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Planetary Data System Catalog Design Document

February 13, 1990

Version 2.0

Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

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PLANETARY DATA SYSTEM
VERSION 1.0
CATALOG DESIGN DOCUMENT

Version 2.0

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The PDS *Catalog Design 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
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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.

PLANETARY RINGS – Jet Propulsion Laboratory.

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

At the heart of the Planetary Data System is a database of information commonly referred to as the Science Catalogs. These catalogs contain all of the necessary meta-data which enable a user of the Planetary Data System to identify, locate, order, and receive the science data he needs. It is the purpose of this *Catalog Design Document* (CDD) to define the content of the Science Catalogs and to describe the logical organization of these meta-data (data about data) into an integrated relational database.

1.2 SCOPE

The scope of this document is limited to PDS Version 1.0, including the database logical design and physical design. Subsequent versions of the Planetary Data System will be accompanied by new versions of this document.

1.3 AUDIENCE

The *Catalog Design Document* is intended for reading by several groups of people. These groups include:

(1.) the PDS developers,

(2.) the PDS Project and Program managers,

(3.) the PDS Review Board,

(4.) the PDS science community,

(5.) the managers and developers of SFOC,

(6.) the managers and developers of the current flight projects, and

(7.) the managers and developers of similar information systems.

1.4 DOCUMENT ORGANIZATION

The *Catalog Design Document* is organized into two parts plus a set of appendices. Part I describes the logical structure of the catalogs, and identifies the information requirements this structure has been designed to satisfy. Chapter 1 provides an overview of the document. Chapter 2 describes the methodologies used to determine the user requirements for data retrieval, and to derive and verify the database design. Chapter 3 contains the detailed definition of the user requirements. Chapter 4 shows the logical structure of the database.

Part II of this document contains the physical structure of the database. Chapter 5 contains the database physical schema, i.e. the relational database tables and columns. Chapter 6 contains the data dictionary. This data dictionary defines all of the data elements used in the science catalogs, and gives standard values for those elements for which a standard value is required. Chapter 7 documents the queries used by the menu interface to access the data. A description of each query, as well as the actual SQL code, is given. Finally, in Chapter 8, the data entry forms used by the catalog loader for populating the catalog are described and presented.

The appendices of this document contain supplementary information and cross-references to the data dictionary.

1.5 SYSTEM OVERVIEW

The Planetary Data System (PDS) is a task sponsored by the National Aeronautics and Space Administration (NASA). The two entities within NASA supporting PDS are the Solar System Exploration Division (Code EL) and the Communications Division (Code EC), both being within the Office of Space Science and Applications.

The PDS was created as a solution to several problems currently facing the planetary science community. First, it increases the availability of the current data to scientists through the creation of data standards, a high-level catalog, and easy and timely access. Second, it preserves the usefulness of the data through the utilization of stable media and the conversion of proprietary information into a standardized format. And third, it inspires new types of research through correlative analysis which was previously difficult if not impossible to accomplish.

There are four functional components of the PDS:

- The first component of the PDS is the set of distributed science discipline nodes which provide the scientific expertise in archiving and utilizing the planetary science data. This component also provides the expert help in understanding the data.
- Second, the system development and maintenance effort for the PDS Verison 1.0 is carried out at the Discipline Nodes and the Central Node at the Jet Propulsion Laboratory (JPL) in Pasadena, California.
- A third component works with the planetary missions to define and implement the standards and processes that will be used to transfer data from the missions to the PDS.
- Fourth, a technology component is evaluating technologies needed to solve problems of data archiving and distribution. It is this component that has done the pioneering work in the utilization of CD-ROM optical disk technology for widespread dissemination of large planetary data sets.

The PDS has a hierarchical structure, consisting of a Central Node supported by seven Discipline Nodes and the National Space Science Data Center (NSSDC). The Central Node, located at JPL, consists of a central, high-level database catalog, and several detailed database catalogs, all accessible through a user interface. The Central Node is connected to the NSSDC and the Discipline Nodes. These Discipline Nodes, located around the country, hold more detailed catalogs as well the actual data archive, all in the standard format. By consulting the Central Catalog, a user may search for and locate all the general data sets he needs, then transparently connect to the Discipline Node to narrow his choices. Either at the Central Node or at one of the Discipline Nodes, he can place an order for data. The data may be transmitted electronically, or more likely, be sent via mail on magnetic tape or compact disc, along with documentation and analysis software.

The NSSDC currently contains all of the data sets for the PDS Version 1.0. It is the main archival storage facility for the planetary sciences. NSSDC's role in the PDS will be in filling large orders, to take advantage of the economies of scale, and to serve as the deep archive for the PDS.

The PDS Version 1.0 contains in excess of 75 Planetary Science data sets from the following disciplines:

- **Atmospheres:** Viking 1 and 2 and Mariner 9 at Mars from ISS, VIS, LCS, MET, MAWD, and IRTM experiments
- **Fields and Particles:** Voyager 1 and 2 at Jupiter and Saturn and Voyager 2 at Uranus from the LECP, MAG, PLS, and PWS experiments
- **Image:** Viking 1 and 2 at Mars from the ISS including special processed survey images
- **Radiometry:** Mariner 6 and 7 and Viking 1 and 2 at Mars from the IRS and IRTM instruments
- **Spectroscopy:** Earth based observations of selected asteroids from the DBP and SCPS instruments
- **NAIF:** Ancillary (SP kernal) data for Voyager 1 and 2 at Jupiter and Saturn and Voyager 2 at Uranus

Other information that can be obtained through the PDS includes descriptions of data sets, science parameters, missions, spacecraft, instruments, software, planets, their satellites, and targets on these bodies, and ancillary information such as navigation files and calibration files. This data can be ordered and will be provided in well labeled and documented formats.

When actually using the system and looking at the data, several user support facilities are available. To assist the user of the catalog at the Central Node, context-sensitive help is available at all times and technical support phone numbers are provided for more specific problems. Orders for data will be placed and followed up by the PDS Operations Staff; no user interaction is necessary. The Discipline Nodes are responsible for user support. At each Discipline Node, a user can talk with, and get help from, a person with knowledge not only of the system and the data it contains, but also of the scientific aspects of the data as well. Thus, if a user needs help in deciphering data formats, or understanding calibration or targeting information, personnel at the Discipline Node are available to answer these questions, and perhaps even to supply software to do some types of analysis for the user.

1.6 APPLICABLE DOCUMENTS

The following documents provide focus or context for the design of the operational Planetary Data System.

1.6.1 Binding Documents

(1.) *JPL Software Management Standard*; JPL–D–4000; V.2.0; Dec. 1987.

(2.) *JPL Software Management Standard, Document Content Descriptions and Review Criteria*; SORCE Technical Memorandum 1-A; V.4.0; Dec. 1986.

(3.) *PDS Software Management Plan*; JPL–D–3487 ; V.2.1; May 3, 1988.

(4.) *PDS Functional Requirements Document*; JPL–D–3454; V.2.0, Dec. 31, 1986.

(5.) *PDS Functional Design Document*; JPL–D–3496; V.2.0; Jan. 18, 1988.

(6.) *PDS Software Specification Document*; JPL–D–3497; V.1.0; Jan. 1989.

(7.) *PDS Software Interface Specification*; JPL–D–3498; V.2.0; Dec. 1989.

(8.) *PDS Catalog Design Document*; JPL–D–1152; Rev.1.2; Feb. 1989.

1.6.2 PDS Reference Documents

The list of reference documents for the PDS shall be as given below:

(1.) *Data Management and Computation - Volume 1: Issues and Recommendations*; Committee on Data Management and Computation, Space Science Board, Assembly of Mathematical and Physical Sciences, National Research Council, National Academy Press, Washington, D.C., 1982.

(2.) *Data Management and Computation - Volume 2: Space Science Data Management Units in the 1980's and 1990's*; Committee on Data Management and Computation, Space Science Board, Assembly of Mathematical and Physical Sciences, National Research Council, National Academy Press, Washington, D.C., 1985.

(3.) *DEC VAX/VMS Accounting Utility*

(4.) *DEC VAX/VMS Guide to System Security*

(5.) *DEC VAX/VMS System Manager's Guide*

(6.) *Integrating Database Technology Into A Process–Oriented Life Cycle*; TMA, JPL Internal Document; April 15, 1987.

