Type: RANGE

Data Dictionary Name: **output_flag**
Standard Value Type: STATIC

Standard Values:	Provided By:
N	C
Y	C

Data Dictionary Name: **particle_species_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
2	F
ELECTRONS	F
IONS	F
N/A	F
Z=1	F
Z=10	F
Z=13	F
Z=2	F
Z=3	F
Z=6	F
Z=8	F

Data Dictionary Name: **particle_species_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
2	F
ELECTRONS	F
IONS	F
N/A	F
Z=1	F
Z=10	F
Z=13	F
Z=2	F
Z=3	F
Z=6	F
Z=8	F

Data Dictionary Name: **peer_review_data_set_status**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
MAJOR LIENS	C
MINOR LIENS	C
PASSED	C

Data Dictionary Name: **peer_review_role**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
CHAIR	C
DATA SUPPLIER	C
EXTERNAL PEER	C
PDS CENTRAL NODE	C
PDS DA	C
PDS DMT	C
PDS PROJECT SCIENTIST	C

Data Dictionary Name: **peer_review_start_date**
Standard Value Type: FORMATION

Data Dictionary Name: **peer_review_stop_date**
Standard Value Type: FORMATION

Data Dictionary Name: **periapsis_argument_angle**
Standard Value Type: RANGE

Data Dictionary Name: **person_institution_name**
Standard Value Type: SUGGEST

Standard Values:	Provided By:
GODDARD SPACE FLIGHT CENTER	U
JET PROPULSION LABORATORY	IN
MASSACHUSETTS INSTITUTE OF TECHNOLOGY	F
N/A	C
NASA/GODDARD SPACE FLIGHT CENTER	C
NATIONAL SPACE SCIENCE DATA CENTER	C
SETS, INC.	U
THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY	F
THE UNIVERSITY OF IOWA	F
UNITED STATES GEOLOGICAL SURVEY	R
UNIV. OF CALIFORNIA BERKELEY	U
UNIVERSITY OF ARIZONA/LUNAR AND PLANETARY LAB	C
UNIVERSITY OF CALIFORNIA	F
UNIVERSITY OF COLORADO	A
UNIVERSITY OF HAWAII	I
UNIVERSITY OF MARYLAND	C
UNIVERSITY OF WASHINGTON	A
WASHINGTON UNIVERSITY	I

Data Dictionary Name: **phase_angle**
Standard Value Type: RANGE

Data Dictionary Name: **planet_day_number**
Standard Value Type: RANGE

Data Dictionary Name: **platform_or_mounting_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
MAGNETOMETER BOOM	F
METEOROLOGY BOOM ASSEMBLY	A
SCAN PLATFORM	I
SCIENCE BOOM	F
SPACECRAFT BUS	F

Data Dictionary Name: **pole_declination**
Standard Value Type: RANGE

Data Dictionary Name: **pole_right_ascension**
Standard Value Type: RANGE

Data Dictionary Name: **position_time**
Standard Value Type: FORMATION

Data Dictionary Name: **precession_rate**
Standard Value Type: RANGE

Data Dictionary Name: **preference_id**
Standard Value Type: STATIC

Standard Values:	Provided By:
0	C
1	C
2	C
3	C
4	C

Data Dictionary Name: **primary_body_name**
Standard Value Type: STATIC

Standard Values:	Provided By:
EARTH	N
JUPITER	N
MARS	N
N/A	N
NEPTUNE	N
PLUTO	N
SATURN	N
SOLAR SYSTEM BARYCENTER	N
SUN	N
URANUS	N

Data Dictionary Name: **processing_level_id**
Standard Value Type: STATIC

Standard Values:	Provided By:
1	C
2	C
3	C
4	C
5	C
6	C
7	C
8	C

Data Dictionary Name: **processing_start_time**
Standard Value Type: FORMATION

Data Dictionary Name: **processing_stop_time**
Standard Value Type: FORMATION

Data Dictionary Name: **producer_institution_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
AMES RESEARCH CENTER	U
ARIZONA STATE UNIVERSITY	U
JET PROPULSION LABORATORY	IN
MASSACHUSETTS INSTITUTE OF TECHNOLOGY	F
PLANETARY SCIENCE INSTITUTE	U
THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY	F
THE UNIVERSITY OF IOWA	F
U.S.G.S. FLAGSTAFF	R
UNIVERSITY OF ARIZONA	U
UNIVERSITY OF CALIFORNIA	F
UNIVERSITY OF CALIFORNIA, LOS ANGELES	F
UNIVERSITY OF WASHINGTON	A
WASHINGTON UNIVERSITY	I

Data Dictionary Name: **product_data_set_id**
Standard Value Type: FORMATION

Data Dictionary Name: **publication_date**
Standard Value Type: FORMATION

Data Dictionary Name: **quantization_resolution**
Standard Value Type: RANGE

Data Dictionary Name: **reference_object_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
EQUATORIAL PLANE	F
JUPITER	F
SATURN	F
URANUS	F

Data Dictionary Name: **reference_target_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
PLANET	F
SPACECRAFT	F

Data Dictionary Name: **region_name**
Standard Value Type: TBD

Data Dictionary Name: **registration_date**
Standard Value Type: FORMATION

Data Dictionary Name: **research_topic_desc**
Standard Value Type: TBD

Data Dictionary Name: **research_topic_name**
Standard Value Type: TBD

Data Dictionary Name: **reticle_point_number**
Standard Value Type: STATIC

Standard Values:	Provided By:
1	I
3	I
7	I
9	I

Data Dictionary Name: **revolution_period**
Standard Value Type: RANGE

Data Dictionary Name: **right_ascension**
Standard Value Type: RANGE

Data Dictionary Name: **ring_ascending_node_longitude**
Standard Value Type: RANGE

Data Dictionary Name: **ring_eccentricity**
Standard Value Type: RANGE

Data Dictionary Name: **ring_inclination**
Standard Value Type: RANGE

Data Dictionary Name: **ring_name**
Standard Value Type: TBD

Data Dictionary Name: **rotation_direction_type**
Standard Value Type: STATIC

Standard Values:	Provided By:
PROGRADE	N
RETROGRADE	N
SYNCHRONOUS	N

Data Dictionary Name: **sampling_factor**
Standard Value Type: RANGE

Data Dictionary Name: **sampling_parameter_interval**
Standard Value Type: RANGE

Data Dictionary Name: **sampling_parameter_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
ATOMIC NUMBER	F
ENERGY PER NUCLEON	F
FREQUENCY	F
N/A	N
PIXEL	I
TIME	AFR
VOLTAGE	F
WAVE NUMBER	U
WAVELENGTH	IR

Data Dictionary Name: **sampling_parameter_resolution**
Standard Value Type: RANGE

Data Dictionary Name: **sampling_parameter_unit**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
AREA	U
ATOMIC NUMBER	F
DEGREE (AREOCENTRIC SOLAR LONGITUDE)	A
HERTZ	U
MARS SOLAR DAY	A
MARS SOLAR DAY / 25	A
MEV PER NUCLEON	F
MICROMETER	IR
MINUTE	AF
N/A	IN
SECOND	AFR
VOLTS	F