(7.) *Navigation Ancillary Information Facility Project Plan*; Acton, Charles; JPL Internal Document; May 11, 1983.

(8.) *Planetary Data Workshop, Volumes 1 and 2*; Kieffer, Hugh H.; NASA Conference Publication 2343; NASA; Washington, D.C., 1984.

(9.) *Planetary Data System Concept*; Planetary Science Data Steering Group; NASA; Solar System Exploration Division; February 24, 1986.

(10.) *Recommendations for Incorporating Database Technology Into JPL Software Management Standard D-4000*; TMA, JPL Internal Document, April 23, 1987.

(11.) *PDS User's Guide*; JPL; D–3500; Version IIR; Feb. 1990.

(12.) *PDS Software Operators Manual*; JPL; D–3502; Version 1.0; Feb. 1990.

(13.) *PDS System Site Guide*; JPL; TBD.

(14.) *Solar-Terrestrial Data Access, Distribution, and Archiving*; Joint Panel of the Committee on Solar and Space Physic Commission on Physical Sciences, Mathematics, and Resources, National Research Council, National Academy Press, Washington, D.C., 1984.

1.6.3 Relevant Discipline Node Documents

(1.) *Image Retrieval and Processing System, Software Requirements Document*; McDonnell Center for the Space Sciences; Washington University; December 1987.

(2.) *Image Retrieval and Processing System, Software Specification Document*; McDonnell Center for the Space Sciences; Washington University; Feb. 1989.

(3.) *Image Retrieval and Processing System, Acceptance Test Plan*; McDonnell Center for the Space Sciences; Washington University; Feb. 1989.

(4.) *Image Retrieval and Processing System, User's Guide*; McDonnell Center for the Space Sciences; Washington University; Feb. 1989.

(5.) *Prototype Atmospheres Node Data Access Software, Software Requirements Document*; Laboratory for Atmospheric and Space Physics, University of Colorado; December 3, 1987.

(6.) *Prototype Atmospheres Node Data Access Software, Software Specification Document*; Laboratory for Atmospheric and Space Physics, University of Colorado; Feb. 1989.

(7.) *Prototype Atmospheres Node Data Access Software, Acceptance Test Plan*; Laboratory for Atmospheric and Space Physics, University of Colorado; Feb. 1989.

(8.) *Prototype Atmospheres Node Data Access Software, User's Guide*; Laboratory for Atmospheric and Space Physics, University of Colorado; Feb. 1989.

(9.) *Prototype Fields and Particles Node, Software Requirements Document*; Institute of Geophysics and Planetary Physics, University of California at Los Angeles; Dec. 1988.

(10.) *Prototype Fields and Particles Node, Software Specification Document*; Institute of Geophysics and Planetary Physics, University of California at Los Angeles; Dec. 1988.

(11.) *Prototype Fields and Particles Node, Acceptance Test Plan*; Institute of Geophysics and Planetary Physics, University of California at Los Angeles; Feb. 1989.

(12.) *Prototype Fields and Particles Node, User's Guide*; Institute of Geophysics and Planetary Physics, University of California at Los Angeles; Nov. 1988.

(13.) *SPECIO System, Software Requirements Document*; U.S. Geological Survey, Branch of Astrogeology; December 1, 1987.

(14.) *SPECIO System, Software Specification Document*; U.S. Geological Survey, Branch of Astrogeology; Feb. 1989.

(15.) *SPECIO System, Acceptance Test Plan*; U.S. Geological Survey, Branch of Astrogeology; Feb. 1989.

(16.) *SPECIO System, User's Guide*; U.S. Geological Survey, Branch of Astrogeology; Feb. 1989.

(17.) *XGDATA Analysis and Retrieval System, Software Requirements Document*; U.S. Geological Survey, Branch of Astrogeology; December 1, 1987.

(18.) *XGDATA Analysis and Retrieval System, Software Specification Document*; U.S. Geological Survey, Branch of Astrogeology; Feb. 1989.

(19.) *XGDATA Analysis and Retrieval System, Acceptance Test Plan*; U.S. Geological Survey, Branch of Astrogeology; Feb. 1989.

(20.) *XGDATA Analysis and Retrieval System, User's Guide*; U.S. Geological Survey, Branch of Astrogeology; Feb. 1989.

Chapter 2

DESIGN METHODOLOGY

2.1 BACKGROUND

The PDS catalog design, described in this document, is the continuation of work begun during the Preliminary Design Phase of the system. This preliminary design has been documented in Chapter 3 of the *PDS Functional Design Document*. However, a brief review of the catalog preliminary design is given here to provide the background necessary for understanding the detailed design described in this document.

Database design can be considered to be a three step process, as shown in Figure 2-1. The first step consists of identifying, from all users of the system, the data items that need to be stored. From these requirements a formal specification of the data can be produced. This specification is called the conceptual database schema. A preliminary version of the PDS Data Dictionary defined all of the data elements that were thought to be required, and grouped these elements into structures called entities. In addition, the *PDS Functional Design Document* contained a series of Entity-Relationship diagrams which depicted all of the data dictionary entities and defined possible and plausible relationships between them. These relationships were only preliminary. Complete detailed specifications of the actual user requirements for data retrieval were yet to be done.

The second step in the database design process, reflected in this document, consists of using the conceptual schema to define the database logical relational schema. The Data Dictionary and the E/R diagrams provided the basis for this next design step. First, an extensive series of interviews with the PDS Version 1.0 user community was conducted. The methodology used in conducting these interviews is described in Section 2.2.1. This series of interviews resulted in a complete specification of user requirements for data retrieval, called user views, and a companion set of database tables. The details of this phase of the schema construction are described in Section 2.2.2.1. Then, to verify the correctness of the relational schema, revised versions of the E/R diagrams were produced, this time using the relationships required by the user views. The rules for constructing a logical relational schema [Teory, et.al., 1986] were then applied, as described in Section 2.2.2.2. As a result of this verification process, several modifications were made to the first schema and a final relational schema was constructed. Also, several additions and changes to the preliminary data dictionary were made to reflect the detailed design. These changes are included in Chapter 6 and the appendices of this document. The entire design process, from the definition of the user views through the final schema determination, is described in detail in Section 2.2 of this document.

The third and final step of the design process consists of defining the physical database schema. The logical schema documented herein is the basis for creating the physical schema.

2.2 DESIGN APPROACH

The first steps in the logical design phase consisted of specifying in detail the requirements of the PDS user community for data retrieval from the catalogs, and of developing from these requirements the initial relational database schema. This schema was then adjusted as required by the Logical Relational Design Methodology (LRDM). These steps are described in detail in the following sections.