Data Dictionary Name: **satellite_resonance_name**
Standard Value Type: TBD

Data Dictionary Name: **scaled_image_height**
Standard Value Type: RANGE

Data Dictionary Name: **scaled_image_width**
Standard Value Type: RANGE

Data Dictionary Name: **scaled_pixel_height**
Standard Value Type: RANGE

Data Dictionary Name: **scaled_pixel_width**
Standard Value Type: RANGE

Data Dictionary Name: **scan_mode_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
.055	F
4.0	F

Data Dictionary Name: **section_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
CH1	R
CH2	R
HFM	F
IRTM	R
LECP	F
LFM	F
MAWD	A
MET	A
PLS	F
SA	F
VISA	I
VISB	I
WFRM	F

Data Dictionary Name: **section_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
CH1	R
CH2	R
HFM	F
IRTM	R
LECP	F
LFM	F
MAWD	A
MET	A
PLS	F
SA	F
VISA	I
VISB	I
WFRM	F

Data Dictionary Name: **shutter_mode_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
TBD	

Data Dictionary Name: **sidereal_rotation_period**
Standard Value Type: RANGE

Data Dictionary Name: **slant_distance**
Standard Value Type: RANGE

Data Dictionary Name: **software_accessability_desc**
Standard Value Type: STATIC

Standard Values:	Provided By:
ACCESSIBLE THROUGH PDS CATALOG	C
N/A	A
NOT ACCESSIBLE THROUGH PDS CATALOG - CONTACT NODE	C

Data Dictionary Name: **software_flag**
Standard Value Type: STATIC

Standard Values:	Provided By:
N	I
Y	AFINR

Data Dictionary Name: **software_release_date**
Standard Value Type: FORMATION

Data Dictionary Name: **software_type**
Standard Value Type: STATIC

Standard Values:	Provided By:
N/A	C
NIN	C
PIN	C

Data Dictionary Name: **solar_distance**
Standard Value Type: RANGE

Data Dictionary Name: **solar_latitude**
Standard Value Type: RANGE

Data Dictionary Name: **solar_longitude**
Standard Value Type: RANGE

Data Dictionary Name: **source_data_set_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
EDR	R
IFOV LEVEL MAWD DATA	A
MARINER 9 IMAGES	A
MARINER 9 IMAGING SEDR	A
MDR	A
NAIF 110	N
NAIF 111	N
NAIF 112	N
NAIF 113	N
NAIF 116	N
NAIF 117	N
NAIF 118	N
NAIF 119	N
NAIF 120	N
NAIF 121	N
NAIF 18	N
NAIF 19	N
NAIF 20	N
NAIF 21	N
NAIF 36	N
NAIF 37	N
NAIF 38	N
NAIF 39	N
NAIF 40	N
NAIF 41	N
NAIF 68	N
NAIF 69	N
NAIF 70	N
NAIF 71	N
NAIF 72	N
NAIF 73	N
NAIF 94	N
NAIF 96	N
NAIF 97	N
P30 CARDS	I
SYSTEM DATA RECORD (SDR)	I
TSDR	R
UNK	F
VG1-J-LECP-2-	F
VG1-J-PWS-2-SA-4.0SEC	F
VG1-J-PWS-2-SMSF	F
VG1-PLS	F
VG1-S-LECP-2-	F
VG1-S-PWS-2-SA-4.0SEC	F
VG1-S-PWS-2-SMSF	F

VG2-J-LECP-2-	F
VG2-J-PWS-2-SA-4.0SEC	F
VG2-J-PWS-2-SMSF	F
VG2-PLS	F
VG2-S-LECP-2-	F
VG2-S-PWS-2-SA-4.0SEC	F
VG2-S-PWS-2-SMSF	F
VG2-U-LECP-2-	F
VG2-U-PWS-2-SA-4.0SEC	F
VG2-U-PWS-2-SMSF	F
VIKING LANDER SUN DIODE IMAGES	A
VIKING ORBITER VIS SEDR (1982)	A
VL1/VL2-M-MET-3-P-V1.0	A
VO1/VO2-M-IRTM-4-V1.0	R
VO1/VO2-M-VIS-2-EDR-V1.0	I

Data Dictionary Name: **spacecraft_altitude**
Standard Value Type: RANGE

Data Dictionary Name: **spacecraft_id**
Standard Value Type: STATIC

Standard Values:	Provided By:
GO	U
GP	U
MG	U
MO	U
MR10	U
MR4	U
MR6	R
MR7	R
MR9	A
P10	U
P11	U
P12	U
UL	U
VG1	FN
VG2	FN
VL1	A
VL2	A
VO1	AIR
VO2	AIR

VG2-J-LECP-2-	F
VG2-J-PWS-2-SA-4.0SEC	F
VG2-J-PWS-2-SMSF	F
VG2-PLS	F
VG2-S-LECP-2-	F
VG2-S-PWS-2-SA-4.0SEC	F
VG2-S-PWS-2-SMSF	F
VG2-U-LECP-2-	F
VG2-U-PWS-2-SA-4.0SEC	F
VG2-U-PWS-2-SMSF	F
VIKING LANDER SUN DIODE IMAGES	A
VIKING ORBITER VIS SEDR (1982)	A
VL1/VL2-M-MET-3-P-V1.0	A
VO1/VO2-M-IRTM-4-V1.0	R
VO1/VO2-M-VIS-2-EDR-V1.0	I

Data Dictionary Name: **spacecraft_altitude**
Standard Value Type: RANGE

Data Dictionary Name: **spacecraft_id**
Standard Value Type: STATIC

Standard Values:	Provided By:
GO	U
GP	U
MG	U
MO	U
MR10	U
MR4	U
MR6	R
MR7	R
MR9	A
P10	U
P11	U
P12	U
UL	U
VG1	FN
VG2	FN
VL1	A
VL2	A
VO1	AIR
VO2	AIR

Data Dictionary Name: **spacecraft_id_or_name**
Standard Value Type: STATIC

Standard Values:	Provided By:
C154	I
GSR	I
KP36	I
KP50	I
KP84	I
LO72	I
MARINER 6	R
MARINER 7	R
MARINER 9	A
MK88	I
MR6	R
MR7	R
MR9	A
N/A	C
PGD	I
S229	I
VG1	FN
VG2	FN
VIKING LANDER 1	A
VIKING LANDER 2	A
VIKING ORBITER 1	AIR
VIKING ORBITER 2	AIR
VL1	A
VL2	A
VO1	AIR
VO2	AIR
VOYAGER 1	FN
VOYAGER 2	FN

Data Dictionary Name: **spacecraft_operating_mode_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
GS3	F
GS5	F

Data Dictionary Name: **spacecraft_operations_type**
Standard Value Type: STATIC

Standard Values:	Provided By:
FLYBY	C
LANDER	C
ORBITER	C
PROBE	C
ROVER	C

Data Dictionary Name: **spectrum_integrated_radiance**
Standard Value Type: RANGE

Data Dictionary Name: **start_time_base**
Standard Value Type: RANGE

Data Dictionary Name: **start_time_from_closest_aprch**
Standard Value Type: RANGE