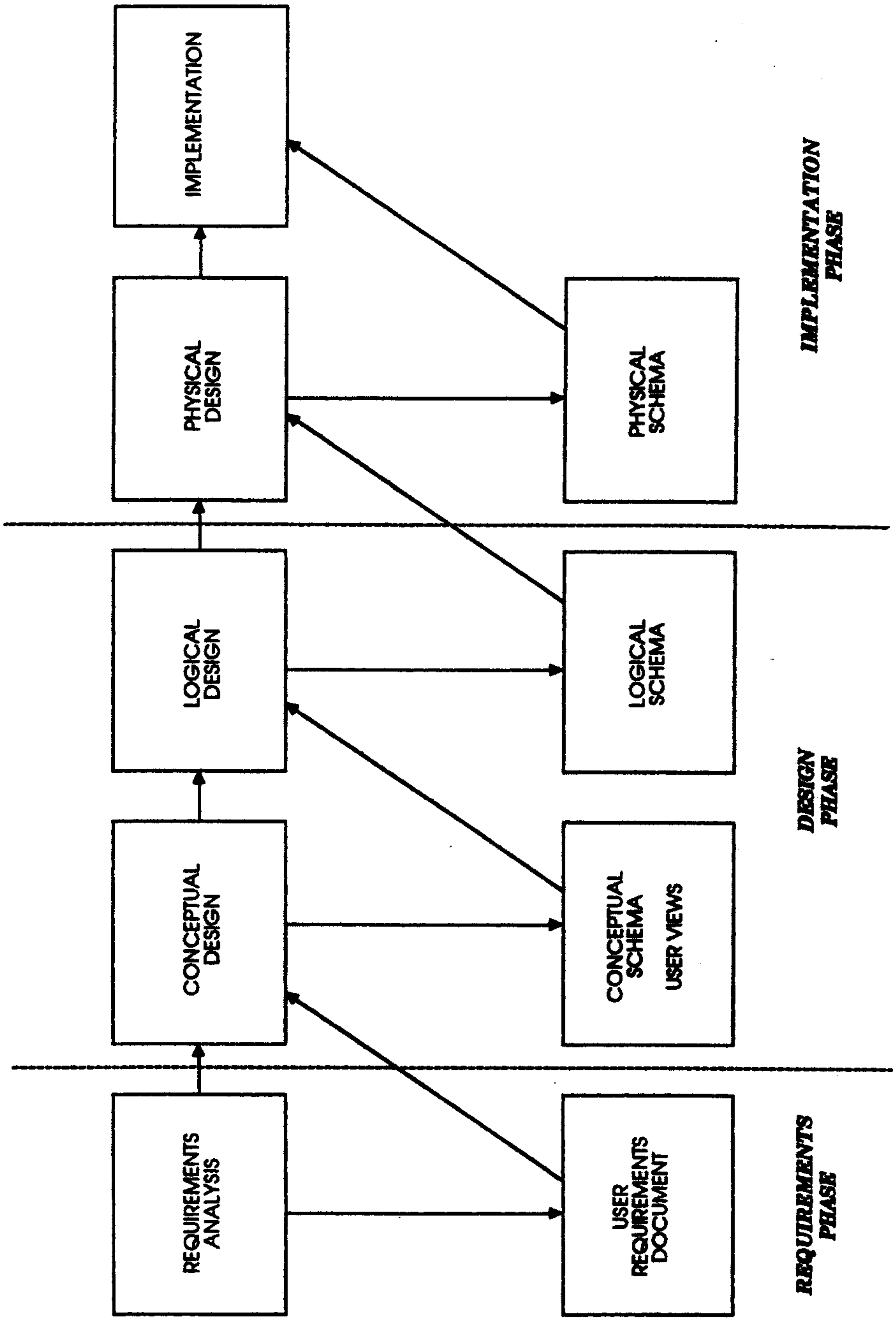

Figure 2–1: DATABASE DESIGN PROCESS

2.2.1 USER VIEW DEFINITIONS

A *user view* can be thought of as a formal construct which defines a set of questions which a particular user, or group of users, wishes to ask about data stored in a database. Essentially, a user view can be considered to consist of a set of information items which a system user expects to be able to provide as question constraints, and a set of information items which define expected results from the system. The system is successful only if these expectations about information input and output can be met. Thus, successful development of the user views requires extensive participation by the scientific user community in order to ascertain what these expectations are. Because the development staff is distinct from the user community, care must be taken to ensure that communication to obtain this information is clear, consistent, and complete.

During the logical design of the PDS Science Catalogs database, a structured approach was used to obtain science community input to design the science user views. This methodology was first developed during the design and implementation of the science catalog for Fields and Particles data, which was demonstrated at the November, 1987 Division for Planetary Sciences meeting. This methodology was used throughout the design of the high-level and detailed-level catalogs for PDS Version 1.0. Both the user views and the database structures were derived from the user inputs provided. By obtaining user input at every stage in the design of the user views, emphasis was placed on creating an end product which will closely parallel user expectations. The final user views formed the model for coding actual queries to be run against the database on the Sharebase 700 Database Management System.

Before this methodology for obtaining scientific community input can be used, there must be a defined set of information items which form the basis or space of data items about which user views can be developed. This space of items is the *information set*, and for PDS this has consisted of the element set present in the preliminary *PDS Data Dictionary*.

This methodology is comprised of the following steps:

(1.) Using the *information set*, the Data Engineering Team members create a *model question set*, which consists of English-language questions such as "What data sets were produced by a given instrument at a given target?" or "What were the data sampling characteristics of a particular instrument on a specified spacecraft?"

(2.) The *model question set* is discussed with the scientific user community in a series of face-to-face meetings. For these meetings, the Integrated Science Testbed Nodes (ISTN) are grouped into several subsets having somewhat similar scientific interests. This allows initial conflicts between discipline-specific approaches to be minimized while still providing the opportunity for development of cross-disciplinary questions.

(3.) Based on the scientific community's comments, the *model question set* is revised to create prototype *user views*. These user views consist primarily of lists of input and output items which the user would either be able to provide as query constraints or could retrieve from the database.

(4.) The prototype *user views* are again reviewed with the various subsets of the scientific community, and are further revised as necessary. This review is performed electronically for at least one pass, and then in more face-to-face meetings. These meetings are followed by teleconferences with the user community and more electronic reviews. Suggestions from each group are incorporated into the prototype user views before they are reviewed with the next subset of ISTN members. Finally, one meeting is held with as many node representatives as practicable to allow final design convergence.

2.2.2 SCHEMA DESIGN

The following two sections describe the design and verification of the database schema for the PDS Science Catalogs database schema.

2.2.2.1 SCHEMA CONSTRUCTION

The development of the database relational schema for the PDS catalogs has been a process consisting of the following three steps:

(1.) Construct the entity tables.

In the first step of the schema design, the conceptual entity structures were used to design the entity tables, i.e. the relational tables that model an entity. Each entity structure was studied in detail, mainly focusing on the role of a group of elements within the entity. The data dictionary and the conceptual schema E/R diagrams were used to clarify these roles. The roles then determined the design of the entity tables. For example, an identification group, such as that for a spacecraft instrument, contained elements that would be used as key components for all entity tables designed for the spacecraft instrument entity.

The first of the tables designed contained general information about the entity. One or more non-repeating entity groups may have been incorporated into this table. For example, the instrument physical characteristics group, containing instrument elements such as mass, length, and serial number, was included in the instrument general information table called *instinfo*. The majority of the remaining groups in an entity were often repeating groups and typically contained information about components of the entity. Each of these groups was implemented as a new table. For example, an instrument's filter and detector information formed two separate tables.

The description elements were modeled using a unique table for each description type. This was because of an implementation restriction of the Sharebase 700 DBMS, which forces the partitioning of an unlimited text field into repeating fixed size text fields. The necessary ordering was accomplished through the use of a sequence number.

(2.) Define preliminary user views and construct relationship tables.

The second step of schema construction involved the model question set referred to in Section 2.2.1. This set allowed the expansion of the schema design to include the relationship tables which were required to model the relationships existing between entities. The user views, the data dictionary descriptions and entity structures were used to determine the cardinality of the relationships. One-to-one and one-to-many mappings simply required the addition of a foreign key to an existing entity table. For example, the one-to-one mapping between a person and a node was handled by adding the node identifier to the person information table. A one-to-many mapping, such as between a target and events, required the addition of the target identifier to the event information table. New tables were required to reflect many-to-many mappings, such as between nodes and data sets. In this case, a single table was defined containing pairs of the data set and node identification elements.

(3.) Interview the user community and modify the schema as necessary.

The third step of the schema construction was dependent on the user interviews (Section 2.2.1., steps 2 through 4). As resulting modifications were incorporated into new versions of the user views, the modifications were analyzed to determine their impact on the schema design. The resulting schema modifications were made and the interviews were continued. The majority of the user view modifications did not impact the schema design, and, as the number of modifications became fewer, there was convergence to a stable relational schema. This entire process is depicted in Figure 2-2.