Data Dictionary Name: **stop_time_from_closest_aprch**
Standard Value Type: RANGE

Data Dictionary Name: **sub_solar_azimuth**
Standard Value Type: RANGE

Data Dictionary Name: **sub_solar_latitude**
Standard Value Type: RANGE

Data Dictionary Name: **sub_solar_longitude**
Standard Value Type: RANGE

Data Dictionary Name: **sub_spacecraft_azimuth**
Standard Value Type: RANGE

Data Dictionary Name: **sub_spacecraft_latitude**
Standard Value Type: RANGE

Data Dictionary Name: **sub_spacecraft_longitude**
Standard Value Type: RANGE

Data Dictionary Name: **surface_clarity_percentage**
Standard Value Type: RANGE

Data Dictionary Name: **surface_gravity**
Standard Value Type: RANGE

Data Dictionary Name: **target_center_distance**
Standard Value Type: RANGE

Data Dictionary Name: **target_name**
Standard Value Type: STATIC

Standard Values:	Provided By:
ADRASTEA	N
AMALTHEA	N
ANANKE	N
ARIEL	N
ASTEROID	IN
ATLAS	N
CALLISTO	N
CALYPSO	N
CARME	N
CHARON	N
DEIMOS	INR
DIONE	N
EARTH	N
ELARA	N
ENCELADUS	N
EPIMETHEUS	N
EUROPA	N
GANYMEDE	N
HELENE	N
HIMALIA	N
HYPERION	N
IAPETUS	N
IO	N
JANUS	N
JUPITER	FN
LEDA	N
LYSITHEA	N
MARS	AINR
MERCURY	N
METIS	N
MIMAS	N
MIRANDA	N
MOON	N
N/A	N
NEPTUNE	N
NEREID	N
OBERON	N
PANDORA	N
PASIPHAE	N
PHOBOS	INR
PHOEBE	N
PLUTO	N
PROMETHEUS	N
RHEA	N
SATURN	FN

SINOPE	N
STAR	IN
SUN	N
TELESTO	N
TETHYS	N
THEBE	N
TITAN	N
TITANIA	N
TRITON	N
UMBRIEL	N
URANUS	FN
VENUS	N

Data Dictionary Name: **target_parameter_epoch**
Standard Value Type: FORMATION

Data Dictionary Name: **target_parameter_name**
Standard Value Type: STATIC

Standard Values:	Provided By:
ALL	N
ASCENDING_NODE_LONGITUDE	N
A_AXIS_RADIUS	N
BOND_ALBEDO	N
B_AXIS_RADIUS	N
C_AXIS_RADIUS	N
EQUATORIAL_RADIUS	N
FLATTENING	N
MAGNETIC_MOMENT	N
MASS	N
MASS_DENSITY	N
MEAN_RADIUS	N
MEAN_SOLAR_DAY	N
OBLIQUITY	N
ORBITAL_ECCENTRICITY	N
ORBITAL_INCLINATION	N
ORBITAL_SEMIMAJOR_AXIS	N
PERIAPSIS_ARGUMENT_ANGLE	N
POLE_DECLINATION	N
POLE_RIGHT_ASCENSION	N
REVOLUTION_PERIOD	N
SIDEREAL_ROTATION_PERIOD	N
SURFACE_GRAVITY	N

Data Dictionary Name: **target_parameter_uncertainty**
Standard Value Type: SUGGEST

Standard Values:	Provided By:
0.00014	N
0.00016	N
0.0002	N
0.0005	N
0.0008	N
0.0012	N
0.01	N
0.02	N
0.11	N
0.2E-5	N
1.	N
10.	N
15.	N
20.	N
30.	N
4.	N
6.	N
7.	N
UPPER LIMIT	N

Data Dictionary Name: **target_type**
Standard Value Type: STATIC

Standard Values:	Provided By:
ASTEROID	N
N/A	N
PLANET	N
SATELLITE	N
STAR	N
SUN	N

Data Dictionary Name: **task_name**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
DATA RECOVERY AND ANALYSIS	U
N/A	U
PLANETARY DATA SYSTEM	FIN
VIKING	U

Data Dictionary Name: **telescope_diameter**
Standard Value Type: RANGE

Data Dictionary Name: **telescope_f_number**
Standard Value Type: RANGE

Data Dictionary Name: **telescope_focal_length**
Standard Value Type: RANGE

Data Dictionary Name: **telescope_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
A	R
B	R
C	R
D	R
IRS	R
MAWD	A
N/A	AF
VISA	I
VISB	I

Data Dictionary Name: **telescope_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
A	R
B	R
C	R
D	R
IRS	R
MAWD	A
N/A	AF
VISA	I
VISB	I

Data Dictionary Name: **telescope_resolution**
Standard Value Type: RANGE

Data Dictionary Name: **telescope_t_number**
Standard Value Type: RANGE

Data Dictionary Name: **telescope_t_number_error**
Standard Value Type: RANGE

Data Dictionary Name: **telescope_transmittance**
Standard Value Type: RANGE

Data Dictionary Name: **time_from_closest_approach**
Standard Value Type: RANGE

Data Dictionary Name: **true_anomaly_angle**
Standard Value Type: RANGE

Data Dictionary Name: **twist_offset_angle**
Standard Value Type: RANGE

Data Dictionary Name: **vector_component_1**
Standard Value Type: RANGE

Data Dictionary Name: **vector_component_2**
Standard Value Type: RANGE

Data Dictionary Name: **vector_component_3**
Standard Value Type: RANGE

Data Dictionary Name: **vector_component_id**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
LATJ$-3	F
LATS$-3	F
LATU$-3	F
LONJ$-3	F
LONS$-3	F
LONU$-3	F
PHI	F
R	F
RHO	F
RJ$	F
RS$	F
RU$	F
VPHI	F
VR	F
VRHO	F
VZ	F
Z	F

Data Dictionary Name: **vector_component_id_1**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
RJ$	F
RS$	F
RU$	F

Data Dictionary Name: **vector_component_id_2**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
LATJ$-3	F
LATS$-3	F
LATU$-3	F

Data Dictionary Name: **vector_component_id_3**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
LONJ$-3	F
LONS$-3	F
LONU$-3	F

Data Dictionary Name: **vector_component_type**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
DISTANCE	F
LATITUDE	F
LONGITUDE	F
RANGE	F
ULATITUDE	F
VELOCITY	F

Data Dictionary Name: **vector_component_unit**
Standard Value Type: DYNAMIC

Standard Values:	Provided By:
DEGREES	F
JOVIAN RADII (1Rj = 71398km)	F
KM/S	F
PLANETARY RADII	F
SATURN RADII (1 Rs = 60330 km)	F
URANUS RADII (1 Ru = 25600 km)	F

Data Dictionary Name: **vertical_fov**
Standard Value Type: RANGE

Data Dictionary Name: **vertical_pixel_fov**
Standard Value Type: RANGE

2.4.1 MINIMUM/MAXIMUM RANGE VALUES

DATA DICTIONARY NAME	MINIMUM	MAXIMUM	UNITS
a_axis_radius	0	1.E32	km
ascending_node_longitude	0	360.	deg
azimuth	0	360.	deg
bandwidth	0	1.E32	Hz
b_axis_radius	0	1.E32	km
bond_albedo	0	1.	none
c_axis_radius	0	1.E32	km
channel_geometric_factor	0	1.E32	none
channel_integration_duration	.240	.960	s
cone_angle	0	180.	deg
cone_offset_angle	-90.	180.	deg
coordinate_system_ref_epoch	2415000.	1.E32	d
cross_cone_angle	0	360.	deg
cross_cone_offset_angle	-180.	360.	deg
center_filter_wavelength	0	1.E32	micron
center_frequency	0	1.E32	Hz
data_coverage_percentage	0	100.	none
data_rate	0	1.E32	b/s
declination	-90.	90.	deg
detector_aspect_ratio	0	1.E32	none
elevation	-90.	90.	deg
emission_angle	0	180.	deg
equatorial_radius	0	100000.	km
exposure_duration	0	1.E32	ms
exposure_offset_number	1.E32	1.E32	none
flattening	0	1.	none
frame_duration	48.0	96.0	s
horizontal_fov	0	360.	deg
horizontal_pixel_fov	0	360.	deg
incidence_angle	0	180.	deg
inner_periapsis_argument_angle	0	360.	deg
instrument_height	0	1.E32	m
instrument_length	0	1.E32	m
instrument_mass	0	1.E32	kg
instrument_power_consumption	0	1.E32	W
instrument_width	0	1.E32	m
latitude	-90.	90.	deg
limb_angle	-90.	90.	deg
local_hour_angle	0	360.	deg
local_time	0	24.0	local day/24
longitude	0	360.	deg
magnetic_moment	0	1.E32	J/T
map_scale	0	1.E32	none
mass	0	1.E32	kg

DATA DICTIONARY NAME	MINIMUM	MAXIMUM	UNITS
mass_density	0	1.E32	g/cm^3
maximum_brightness_temperature	2.40	1.E32	K
maximum_emission_angle	0	180.	deg
maximum_instrument_exposr_dur	0	1.E32	ms
maximum_incidence_angle	0	180.	deg
maximum_instrument_parameter	-1.E32	1.E32	none
maximum_latitude	-90.	90.	deg
maximum_limb_angle	-90.	90.	deg
maximum_local_time	0	24.0	local day/24
maximum_longitude	0	360.	deg
maximum_parameter	-1.E32	1.E32	none
maximum_phase_angle	0	180.	deg
maximum_sampling_parameter	0	1.E32	none
maximum_slant_distance	0	1.E32	km
maximum_solar_band_albedo	0	1.	none
maximum_spectral_contrast	0	1.E32	K
maximum_surface_pressure	0	1.E32	bar
maximum_surface_temperature	2.40	1.E32	K
maximum_wavelength	0	1.E32	micron
mean_inner_radius	0	1.E32	km
mean_outer_radius	0	1.E32	km
mean_radius	0	1.E32	km
mean_solar_day	0	1.E32	d
mean_surface_pressure	0	1.E32	bar
mean_surface_temperature	2.40	1.E32	K
midnight_longitude	0	360.	deg
minimum_available_sampling_int	0	1.E32	none
minimum_brightness_temperature	2.40	1.E32	K
minimum_emission_angle	0	180.	deg
minimum_instrument_exposr_dur	0	1.E32	ms
minimum_incidence_angle	0	180.	deg
minimum_instrument_parameter	-1.E32	1.E32	none
minimum_latitude	-90.	90.	deg
minimum_limb_angle	-90.	90.	deg
minimum_local_time	0	24.0	local day/24
minimum_longitude	0	360.	deg
minimum_parameter	-1.E32	1.E32	none
minimum_phase_angle	0	180.	deg
minimum_sampling_parameter	0	1.E32	none
minimum_slant_distance	0	1.E32	km
minimum_solar_band_albedo	0	1.	none
minimum_spectral_contrast	0	1.E32	K
minimum_surface_pressure	0	1.E32	bar
minimum_surface_temperature	2.40	1.E32	K
minimum_wavelength	0	1.E32	micron
mode_integration_duration	3.84	122.88	s

DATA DICTIONARY NAME	MINIMUM	MAXIMUM	UNITS
noise_level	0	1.E32	none
nominal_energy_resolution	2.90	30.	none
nominal_operating_temperature	2.40	1100.	K
north_azimuth	0	360.	deg
obliquity	0	90.	deg
orbital_eccentricity	0	1.	none
orbital_inclination	-90.	90.	deg
orbital_semimajor_axis	0	1.E32	km
outer_periapsis_argument_angle	0	360.	deg
periapsis_argument_angle	0	360.	deg
phase_angle	0	180.	deg
planet_day_number	0	1.E32	d
pole_declination	0	90.	deg
pole_right_ascension	0	360.	deg
precession_rate	-1.E32	1.E32	deg/s
quantization_resolution	0	1.E32	nT
right_ascension	0	360.	deg
revolution_period	0	1.E32	d
ring_ascending_node_longitude	0	360.	deg
ring_eccentricity	0	1.	none
ring_inclination	0	90.	deg
sampling_factor	0	1.E32	none
sampling_parameter_interval	0	1.E32	none
sampling_parameter_resolution	-1.E32	1.E32	none
scaled_image_height	0	1.E32	km
scaled_image_width	0	1.E32	km
scaled_pixel_height	0	1.E32	km
scaled_pixel_width	0	1.E32	km
spacecraft_altitude	0	1.E32	km
sidereal_rotation_period	0	1.E32	d
slant_distance	0	1.E32	km
solar_distance	0	1.E32	km
solar_latitude	-90.	90.	deg
solar_longitude	0	360.	deg
spectrum_integrated_radiance	0	1.E32	J/(m^2)/s
stop_time_from_closest_aprch	-1.E32	1.E32	time
start_time_from_closest_aprch	-1.E32	1.E32	time
start_time_base	0	1.E32	s
sub_spacecraft_azimuth	0	360.	deg
sub_spacecraft_latitude	-90.	90.	deg
sub_spacecraft_longitude	0	360.	deg
sub_solar_azimuth	0	360.	deg
sub_solar_latitude	-90.	90.	deg
sub_solar_longitude	0	360.	deg
surface_clarity_percentage	0	100.	none
surface_gravity	0	1.E32	m/s^2

DATA DICTIONARY NAME	MINIMUM	MAXIMUM	UNITS
target_center_distance	0	1.E32	km
time_from_closest_approach	-1.E32	1.E32	time
telescope_diameter	0	1.E32	m
telescope_f_number	.5	1.E32	none
telescope_focal_length	0	1.E32	m
telescope_resolution	0	3.141590	rad
telescope_t_number	.5	1.E32	none
telescope_t_number_error	-1.E32	1.E32	none
telescope_transmittance	0	1.	none
true_anomaly_angle	0	360.	deg
twist_offset_angle	-90.	90.	deg
vector_component_1	-1.E32	1.E32	none
vector_component_2	-1.E32	1.E32	none
vector_component_3	-1.E32	1.E32	none
vertical_fov	0	360.	deg
vertical_pixel_fov	0	360.	deg