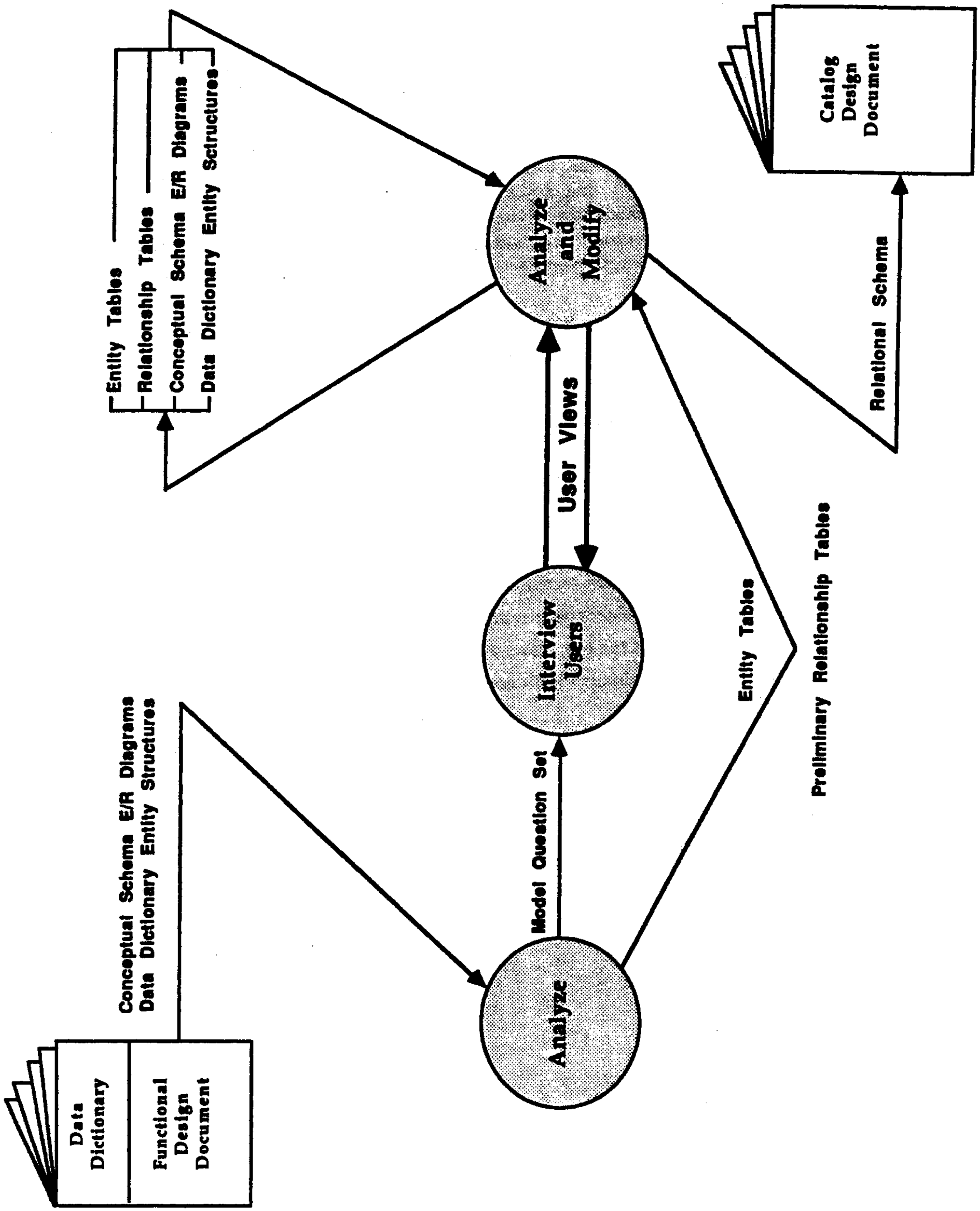

Figure 2–2: LOGICAL SCHEMA CONSTRUCTION PROCESS

2.2.2.2 SCHEMA VERIFICATION

The methodology used to verify the relational schema constructed from the user views is described fully in *A Logical Design Methodology for Relational Databases Using the Extended Entity Relationship Model*, by Teory, Yang, and Fry, appearing in Computing Surveys, Vol. 18, No. 2, June 1986. This methodology, called the Logical Relational Design Methodology (LRDM), adds some additional semantic constructs to the basic Entity- Relationship Model, originally developed by Peter Chen in 1976, to produce an extended E/R (EER) schema. The EER schema is then decomposed according to a prescribed set of rules to yield a relational schema which is in third normal form.

The following paragraph summarizes the LRDM process:

Step 1: Construct an Extended E/R (EER) schema.

(1.) Classify entities and attributes.

(2.) Identify generalization hierarchies and subset hierarchies.

(3.) Define relationships.

(4.) Integrate multiple views of entities, attributes, and relationships.

Step 2: Transform the EER schema into a Relational schema.

(1.) Construct a relation for every entity.

(2.) Construct a relation for every ternary or higher relationship.

(3.) Construct a relation for binary relationships as follows:

- (a.) Construct a relation for every many-to-many binary relationship.
- (b.) For all one-to-many binary relationships, a foreign key must appear in the entity on the many side.
- (c.) For all one-to-one binary relationships, a foreign key can appear in either of the two entities.

The validation procedure used to check the catalog database schema initially created was as follows. First, EER schema diagrams were created showing the entities and relationships identified in the user views. Then, all of the database tables in the preliminary relational schema were assigned to either an entity, or a relationship, according to Step 2 of the methodology. Any tables which did not fit the model were re-examined to see if they could be combined into others, and new tables were created where needed, resulting in the final catalog schema. The complete catalog schema is shown in Chapter 4.

Chapter 3

MENUS AND USER VIEWS

3.1 INTRODUCTION

This Chapter contains a complete specification of the user views of the Science Catalogs, determined by the methodology described in Section 2.2.1 of this document. The user views are organized into three groups: those for the High Level Catalog, the Detailed Level Catalogs, and the System Data. The Detailed Level Catalogs include the Image Detailed Level Catalog and the Fields and Particles Detailed Level Catalog. System data are data that are used by system software in the implementation of system functions, such as Order Data, or Customer Support. A description of the PDS catalogs can be found in Chapter 4 of this document. Within each of these divisions, user views are grouped according to the data dictionary entities on which they focus. For example, eleven user views were developed for retrieving information about instruments. These range from a user view that gives general information about an instrument to those that supply information about the instrument subsystems and the data sets produced by the instrument. Many user views relate data from two or more data dictionary entities. Where two entities are closely related, for instance mission and spacecraft, or node and personnel, the user views have been combined into one group.

Each user view group is introduced by a menu consisting of the enumerated user view names. The user view menus exist in a hierarchy of menus, giving the user the capability to navigate systematically through the menus, determine the best user view for retrieving the desired information, and then invoke the selected user view. In many cases, the desired information may be retrieved through more than one user view. For example, there are five user views which have data sets as their focus. Each will retrieve associated data sets from different but overlapping perspectives.

The user views provide a functional user interface for retrieving data from the catalogs. As such, they allow the user to input values for elements which define a data dictionary entity, such as spacecraft_id or instrument_name. Any or all of the input parameters of a user view may be entered by the user. For character strings, wild card sequences may be entered. In the case of floating points elements, pairs of values may be entered to designate ranges. The user view output always includes the values selected for the input parameters as well as any additional output only information. A complete explanation of the user interface can be found in the PDS *User's Guide*.

The individual user views are displayed with input parameters in the left hand column and output values in the right hand column. Those input parameters which require user input are indicated by an 'R' preceding the input parameter name. Input parameter ranges associated with floating point elements are generally specified with minimum and maximum qualifiers. In some cases minimum and maximum elements exist as data dictionary elements. For example, minimum_longitude and maximum_longitude exist in the event entity to specify spatial extent. In other cases minimum and maximum input parameters are specified using the terms "min" and "max" as qualifiers for the data dictionary element. For example, within the target entity user views, bond_albedo may be selected using the input parameter range bond_albedo(min) and bond_albedo(max).

For many input and output parameters, a display alias is shown rather than the actual element name. For example, bond_albedo (min), bond_albedo (max), and start_of_hour are all display aliases. In the specifications, an asterisk (*) is used to designate the display aliases, and a cross reference in Appendix A maps display aliases to the element names. Some input parameters allow the input of either of two types of values in a single input field. These input parameters include an 'or' in the parameter name. For example, the data_set_id_or_name input parameter allows either the data set id or the data set name to be entered. Finally, the values entered for input parameters will be retained as succeeding user views are invoked. For example, a target name entered as an input parameter in the General Data Set Information user view, will be available for use in the Instrument Associated Data Set user view without reentry.