2.4.2 UNITS OF MEASUREMENT

UNIT NAME	ABBREVIATION	MEASURED QUANTITY
TBD	time	TBD
TBD	local day/24	TBD
ampere	A	electric current
ampere per meter	A/m	magnetic field strength
ampere per square meter	A/m^2	current density
bar	bar	pressure
bits per second	b/s	data rate
candela	cd	luminous intensity
candela per square meter	cd/m^2	luminance
coulomb	C	electric charge, quantity
coulomb per cubic meter	C/m^3	electric charge density
coulomb per kilogram	C/kg	exposure(x and y rays)
coulomb per square meter	C/m^2	electric flux density
cubic meter	m^3	cubic meter
cubic meter per kilogram	m^3/kg	specific volume
day	d	time
degree	deg	temperature
degree Celsius	degC	Celsius temperature
degree per second	deg/s	temperature
farad	F	capacitance
farad per meter	F/m	permittivity
gram per cubic centimeter	g/cm^3	mass density
henry	H	inductance
henry per meter	H/m	permeability
hertz	Hz	frequency
hour	h	time
joule	J	enery, work, quantity of heat
joule per cubic meter	J/m^3	energy density
joule per kelvin	J/K	heat capacity, entropy
joule per kilogram	J/kg	specific energy
joule per kilogram kelvin	J/(kg.K)	specific heat capacity, specific entropy
joule per mole	J/mol	molar energy
joule per mole kelvin	J/(mol.K)	molar entropy, molar heat capacity
joule per sq. meter per second	J/(m^2)/s	radiance
joule per tesla	J/T	magnetic moment
kelvin	K	thermodynamic temperature
kilogram	kg	mass
kilogram per cubic meter	kg/m^3	density, mass density
kilometer	km	length
lumen	lm	luminous flux
lux	lx	illuminance
meter	m	length
meter per second	m/s	speed, velocity
meter per second squared	m/s^2	acceleration

UNIT NAME	ABBREVIATION	MEASURED QUANTITY
micrometer	micron	length
millimeter	mm	length
millisecond	ms	time
minute	min	time
mole	mol	amount of substance
mole per cubic meter	mol/m^3	concentration of substance
nanotesla	nT	magnetic flux density
newton	N	force
newton meter	N.m	moment of force
newton per meter	N/m	surface tension
newton per square meter	N/m^2	pressure (mechanical stress)
ohm	ohm	electric resistance
pascal	Pa	pressure, stress
pascal second	Pa.s	dynamic viscosity
radian	rad	plane angle
radian per second	rad/s	angular velocity
radian per second squared	rad/s^2	angular acceleration
reciprocal meter	m^-1	wave number
second	s	time
siemens	S	electric conductance
square meter	m^2	area
square meter per second	m^2/s	kinematic viscosity
steradian	sr	solid angle
steradian	W.m^-2.sr^-1	radiance
tesla	T	magnetic flux density
volt	V	electromotive force
volt per meter	V/m	electric field strength
watt	W	power, radiant flux
watt per meter kelvin	W/(m.K)	thermal conductivity
watt per square meter	W/m^2	heat flux density, irradiance
watt per steradian	W/sr	radiant intensity
weber	Wb	magnetic flux

Appendix A

DESCRIPTOR TERMS LIST

This appendix consists of the list of descriptor terms and their associated meanings. For a more detailed explaination refer to Chapter 6 Section 2.1.3 Descriptor Words.

DESCRIPTOR TERM	DESCRIPTOR TERM DEFINITION
albedo	Reflectivity of a planetary surface or particle. Example: "bond_albedo"
altitude	The distance above a reference surface measured normal to that surface. Note: see "elevation" and "height". Altitudes are not normally measured along extended body radii, but along the direction normal to the geoid; these are the same only if the body is spherical. Example: "spacecraft_altitude"
angle	A measure of the geometric figure formed by the intersection of two lines or planes. Note: element definitions for angles should include origin and relevant sign conventions where applicable. Example: "aximum_emission_angle"
axis	A straight line with respiect to which a body or figure is symmetrical. Example: "orbital_semimajor_axis"
azimuth	One of two angular measures in a spherical coordinate system. Azimuth is measured in a plane which is normal to the principal axis, with increasing azimuth following the right hand rule convention relative to the positive direction of the principal axis. PDS adopts the convention that an azimuth angle is never signed negative. The point of zero azimuth must be defined in each case. Example: "sub_solar_azimuth"
bandwidth	The range within a band of wavelengths, frequencies or energies. Example: "radar_bandwidth"
base	A quantity to be added to a value.
bits	A count of the number of bits within an elementary data item. Examples: "ELEMENT_BITS", "sample_bits"
bytes	A count of the number of bytes within a record, or within a sub–component of a record. Example: "RECORD_BYTES"

channel	A band of frequencies or wavelengths.
circumference	The length of any great circle on a sphere.
coefficient	A numeric measure of some property or characteristic.
columns	A count of the number of distinct data elements within a row in a table.
component	1) The part of a vector associated with one coordinate. 2) A constituent part. Example: "event_velocity_x_component"
constant	A value that does not change significantly with time.
consumption	The usage of a consumable. Example: "instrument_power_consumption"
contrast	The degree of difference between things having a comparable nature. Example: "maximum_spectral_contrast"
declination	An angular measure in a spherical coordinate system, declination is the arc between the Earth's equatorial plane and a point on a great circle perpendicular to the equator. Positive declination is measured towards the Earth's north pole, which is the positive spin axis per the right hand rule; declinations south of the equator are negative. The orientation of the Earth's equator must be specified; either the B1950 or J2000 reference coordinate system. PDS adopts J2000 as the default. (See also "right_ascension".) Example: "declination"
density	1) The mass of a given body per unit volume. 2) The amount of a quantity per unit of space. Example: "mass_density"
detectors	A count of the number of detectors contained, for example, in a given instrument. Example: "detectors"
deviation	Degree of deviance.
diameter	The length of a line passing through the center of a circle or a circular object. Example: "telescope_diameter"
distance	A measure of the linear separation of two points, lines, surfaces, or objects. See also "altitude", which refers to a specific type of distance. The use of the word "distance" supercedes the use of the word "range" as a measure of linear separation (see definition of "range" below). Example: "slant_distance"
duration	A measure of the time during which a condition exists. Example: "instrument_exposure_duration"

eccentricity	A measure of the extent to which the shape of an orbit deviates from circular. Example: "orbital_eccentricity"
elevation	1) The distance above a reference surface measured normal to that surface. Elevation is the altitude of a point on the physical surface of a body measured above the reference surface; height is the distance between the top and bottom of an object. 2) An angular measure in a spherical coordinate system, measured positively and negatively on a great circle normal to the azimuthal reference plane. The zero elevation point lies in the azimuthal reference plane, and positive elevation is measured towards the direction of the positive principal axis. (See also "azimuth".) Example: "elevation"
epoch	A specific instance of time selected as a point of reference. Example: "coordinate_system_reference_epoch"
error	The difference between an observed or calculated value and a true value. Example: "telescope_t_number_error"
factor	A quantity by which another quantity is multiplied or divided. Example: "sampling_factor"
fov	(Acronym for "field_of_view") The angular size of the field viewed by an instrument or detector. Note that a field may require multiple field_of_view measurements, depending upon its shape (e.g., height and width for a rectangular field). Example: "horizontal_fov"
fovs	A count of the number of different fields of view characteristic of an instrument or detector Example: "fovs"
flattening	A measure of the geometric oblateness of a solar system body, defined as the ratio of the difference between the body's equatorial and polar diameters to the equatorial diameter, or "$(a - c)/a$". Example: "flattening"
fraction	The non–integral part of a real number. See "base".
frequency	The number of cycles completed by a periodic function in unit time.
gravity	The gravitational force of a body, nominally at its surface. Example: "surface_gravity"
height	The distance between the top and bottom of an object. Example: "scaled_image_height"

images	A count of the number of images contained, for example, in a given mosaic. Example: "mosaic_images"
items	A count of the number of data elements along a specified axis of a data array.
inclination	The angle between two intersecting planes, one of which is deemed the reference plane and is normally a planet's equatorial plane as oriented at a specified reference epoch. Example: "ring_inclination"
index	An indicator of position within an arrangement of items.
interval	1) The intervening time between events. 2) The distance between points along a coordinate axis. See also "duration" for time intervals. Example: "sampling_interval"
latitude	Multiple definitions exist for latitude. PDS looks to NASA's Planetary Cartography Working Group to provide specific recommendations for definition of this term. (See also "longitude".) Example: "minimum_latitude"
length	A measured distance or dimension. See also "height" and "width". Example: "telescope_focal_length"
level	The magnitude of a continuously varying quantity. Example: "noise_level"
line	1) A row of data within a two–dimensional data set. 2) A narrow feature within a spectrum. Example: "mailing_address_line_1"
lines	A count of the number of data occurrences in an image array.
location	The position or site of an object. Example: "document_location"
longitude	Differing definitions for planetocentric– and planetographic–longitude exist, and these definitions in turn depend on the definition of East or North. PDS looks to NASA's Planetary Cartography Working Group to provide specific recommendations for definition of this term. (See also "latitude".) Example: "maximum_longitude"
mass	A quantitative measure of a body's resistance to acceleration. Example: "instrument_mass"
moment	The product of a quantity (such as a force) and the distance to a particular point or axis. Example: "magnetic_moment"

obliquity	Angle between a body's equatorial plane and its orbital plane. Example: "obliquity"
parameter	A variable. Example: "maximum_physical_parameter"
parameters	A count of the number of parameters in a given application. Example: "required_parameters"
password	An alphanumeric string which must be entered by a would–be user of a computer system in order to gain access to that system. Example: "account_password"
percentage	A part of a whole, expressed in hundredths. Example: "data_coverage_percentage"
period	The duration of a single repetition of a cyclic phenomenon or motion. Example: "rotation_period"
points	A count of the number of points (i.e., data samples) occurring, for example, within a given bin. Example: "bin_points"
pressure	Force per unit area. Example: "mean_surface_atmospheric_pressure"
ra	(right_ascension) The arc of the celestial equator between the vernal equinox and the point where the hour circle through the given body intersects the Earth's mean equator reckoned eastward, in degrees. The Earth mean equator and equinox shall be as defined by the International Astrnomical Union (IAU) as the "J2000" reference system unless noted as the "B1950" reference system. Example: "right_ascension"
radiance	A measure of the energy radiated by an object. Example: "spectrum_integrated_radiance"
radius	The distance between the center of and a point on a circle, sphere, elipse or ellipsoid. Example: "mean_inner_radius"
range	Numeric values which identify the starting and stopping points of an intaerval. Note: the use of the word "distance" supercedes the use of the word "range" as a measure of linear separation (see definition of "distance" above). Example: "AXIS_n_BIN_RANGE" "emission_angle_range"
rate	The amount of change of a quantity per unit time. Example: "nominal_spin_rate"

records	A count of the number of physical or logical records within a file or a subcomponent of a file. Example: "FILE_RECORDS"
resolution	A quantitative measure of the ability to distinguish separate values. Example: "sampling_parameter_resolution"
rings	A count of the number of rings associated with a given solar system body. Example: "rings"
rows	A count of the number of data occurrences in a table.
samples	A count of the number of data elements in a line of an image array or a set of data. Example: "sequence_samples"
scale	A proportion between two sets of dimensions. Example: "map_scale"
summary	An abridged description. Example: "scientific_objectives_summary"
temperature	The degree or intensity of heat or cold as measured on a thermometric scale. Example: "mean_surface_temperature"
title	A descriptive heading or caption. Example: "sequence_title"
transmittanc	The ratio of transmitted to incident energy. Example: "telescope_transmitttance"
unit	A determinate quantity adopted as a standard of measurement. Example: "unit"
units	A count of the number of units of a particular type. Example: "media_units"
wavelength	The distance that a wave travels in one cycle. Example: "minimum_wavelength"
width	The distance between two sides of an object. See also "height" and "width". Example: "scaled_image_width"

Appendix B

CLASS TERMS

This appendix consists of the list of class words designating the basic "information type" of a data object. For a more detailed explaination refer to Chapter 6, Section 2.1.4 Class Words.

CLASS TERM	CLASS TERM DEFINITION
count	A numeric value indicating a current total or tally of an entity. The class word count is implied by the use of plural descriptor words such as lines, bytes or bits. Example: LINES = 800 (interpreted as LINE_COUNT = 800).
date	A representation of time in which the smallest unit of measure is a day. The value is expressed in one of the standard forms. Example: NATAL_DATE = 1959-05-30.
description	A textual account. Example: "instrument_description"
flag	A boolean condition indicator, limited to two states. Example: PRESSURE_VALVE_FLAG = TRUE.
group	Names a collection or aggregation of elements. Example: IMAGE_IDENTIFICATION_GROUP.
id	A shorthand alphanumeric notation representing the common term used for an entity. Example: SPACECRAFT_ID = VG1
mask	An unsigned numeric value representing the bit positions within an element value. Example: SAMPLE_BIT_MASK = 2#00011111#.
name	A literal value representing the common term used to name an element. Example: SPACECRAFT_NAME = MAGELLAN.
note	A textual expression of opinion, an observation, or a criticism; a remark. Example: DATASET_NOTE = "This is a good dataset".
number	A number associated with an object. Example: FILTER_NUMBER = 5
ratio	The relation between two quantities with respect to the number of times the first contains the second. Example: SIGNAL_TO_NOISE_RATIO = 45.67

text	A free form text string of undefined content. Example: OPERATIONAL_USAGE_TEXT = "Description of the operational usage of this instrument ... ".
time	A value which measures the point of occurrence of an event expressed as date and time in one of the standard forms. Example: HAPPY_HOUR_TIME = 1987-06-21T17:30:30.0
type	A literal which represents a major predefined category. Example: TARGET_TYPE = PLANET.
value	A numeric value representing a generic term for the amount or quantity of an entity where a more specific term is not defined. This is the default class word for names not terminated with a class word. Example: SURFACE_TEMPERATURE = 98.6 would be interpreted as SURFACE_TEMPERATURE_VALUE.