3.2 HIGH LEVEL CATALOG

3.2.1 DATA SET AND PRODUCT INFORMATION

(1.) GENERAL DATA SET INFORMATION

(2.) DATA SET DISTRIBUTION INFORMATION

(3.) DATA SET DESCRIPTIONS

(4.) DATA SET PARAMETERS BRIEF INFORMATION

(5.) DATA SET PARAMETERS FULL INFORMATION

(6.) DERIVED PARAMETERS

(7.) DATA SET RELATED PROCESSING SOFTWARE

3.2.1.1 GENERAL DATA SET INFORMATION

User View Terse Name: hdsinfo

The General Data Set Information user view allows the input of parameters that characterize a data set. These include values that specify data sets, instrument hosts, instruments, targets, or data parameters. The user view output consists of the selected values for the input parameters as well as flags signifying whether detailed information or PIN software exists for the data set.

Input:	Output:
data_set_id_or_name	data_set_id
	data_set_name
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
instrument_type	instrument_type
target_name	target_name
event_start_time	event_start_time
event_stop_time	event_stop_time
native_start_time	native_start_time
native_stop_time	native_stop_time
data_object_type	data_object_type
sampling_parameter_name	sampling_parameter_name
sampling_parameter_interval(min) *	sampling_parameter_interval
sampling_parameter_interval(max) *	
	sampling_parameter_unit
distributor *	distributor *
producer_full_name	producer_full_name
data_set_parameter_name	data_set_parameter_name
processing_level_id	processing_level_id
	processing_start_time
	processing_stop_time
	data_set_release_date
	software_flag
	detailed_catalog_flag

3.2.1.2 DATA SET DISTRIBUTION INFORMATION

User View Terse Name: hdsdstninfo

The Data Set Distribution Information user view allows the input of parameters which specify a data set. The user view output consists of the selected values for the input parameters as well as information about the principal investigator, the data distributor, and the data producer.

Input:	Output:
data_set_id_or_name	data_set_id data_set_name principal_investigator * distributor * node_manager * instrument_host_id instrument_id producer * producer_location *

3.2.1.3 DATA SET DESCRIPTIONS

(1.) DATA SET DESCRIPTION

(2.) CONFIDENCE LEVEL NOTE

(3.) MEASUREMENT SOURCE DESCRIPTION

(4.) MEASUREMENT ATMOSPHERE DESCRIPTION

(5.) MEASUREMENT STANDARD DESCRIPTION

(6.) MEASUREMENT WAVELENGTH CALIBRATION DESCRIPTION

(7.) PROCESSING LEVEL DESCRIPTION

(8.) REFERENCES

3.2.1.3.1 DATA SET DESCRIPTION

User View Terse Name: hdsd

The Data Set Description user view allows the input of a data set id or a data set name. The output of the user view consists of the data set description. This description describes the content and type of a data set and provides information required to use the data.

Input:	Output:
data_set_id_or_name	data_set_id data_set_name data_set_desc

3.2.1.3.2 CONFIDENCE LEVEL NOTE

User View Terse Name: hconfivlnt

The Confidence Level Note user view allows the input of a data set id or a data set name. The output of the user view consists of the confidence level note associated with the data set. A confidence level note characterizes the reliability of the data with the data set.

Input:	Output:
data_set_id_or_name	data_set_id data_set_name confidence_level_note

3.2.1.3.3 MEASUREMENT SOURCE DESCRIPTION

User View Terse Name: hdsmeassrcd

The Measurement Source Description user view allows the input of a data set id or a data set name. The output of the user view consists of the measurement source description. This description describes the source of a laboratory or observatory generated data set.

Input:	Output:
data_set_id_or_name instrument_host_id_or_name instrument_id_or_name	data_set_id data_set_name instrument_host_id instrument_host_name instrument_id instrument_name measurement_source_desc

3.2.1.3.4 MEASUREMENT ATMOSPHERE DESCRIPTION

User View Terse Name: hdsmeasatmd

The Measurement Atmosphere Description user view allows the input of a data set id or a data set name. The output of the user view consists of the measurement atmosphere description. This description describes the atmospheric conditions through which ground data where taken.

Input:	Output:
data_set_id_or_name instrument_host_id_or_name instrument_id_or_name	data_set_id data_set_name instrument_host_id instrument_host_name instrument_id instrument_name measurement_atmosphere_desc

3.2.1.3.5 MEASUREMENT STANDARD DESCRIPTION

User View Terse Name: hdsmeasstdd

The Measurement Standard Description user view allows the input of a data set id or a data set name. The output of the user view consists of the measurement standard description. This description identifies the standard object on which observations are performed in order to calibrate an instrument.

Input:	Output:
data_set_id_or_name	data_set_id
instrument_host_id_or_name	data_set_name
instrument_id_or_name	instrument_host_id
	instrument_host_name
	instrument_id
	instrument_name
	measurement_standard_desc

3.2.1.3.6 MEASUREMENT WAVELENGTH CALIBRATION DESCRIPTION

User View Terse Name: hdswvcalibd

The Measurement Wavelength Calibration Description user view allows the input of a data set id or a data set name. The output of the user view consists of the measurement wavelength calibration description. This description identifies the technique and procedures used to calibrate wavelength.

Input:	Output:
data_set_id_or_name	data_set_id
instrument_host_id_or_name	data_set_name
instrument_id_or_name	instrument_host_id
	instrument_host_name
	instrument_id
	instrument_name
	measurement_wave_calbrt_desc

3.2.1.3.7 PROCESSING LEVEL DESCRIPTION

User View Terse Name: hdsproclvld

The Processing Level Description user view allows the input of a processing level id. The output of the user view consists of the processing level description. This description defines the processing level of a set of data according to the CODMAC standard.

Input:	Output:
processing_level_id	processing_level_id
	processing_level_desc

3.2.1.3.8 REFERENCES

User View Terse Name: hdsref

The References user view allows the input of parameters that identify a data set. The output of the user view consists of all references associated with the data set.

Input:	Output:
data_set_id_or_name	data_set_id
	data_set_name
	reference_key_id
	reference_citation *

3.2.1.4 DATA SET PARAMETERS BRIEF INFORMATION

User View Terse Name: hdsprmbinfo

The Data Set Parameters - Brief Description user view allows the input of parameters which specify a data set or its data parameters. The user view output consists of the selected values for the input parameters as well as a text description of the data parameters.

Input:	Output:
data_set_id_or_name	data_set_id
	data_set_name
data_set_parameter_name	data_set_parameter_name
sampling_parameter_name	sampling_parameter_name
	data_set_or_inst_parm_desc

3.2.1.5 DATA SET PARAMETERS FULL INFORMATION

User View Terse Name: hdsprmfinfo

The Data Set Parameters - Full Description user view allows the input of parameters which specify a data set, its data parameters, or their minimum and maximum allowed values. The user view output consists of the selected values for the input parameters as well as a text description of the data parameters, their unit of measurement, and their minimum, maximum, interval, and resolution values.

Input:	Output:
data_set_id_or_name	data_set_id
	data_set_name
data_set_parameter_name	data_set_parameter_name
	noise_level
	noise_level_unit *
sampling_parameter_name	sampling_parameter_name
minimum_sampling_parameter(min) *	minimum_sampling_parameter
minimum_sampling_parameter(max) *	
maximum_sampling_parameter(min) *	maximum_sampling_parameter
maximum_sampling_parameter(max) *	
	sampling_parameter_interval
	sampling_parameter_resolution
	minimum_available_sampling_int
	sampling_parameter_unit
	data_set_or_inst_parm_desc

3.2.1.6 DERIVED PARAMETERS

User View Terse Name: hdrvparm

The Derived Parameter user view allows the input of parameters which specify data set or instrument parameters, spacecraft, or targets. The user view output consists of the selected values for the input parameters as well as associated instruments, data sets, and sampling parameters.

Input:	Output:
data_set_or_instrument_parm_nm	data_set_parameter_name
	instrument_parameter_name
	important_instrument_parms
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
target_name	target_name
	data_set_id
	data_set_sampling_parameter_name *
	data_set_sampling_parameter_interval *
	data_set_sampling_parameter_unit *

3.2.1.7 DATA SET RELATED PROCESSING SOFTWARE

User View Terse Name: hdsrelsw

The Data Set Related Processing Software user view allows the input of parameters that are associated with data set processing software. These include values that identify source data sets, product data sets, nodes, or software. The user view output consists of the selected values for the input parameters as well as additional information about the software including its release date, accessibility, and description. The name of a person cognizant with the software is also given.

Input:	Output:
source_data_set_id	source_data_set_id
software_name	software_name
product_data_set_id	product_data_set_id
software_type	software_type
node_id	node_id
	software_release_date
	cognizant_full_name
	software_accessability_desc
	software_desc

3.2.2 OBSERVED EVENT INFORMATION

(1.) GENERAL OBSERVED EVENT INFORMATION

(2.) OBSERVED EVENT DESCRIPTION

(3.) SPATIAL EXTENT OF EVENT ON TARGET

3.2.2.1 GENERAL OBSERVED EVENT INFORMATION

User View Terse Name: hevtinfo

The General Observed Event Information user view allows the input of parameters that are associated with events. These include values that specify events, instrument hosts, targets, or event time ranges. The user view output consists of the selected values for the input parameters as well as event locations and instruments which produced data sets which can be used to study that event.

Input:	Output:
R event_type	event_type
event_name	event_name
target_name	target_name
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
event_start_time	event_start_time
event_stop_time	event_stop_time
	instrument_id
	coordinate_system_id
	vector_component_id_1
	vector_component_1
	vector_component_id_2
	vector_component_2
	vector_component_id_3
	vector_component_3
	local_hour_angle
	position_time

3.2.2.2 OBSERVED EVENT DESCRIPTION

User View Terse Name: hevtd

The Observed Event Description user view allows the input of a parameter which identifies event types. The user view output consists of the selected event types and their descriptions.

Input:	Output:
event_type	event_type
	event_type_desc

3.2.2.3 SPATIAL EXTENT OF EVENT ON TARGET

User View Terse Name: hevtspatial

The Spatial Extent Of Event On Target user view allows the input of parameters that are associated with events. These include values that specify events, targets, instrument hosts, time ranges, or regions specified by latitude-longitude pairs. The user view output consists of the selected values for the input parameters, and the retrieved values for those parameters which were not specified.

Input:	Output:
R event_type	event_type
event_name	event_name
target_name	target_name
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
event_start_time	event_start_time
event_stop_time	event_stop_time
minimum_latitude	minimum_latitude
maximum_latitude	maximum_latitude
minimum_longitude	minimum_longitude
maximum_longitude	maximum_longitude
	position_time

3.2.3 PDS NODE AND PERSONNEL INFORMATION

(1.) GENERAL NODE INFORMATION

(2.) NODE MANAGER INFORMATION

(3.) NODE OPERATIONS CONTACT INFORMATION

(4.) NODE DATA ADMINISTRATION CONTACT INFORMATION

(5.) PERSONNEL AFFILIATIONS

(6.) PERSONNEL INFORMATION

(7.) NODE ASSOCIATED DATA SETS

(8.) DISCIPLINE DESCRIPTION

3.2.3.1 GENERAL NODE INFORMATION

User View Terse Name: hnodeinfo

The General Node Information user view allows the input of parameters that are associated with a node. These include values that identify a node or an institution, or specify a discipline. The user view output consists of the selected values for the input parameters as well as the names of the node manager, operations contact, and data administration contact. A brief node description is also supplied.

Input:	Output:
node_id	node_id
node_institution_name	node_institution_name
node_name	node_name
discipline_name	discipline_name
	node_manager *
	operations_contact *
	data_administration_contact *
	node_desc

3.2.3.2 NODE MANAGER INFORMATION

User View Terse Name: hndmgrinfo

The Node Manager Information user view allows the input of parameters that relate to nodes or subnodes and their managers. These include values that identify affiliated people, nodes, institutions, or the disciplines associated with the nodes. The user view output consists of the selected values for the input parameters as well as the names, addresses, telephone numbers, and up to three electronic mail pathways for contacting the node managers.

Input:	Output:
node_id	node_id
node_institution_name	node_institution_name
node_name	node_name
discipline_name	discipline_name
	node_manager *
	telephone_number
	electronic_mail_type
	electronic_mail_id
	preference_id
	node_manager_mailing_address *
person_at_node *	person_at_node *

3.2.3.3 NODE OPERATIONS CONTACT INFORMATION

User View Terse Name: hndctcinfo

The Node Operations Contact Information user view allows the input of parameters that relate to nodes or subnodes and their points of contact. These include values that identify affiliated people, nodes, institutions, or the disciplines associated with the nodes. The user view output consists of the selected values for the input parameters as well as the names, addresses, and telephone numbers of the node contacts and up to three electronic mail pathways.

Input:	Output:
node_id	node_id
node_institution_name	node_institution_name
node_name	node_name
discipline_name	discipline_name
	operations_contact *
	telephone_number
	electronic_mail_type
	electronic_mail_id
	preference_id
	operations_contact_mailing_address *
person_at_node *	person_at_node *

3.2.3.4 NODE DATA ADMINISTRATION CONTACT INFORMATION

User View Terse Name: hnddainfo

The Node Data Administration Contact Information user view allows the input of parameters that may be associated with a person designated as the contact for data administration personnel . The output of the user view consists of the selected values for the input parameters as well as the names, addresses, and telephone numbers of the contact person.

Input:	Output:
node_id	node_id
node_institution_name	node_institution_name
node_name	node_name
discipline_name	discipline_name
	data_administration_contact *
	telephone_number
	electronic_mail_type
	electronic_mail_id
	preference_id
	data_admin_contact_mailing_address *
person_at_node *	person_at_node *

3.2.3.5 PERSONNEL AFFILIATIONS

User View Terse Name: hpersaffil

The Personnel Affiliations user view allows the input of parameters that are associated with persons registered with PDS. These include values that specify nodes, institutions, missions, spacecraft, instruments or tasks with which a person may have been involved. The user view output consists of the selected values for the input parameters as well as names for all selected people.

Input:	Output:
person_institution_name	person_institution_name
node_name	node_name
node_id	node_id
mission_name_or_alias	mission_name
	mission_alias_name
spacecraft_id_or_name	spacecraft_id
	spacecraft_name *
instrument_id_or_name	instrument_id
	instrument_name
task_name	task_name
expertise_area_type	mission_expertise *
	task_expertise *
	person_at_node *

3.2.3.6 PERSONNEL INFORMATION

User View Terse Name: hpersinfo

The Personnel Information user view allows the input of parameters that identify persons associated with PDS. These include values that specify persons, nodes, or institutions. The user view output consists of the selected values for the input parameters as well as contact information and all involvement with missions, tasks, and nodes.

Input:	Output:
user_full_name *	user_full_name *
person_institution_name	person_institution_name
node_id	node_id
node_name	node_name
	mailing_address *
	telephone_number
	fts_number
	electronic_mail_type
	electronic_mail_id
	preference_id
	mission_name
	spacecraft_id
	instrument_id
	mission_expertise *
	mission_specialty *
	mission_role *
	task_name
	task_expertise *
	task_specialty *
	task_role *
	personnel_shipping_carrier_nam

3.2.3.7 NODE ASSOCIATED DATA SETS

User View Terse Name: hnodeds

The Node Associated Data Sets user view allows the input of parameters that identify data sets. These include values that specify particular data sets, nodes, or disciplines. The user view output consists of the selected values for the input parameter as well as the associated spacecraft, instruments, and targets.

Input:	Output:
node_name	node_name
node_id	node_id
discipline_name	discipline_name
data_set_id_or_name	data_set_id
	data_set_name
	instrument_host_id
	instrument_id
	target_name

3.2.3.8 DISCIPLINE DESCRIPTION

User View Terse Name: hdiscd

The Discipline Description user view allows the input of a value that identifies disciplines. The user view output consists of the selected discipline names and their descriptions.