Appendix C

ABBREVIATIONS FOR CONSTRUCTING TERSE NAMES

This appendix lists the appropriate abbreviations of component terms for constructing terse names. For information on terse names refer to Chapter 6, Section 2.1 Terse Names.

COMPONENT TERMS (formal data object)	TERM TYPE	TERSE #1	TERSE #2	TERSE #3
acceptance	descriptor	accept		
acceptance_detector	descriptor	ad		
acceptance_information	descriptor	ai		
accessibility	descriptor	access		
account	descriptor	acct		
address	descriptor	addr		
affiliation	descriptor	affil		
albedo	descriptor	alb		
algorithm	descriptor	alg		
alias	descriptor	alias		
altitude	descriptor	alt		
angle	descriptor	ang		
anomaly	descriptor	anom		
antecedent	descriptor	ant		
approach	descriptor	apr		
area	descriptor	area		
argument	descriptor	arg		
ascending	descriptor	asc		
aspect	descriptor	aspect		
associated	descriptor	assoc		
atmosphere	descriptor	atm		
attribute	descriptor	attr		
author	descriptor	auth		
authority	descriptor	authy		
availability	descriptor	avail	avl	
available	descriptor	avail	avl	
average	descriptor	avg		
axis	descriptor	axis	ax	
azimuth	descriptor	az		
band	descriptor	band	bnd	
bandwidth	descriptor	bandwidth		
base	descriptor	base		
bill	descriptor	bill		
billing	descriptor	bill		
bin	descriptor	bin		
bit	descriptor	bit		
blname	descriptor	blname		

body	descriptor	body	
bond	descriptor	bond	
brief	descriptor	brief	b
brightness	descriptor	brite	
browse	descriptor	browse	
byte	descriptor	byte	
calibration	descriptor	calbrt	calib
campaign	descriptor	campaign	
caption	descriptor	capt	
carrier	descriptor	carrier	carr
catalog	descriptor	cat	
category	descriptor	catgy	
center	descriptor	ctr	
characteristic	descriptor	chr	
channel	descriptor	chnl	
clarity	descriptor	clar	
clock	descriptor	clk	
closest	descriptor	cls	
code	descriptor	code	
cognizant	descriptor	cog	
column	descriptor	col	
comment	descriptor	cmt	
community	descriptor	comty	
component	descriptor	comp	
compromises	descriptor	compromises	
computer	descriptor	cpu	
condition	descriptor	cond	
cone	descriptor	cone	con
confidence	descriptor	conf	
considerations	descriptor	consid	
consumption	descriptor	cnsmp	
contact	descriptor	ctc	
contamination	descriptor	contam	
continuation	descriptor	cont	
contrast	descriptor	contr	
control	descriptor	ctl	
conversion	descriptor	conv	
coordinate	descriptor	crd	
coordinator	descriptor	crd	
cost	descriptor	cost	
count	class	cnt	
coverage	descriptor	cvg	
create	descriptor	create	
criticality	descriptor	critical	
cross	descriptor	crs	
customer	descriptor	cust	
cycle	descriptor	cycle	cyc
data	descriptor	data	
data_administrator	descriptor	da	

data_dictionary	descriptor	dd	
dataset	descriptor	ds	
date	class	date	dt
declination	descriptor	declination	decl
default	descriptor	default	
defining	descriptor	def	
definition	descriptor	defn	
delimited	descriptor	delim	
delimiting	descriptor	delim	
density	descriptor	density	
derived	descriptor	drv	
description	class	desc	d
detailed	descriptor	detail	
detector	descriptor	det	
diameter	descriptor	diam	
direction	descriptor	dir	
discipline	descriptor	disc	
display	descriptor	dsp	
distance	descriptor	dist	
distribution	descriptor	dstn	
distributor	descriptor	dstr	
document	descriptor	doc	
duration	descriptor	dur	
dynamic	descriptor	dyn	
earth	descriptor	earth	
earth_base	descriptor	eb	
eccentricity	descriptor	ecc	
edit	descriptor	edit	
electronic	descriptor	elec	
electronics	descriptor	elecs	
elevation	descriptor	elevation	
emission	descriptor	emiss	
energy	descriptor	energy	
entry	descriptor	entry	
environment	descriptor	env	
ephemeris	descriptor	eph	
epoch	descriptor	epoch	
equatorial	descriptor	equat	
error	descriptor	err	
event	descriptor	evt	
experimenter	descriptor	exprmtr	
expertise	descriptor	exprt	
exposure	descriptor	expos	
facility	descriptor	fac	
factor	descriptor	fact	
feature	descriptor	feat	
field	descriptor	fld	
filter	descriptor	filt	
first	descriptor	first	

flag	class	flag	flg
flattening	descriptor	flattening	
flood	descriptor	fld	
focal	descriptor	foc	
format	descriptor	fmt	
fov	descriptor	fov	
frame	descriptor	frame	fram
frequency	descriptor	freq	
fts	descriptor	fts	
full	descriptor	full	f
function	descriptor	func	
funding	descriptor	fund	
gain	descriptor	gain	
geometric	descriptor	geom	
granularity	descriptor	gran	
granule	descriptor	gran	
gravity	descriptor	grav	
group	class	grp	
guidance	descriptor	guid	
hardware	descriptor	hw	
height	descriptor	height	ht
help	descriptor	help	
hierarchy	descriptor	hier	
history	descriptor	hist	
home	descriptor	home	
horizontal	descriptor	horz	
host	descriptor	host	
hour	descriptor	hour	
hourly	descriptor	hrly	
identification	class	id	
initial	descriptor	init	
image	descriptor	image	
implementation	descriptor	impl	
important	descriptor	imp	
incidence	descriptor	incid	
inclination	descriptor	incln	
indicator	descriptor	ind	
information	descriptor	info	inf
inner	descriptor	in	
input	descriptor	ipt	
institution	descriptor	instn	
instructions	descriptor	instrc	ins
instrument	descriptor	inst	
integrated	descriptor	intg	
integration	descriptor	intg	
interval	descriptor	iv	
inventory	descriptor	inv	
item	descriptor	itm	
journal	descriptor	journal	

julian	descriptor	jul	
kernel	descriptor	knl	
key	descriptor	key	
keyword	descriptor	kwd	
laboratory	descriptor	lab	
language	descriptor	lang	
last	descriptor	last	
latitude	descriptor	lat	
launch	descriptor	launch	
lecp	descriptor	lecp	lc
length	descriptor	length	len
level	descriptor	lvl	
light	descriptor	lite	
limb	descriptor	limb	
line	descriptor	line	
list	descriptor	list	
load	descriptor	lod	
local	descriptor	local	
location	descriptor	loc	
longitude	descriptor	lon	
mag	descriptor	mag	
magnetic	descriptor	mag	
mail	descriptor	mail	
mailing	descriptor	mail	
major	descriptor	maj	
manager	descriptor	mgr	
mandatory	descriptor	mandatory	
manufacturer	descriptor	mfg	
map	descriptor	map	
mask	class	mask	
mass	descriptor	mass	
maximum	descriptor	max	
mean	descriptor	mean	
measured	descriptor	meas	
measurement	descriptor	meas	
media	descriptor	media	
memory	descriptor	mem	
menu	descriptor	menu	
method	descriptor	method	
middle	descriptor	mid	
midnight	descriptor	midnight	
midsequence	descriptor	midseq	
minimum	descriptor	min	
mission	descriptor	msn	
mode	descriptor	mode	md
model	descriptor	mdl	
moment	descriptor	moment	
mosaic	descriptor	mosaic	
motion	descriptor	motn	