Input:	Output:
discipline_name	discipline_name
	discipline_desc

3.2.4 INSTRUMENT INFORMATION

(1.) GENERAL INSTRUMENT INFORMATION

(2.) INSTRUMENT DESCRIPTIONS

(3.) MODE DEPENDENT MEASUREMENT PARAMETERS

(4.) INSTRUMENT MODE CHARACTERISTICS

(5.) FILTER INFORMATION

(6.) DETECTOR INFORMATION

(7.) OPTICAL PARAMETERS

(8.) PLATFORM OR MOUNTING INFORMATION

(9.) INSTRUMENT PHYSICAL CHARACTERISTICS

(10.) INSTRUMENT INFORMATION REFERENCES

(11.) INSTRUMENT ASSOCIATED DATA SETS

3.2.4.1 GENERAL INSTRUMENT INFORMATION

User View Terse Name: hinstinfo

The General Instrument Information user view allows the input of parameters that are associated with instruments. These include values that specify instruments, instrument hosts, targets, and parameters. The user view output consists of the selected values for the input parameters as well as principal investigators and associated institutions.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
instrument_type	instrument_type
target_name	target_name
instrument_parameter_name	instrument_parameter_name
	principal_investigator *
	principal_investigator_location *

3.2.4.2 INSTRUMENT DESCRIPTIONS

(1.) INSTRUMENT DESCRIPTION

(2.) SCIENTIFIC OBJECTIVES SUMMARY

(3.) OPERATIONAL CONSIDERATIONS DESCRIPTION

(4.) INSTRUMENT CALIBRATION DESCRIPTION

(5.) ELECTRONICS DESCRIPTION

3.2.4.2.1 INSTRUMENT DESCRIPTION

User View Terse Name: hinstd

The Instrument Description user view allows the input of parameters that identify an instrument. The output of the user view consists of the instrument description.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
	instrument_desc

3.2.4.2.2 SCIENTIFIC OBJECTIVES SUMMARY

User View Terse Name: hinstsciobj

The Scientific Objectives Summary user view allows the input of parameters that identify an instrument. The output of the user view consists of the scientific objectives summary. This summary explains the science gathering purposes for a particular type of observation, for a particular observation sequence or for which an instrument was designed.

Input:	Output:
instrument_host_id_or_name	instrument_host_id instrument_host_name
instrument_id_or_name	instrument_id instrument_name scientific_objectives_summary

3.2.4.2.3 OPERATIONAL CONSIDERATIONS DESCRIPTION

User View Terse Name: hinstoperd

The Operational Considerations Description user view allows the input of parameters that identify an instrument. The output of the user view consists of the operational considerations description. This description briefly describes the operational characteristics which affect the measurements made by an instrument.

Input:	Output:
instrument_host_id_or_name	instrument_host_id instrument_host_name
instrument_id_or_name	instrument_id instrument_name operational_consid_desc

3.2.4.2.4 INSTRUMENT CALIBRATION DESCRIPTION

User View Terse Name: hinstcalibd

The Instrument Calibration Description user view allows the input of parameters that identify an instrument. The output of the user view consists of the instruments calibration description . This description explains the method of calibrating an instrument and identifies reference documents which explain in detail the calibration of the instrument.

Input:	Output:
instrument_host_id_or_name	instrument_host_id instrument_host_name
instrument_id_or_name	instrument_id instrument_name instrument_calibration_desc

3.2.4.2.5 ELECTRONICS DESCRIPTION

User View Terse Name: hinstelecd

The Electronics Description user view allows the input of parameters that identify an instrument. The output of the user view describes the electronics associated with a given instrument.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
	electronics_id
	electronics_desc

3.2.4.3 MODE DEPENDENT MEASUREMENT PARAMETERS

(1.) MODE DEPENDENT MEASUREMENT PARAMETERS

(2.) INSTRUMENT PARAMETER DESCRIPTION

(3.) INSTRUMENT MODE DESCRIPTION

3.2.4.3.1 MODE DEPENDENT MEASUREMENT PARAMETERS

User View Terse Name: hinstmdprm

The Mode Dependent Measurement Parameters user view allows the input of parameters that identify instrument parameters. The output of the user view consists of the selected values for the input parameters as well as parameter units and minimum and maximum parameter values.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
instrument_type	instrument_type
instrument_mode_id	instrument_mode_id
section_id	section_id
instrument_parameter_name	instrument_parameter_name
	minimum_value(dynamic_range) *
	maximum_value(dynamic_range) *
	instrument_parameter_unit
sampling_parameter_name	sampling_parameter_name
	sampling_parameter_resolution
	minimum_sampling_parameter
	maximum_sampling_parameter
	sampling_parameter_interval
	sampling_parameter_unit

3.2.4.3.2 INSTRUMENT PARAMETER DESCRIPTION

User View Terse Name: hinstparmd

The Instrument Parameter Description user view allows the input of parameters that identify an instrument parameter. The output of the user view describes the data parameters which were measured by an instrument.

Input:	Output:
instrument_parameter_name	instrument_parameter_name data_set_or_inst_parm_desc

3.2.4.3.3 INSTRUMENT MODE DESCRIPTION

User View Terse Name: hinstmoded

The Instrument Mode Description user view allows the input of parameters that identify an instrument mode. The output of the user view describes the mode of operation of an instrument.

Input:	Output:
instrument_host_id_or_name	instrument_host_id instrument_host_name
instrument_id_or_name	instrument_id instrument_name
instrument_mode_id	instrument_mode_id instrument_mode_desc

3.2.4.4 INSTRUMENT MODE CHARACTERISTICS

User View Terse Name: hinstmdchar

The Instrument Mode Characteristics user view allows the input of parameters that identify instrument modes. These include values that specify instruments, instrument hosts, and instrument modes. The user view output consists of the selected values for the input parameters as well as information about fields of view, data paths, detectors and filters.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
instrument_type	instrument_type
instrument_mode_id	instrument_mode_id
	data_path_type
	gain_mode_id
	instrument_power_consumption
section_id	section_id
	total_fovs
	data_rate
	scan_mode_id
	sample_bits
	fov_shape_name
	fovs
	horizontal_pixel_fov
	vertical_pixel_fov
	horizontal_fov
	vertical_fov
	detector_id
	filter_name
	telescope_id

3.2.4.5 FILTER INFORMATION

User View Terse Name: hinstfilt

The Filter Information user view allows the input of parameters that are associated with filters. These include values that specify instruments, instrument hosts, unique filters, and wavelength ranges. The user view output consists of the selected values for the input parameters as well as further information about the wavelengths including calibration descriptions.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
instrument_type	instrument_type
	section_id
filter_name	filter_name
filter_type	filter_type
filter_number	filter_number
minimum_wavelength	minimum_wavelength
maximum_wavelength	maximum_wavelength
	center_filter_wavelength
	measurement_wave_calbrt_desc

3.2.4.6 DETECTOR INFORMATION

(1.) DETECTOR CHARACTERISTICS

(2.) DETECTOR DESCRIPTION

(3.) SENSITIVITY DESCRIPTION

3.2.4.6.1 DETECTOR CHARACTERISTICS

User View Terse Name: hinstdet

The Detector Characteristics user view allows the input of parameters that are associated with instrument detectors. These include values that specify instruments, instrument hosts, and optics. The user view output consists of the selected values for the input parameters as well as further information about the optics including a textual description of the instrument optics.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
instrument_type	instrument_type
	section_id
detector_type	detector_type
detector_id	detector_id
minimum_wavelength	minimum_wavelength
maximum_wavelength	maximum_wavelength
	detector_aspect_ratio
	nominal_operating_temperature

3.2.4.6.2 DETECTOR DESCRIPTION

User View Terse Name: hinstdetd

The Detector Description user view allows the input of parameters that identify a detector. The output of the user view describes an instrument's detector.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
detector_id	detector_id
	detector_desc

3.2.4.6.3 SENSITIVITY DESCRIPTION

User View Terse Name: hinstsensd

The Sensitivity Description user view allows the input of parameters that identify a detector. The output of the user view consists of the sensitivity description. This description describes the response threshold of the detector.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
detector_id	detector_id
	sensitivity_desc

3.2.4.7 OPTICAL PARAMETERS

User View Terse Name: hinstoptics

The Optical Parameters user view allows the input of parameters that are associated with the optics of instruments. These include values that specify instruments, instrument hosts, and optics. The user view output consists of the selected values for the input parameters as well as further information about the optics including a text description of the instrument optics.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
instrument_type	instrument_type
	section_id
telescope_id	telescope_id
telescope_resolution(min) *	telescope_resolution
telescope_resolution(max) *	
	telescope_diameter
	telescope_f_number
	telescope_focal_length
	telescope_serial_number
	telescope_t_number
	telescope_t_number_error
	telescope_transmittance
	optics_desc