mount	descriptor	mount	mnt
mounting	descriptor	mount	
name	class	name	nm
native	descriptor	native	
navigation	descriptor	nav	
node	descriptor	node	nd
noise	descriptor	noise	
nominal	descriptor	nom	
north	descriptor	north	
note	descriptor	note	nt
notebook	descriptor	note	
number	class	num	
object	descriptor	obj	
objective	descriptor	obj	
objectives	descriptor	obj	
obliquity	descriptor	obliquity	
observation	descriptor	obs	
observatory	descriptor	obsvty	
offset	descriptor	off	
operating	descriptor	oper	
operating_system	descriptor	os	
operation	descriptor	oprtn	
operational	descriptor	oper	
operations	descriptor	oper	
optics	descriptor	optics	optc
orbit	descriptor	orb	
orbital	descriptor	orb	
orbiter	descriptor	orbtr	
order	descriptor	ord	
orientation	descriptor	orient	
outer	descriptor	out	ot
output	descriptor	opt	
page	descriptor	page	
parameter	descriptor	parm	prm
parent	descriptor	parent	
particle	descriptor	part	
particle_multiple_parameters	descriptor	pmp	
password	descriptor	psw	
path	descriptor	path	
peak	descriptor	peak	
peer	descriptor	peer	
percentage	descriptor	pct	
periapsis	descriptor	peri	
period	descriptor	per	
personnel	descriptor	pers	
phase	descriptor	phs	
physical	descriptor	phys	phy
pin	descriptor	pin	
pixel	descriptor	pix	

planet	descriptor	planet	
platform	descriptor	plat	
pls	descriptor	pls	
point	descriptor	point	
pointing	descriptor	pntg	
pole	descriptor	pole	
position	descriptor	position	pos
power	descriptor	pwr	
precession	descriptor	precess	
preference	descriptor	preference	
pressure	descriptor	pres	
primary	descriptor	prim	
prime	descriptor	prime	
principal_investigator	descriptor	pi	
privilege	descriptor	priv	
privileges	descriptor	prv	
process	descriptor	proc	
processing	descriptor	proc	
product	descriptor	prod	
producer	descriptor	prod	
production	descriptor	prd	
profile	descriptor	prof	
programming	descriptor	pgm	
projection	descriptor	proj	
publication	descriptor	publ	
pws	descriptor	pws	
quality	descriptor	qual	
quantity	descriptor	qty	
quantization	descriptor	quantz	quant
query	descriptor	query	qry
quotient	descriptor	q	
radiance	descriptor	rdnc	
radius	descriptor	radius	radi
range	descriptor	rng	
rate	descriptor	rate	
ratio	class	rto	
rationale	descriptor	ratl	
received	descriptor	rcvd	
record	descriptor	rec	
reference	descriptor	ref	
reflected	descriptor	rel	
region	descriptor	region	
registration	descriptor	reg	
related	descriptor	rel	
release	descriptor	release	
remote	descriptor	rem	
request	descriptor	request	rqst
required	descriptor	req	
requirement	descriptor	req	

research	descriptor	rsch	
resolution	descriptor	res	
resonance	descriptor	reson	
responsibility	descriptor	resp	
result	descriptor	rslt	
reticle	descriptor	ret	
review	descriptor	revw	
revolution	descriptor	rev	
right_ascension	descriptor	ra	
ring	descriptor	ring	
role	descriptor	role	
rotation	descriptor	rot	
routine	descriptor	rtn	
row	descriptor	row	
sample	descriptor	samp	
sampling	descriptor	samp	
satellite	descriptor	sat	
scale	descriptor	scale	
scaled	descriptor	scale	
scan	descriptor	scan	
schedule	descriptor	sched	
scheme	descriptor	sch	
science	descriptor	sci	
scientific	descriptor	sci	
scientist	descriptor	sci	
screen	descriptor	screen	
sdif	descriptor	sdif	
secondary	descriptor	sec	
section	descriptor	sect	
selection	descriptor	selc	
semi	descriptor	semi	
sensitivity	descriptor	sens	
sequence	descriptor	seq	
serial	descriptor	serl	
series	descriptor	ser	
set	descriptor	set	
shape	descriptor	shape	
sheet	descriptor	sheet	sht
ship	descriptor	shp	
shipping	descriptor	shp	
shutter	descriptor	shut	
sidereal	descriptor	sid	
size	descriptor	size	
slant	descriptor	slant	
software	descriptor	sw	
solar	descriptor	sol	
source	descriptor	source	src
spacecraft	descriptor	sc	
spacecraft_clock	descriptor	sclk	

spatial	descriptor	spatial	
special	descriptor	spcl	spc
specialty	descriptor	spcl	
species	descriptor	specs	
spectral	descriptor	spec	
spectrum	descriptor	spec	
spin	descriptor	spin	
sql	descriptor	sql	
stabilization	descriptor	stbl	
staff	descriptor	staff	
standard	descriptor	std	
start	descriptor	strt	
state	descriptor	state	st
status	descriptor	status	sts
stop	descriptor	stop	
storage	descriptor	stor	
string	descriptor	str	
sub	descriptor	sub	
submission	descriptor	subm	
subsystem	descriptor	ss	
summary	descriptor	smy	
supplier	descriptor	suplr	
suppliment	descriptor	suplmt	
support	descriptor	sup	
surface	descriptor	surf	
synodic	descriptor	syn	
system	descriptor	sys	
table	descriptor	tbl	
tae	descriptor	tae	
target	descriptor	targ	tg
task	descriptor	task	
telephone	descriptor	telephone	
telescope	descriptor	tlscp	
temperature	descriptor	temp	
template	descriptor	tmplt	
temporal	descriptor	temporal	temp
terse	descriptor	terse	ters
text	class	txt	
threshold	descriptor	thrshld	
time	class	time	tm
title	descriptor	title	
topic	descriptor	topic	
total	descriptor	tot	
triaxial	descriptor	triaxl	
translation	descriptor	trans	
transmittance	descriptor	xmit	
true	descriptor	true	
tuple	descriptor	tup	
twist	descriptor	twist	

type	class	type	typ
uncertainty	descriptor	unct	
unit	descriptor	unit	
usage	descriptor	usg	
user	descriptor	user	
userview	descriptor	uv	
validity	descriptor	vldty	
value	class	val	
vector	descriptor	vect	
vendor	descriptor	vend	
version	descriptor	ver	
vertical	descriptor	vert	
wavelength	descriptor	wave	wv
weight	descriptor	wt	
width	descriptor	width	wd
window	descriptor	window	
znumber	descriptor	z	