3.2.4.8 PLATFORM OR MOUNTING INFORMATION

User View Terse Name: hinstplat

The Platform or Mounting Information user view allows the input of parameters that identify instrument mountings or platforms. These include values that specify instruments, instrument hosts, and mountings or platforms. The user view output consists of the selected values for the input parameters as well as offset angles defining an instrument's mounting geometry, and a text description of the instrument mounting.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
instrument_type	instrument_type
platform_or_mounting_name	platform_or_mounting_name
	cone_offset_angle
	cross_cone_offset_angle
	twist_offset_angle
	latitude
	longitude
	instrument_mounting_desc

3.2.4.9 INSTRUMENT PHYSICAL CHARACTERISTICS

User View Terse Name: hinstchr

The Instrument Physical Characteristics user view allows the input of parameters that identify instruments. The user view output consists of the selected values for the input parameters as well as characteristics of the instrument such as mass, height and width.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
instrument_type	instrument_type
	build_date
	instrument_mass
	instrument_length
	instrument_width
	instrument_height
	instrument_serial_number
	instrument_manufacturer_name

3.2.4.10 INSTRUMENT INFORMATION REFERENCES

User View Terse Name: hinstref

The Instrument Information References user view allows the input of parameters that identify instruments or document topics. The user view output consists of the selected values for the input parameters as well as associated reference information.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
instrument_type	instrument_type
document_topic_type	document_topic_type
	SPICE_kernel_data_set *
	reference_key_id
	reference_citation *

3.2.4.11 INSTRUMENT ASSOCIATED DATA SETS

User View Terse Name: hinstds

The Instrument Associated Data Sets user view allows the input of parameters that relate to data sets. These include values that specify instruments, instrument hosts, targets, parameters, and data sets. The user view output consists of the selected values for the input parameters, and the retrieved values for those parameters which were not specified.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
instrument_id_or_name	instrument_id
	instrument_name
instrument_type	instrument_type
target_name	target_name
instrument_parameter_name	instrument_parameter_name
	instrument_parameter_unit
data_set_parameter_name	data_set_parameter_name
	data_set_parameter_unit
data_set_id_or_name	data_set_id
	data_set_name

3.2.5 MISSION AND SPACECRAFT INFORMATION

(1.) GENERAL MISSION AND SPACECRAFT INFORMATION

(2.) SPACECRAFT AND INSTRUMENT DESCRIPTIONS

(3.) MISSION PHASE INFORMATION

(4.) MISSION AND SPACECRAFT INFORMATION REFERENCES

(5.) MISSION AND SPACECRAFT ASSOCIATED DATA SETS

3.2.5.1 GENERAL MISSION AND SPACECRAFT INFORMATION

User View Terse Name: hmsnscinfo

The General Mission and Spacecraft Information user view allows the input of parameters that characterise missions or spacecraft. These include values that specify missions, spacecraft, launch dates, or targets. The user view output consists of the selected values for the input parameters as well as mission phase, spacecraft operations type, and platform or mounting information.

Input:	Output:
spacecraft_id_or_name	spacecraft_id
	spacecraft_name *
launch_date	launch_date
mission_name_or_alias	mission_name
	mission_alias_name
	mission_start_date
	mission_stop_date
target_name	target_name
	mission_phase_type
	spacecraft_operations_type
	mission_phase_start_time
	mission_phase_stop_time
	platform_or_mounting_name

3.2.5.2 SPACECRAFT AND INSTRUMENT DESCRIPTIONS

(1.) SPACECRAFT AND INSTRUMENT MOUNTINGS

(2.) SPACECRAFT DESCRIPTION

(3.) PLATFORM OR MOUNTING DESCRIPTION

(4.) SPACECRAFT INSTRUMENT DESCRIPTION

(5.) MISSION DESCRIPTION

(6.) MISSION OBJECTIVES SUMMARY

3.2.5.2.1 SPACECRAFT AND INSTRUMENT MOUNTINGS

User View Terse Name: hscinstmnt

The Spacecraft and Instrument Mountings user view allows the input of parameters that identify spacecraft, missions, instruments, platforms or mountings. The output of the user view consists of the selected values for the input parameters.

Input:	Output:
spacecraft_id_or_name	spacecraft_id
	spacecraft_name *
instrument_id_or_name	instrument_id
	instrument_name
instrument_type	instrument_type
mission_name_or_alias	mission_name
	mission_alias_name
platform_or_mounting_name	platform_or_mounting_name

3.2.5.2.2 SPACECRAFT DESCRIPTION

User View Terse Name: hscd

The Spacecraft Description user view allows the input of parameters that identify a spacecraft. The output of the user view consists of the spacecraft description. 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.

Input:	Output:
spacecraft_id_or_name	spacecraft_id
	spacecraft_name *
	spacecraft_desc

3.2.5.2.3 PLATFORM OR MOUNTING DESCRIPTION

User View Terse Name: hplatmountd

The Platform or Mounting Description user view allows the input of parameters that identify a spacecraft, laboratory, observatory, platform, or mounting. The output of the user view consists of the platform or mounting description. This description describes the spacecraft platform or laboratory mounting frame on which an instrument is mounted.

Input:	Output:
instrument_host_id_or_name	instrument_host_id
	instrument_host_name
platform_or_mounting_name	platform_or_mounting_name
	platform_or_mounting_desc

3.2.5.2.4 SPACECRAFT INSTRUMENT DESCRIPTION

User View Terse Name: hscinstd

The Spacecraft Instrument Description user view allows the input of parameters that identify a spacecraft instrument. The output of the user view consists of the instrument's description.

Input:	Output:
instrument_host_id_or_name	instrument_host_id instrument_host_name
instrument_id_or_name	instrument_id instrument_name instrument_desc

3.2.5.2.5 MISSION DESCRIPTION

User View Terse Name: hmsnd

The Mission Description user view allows the input of parameters that identify a mission. The output of the user view consists of the mission description. This description summarizes major aspects of a planetary mission or project, including the number and type of spacecraft, the target body or bodies and major accomplishments.

Input:	Output:
mission_name_or_alias	mission_name mission_alias_name mission_desc

3.2.5.2.6 MISSION OBJECTIVES SUMMARY

User View Terse Name: hmsnobjsmy

The Mission Objectives Summary user view allows the input of parameters that identify a mission. The output of the user view consists of the mission objectives summary. This description describes the major scientific objectives of a planetary mission or project.

Input:	Output:
mission_name_or_alias	mission_name mission_alias_name mission_objectives_summary

3.2.5.3 MISSION PHASE INFORMATION

User View Terse Name: hmsnphsinfo

The Mission Phase Information user view allows the input of parameters that identify mission phases. These include values that specify missions, mission phases, spacecraft, or targets. The user view output consists of the selected values for the input parameters as well as launch dates and mission phase descriptions.

Input:	Output:
mission_name_or_alias	mission_name
	mission_alias_name
spacecraft_id_or_name	spacecraft_id
	spacecraft_name *
mission_phase_type	mission_phase_type
mission_phase_start_time	mission_phase_start_time
mission_phase_stop_time	mission_phase_stop_time
target_name	target_name
	launch_date
	mission_phase_desc

3.2.5.4 MISSION AND SPACECRAFT INFORMATION REFERENCES

User View Terse Name: hmsnscref

The Mission and Spacecraft Information References user view allows the input of parameters that identify missions or spacecraft. These include values that specify missions, spacecraft, mission phases, or targets. The user view output consists of the selected values for the input parameters as well as the reference information.

Input:	Output:
spacecraft_id_or_name	spacecraft_id
	spacecraft_name *
mission_name_or_alias	mission_name
	mission_alias_name
mission_phase_type	mission_phase_type
target_name	target_name
	reference_key_id
	reference_citation *

3.2.5.5 MISSION AND SPACECRAFT ASSOCIATED DATA SETS

User View Terse Name: hmsnscds

The Mission and Spacecraft Associated Data Sets user view allows the input of parameters that identify data sets. These include values that specify spacecraft, missions, instruments, targets, data set parameters, instrument parameters, or data sets. The user view output consists of the selected values for the input parameters, and the retrieved values for those parameters which were not specified.

Input:	Output:
spacecraft_id_or_name	spacecraft_id
	spacecraft_name *
mission_name_or_alias	mission_name
	mission_alias_name
instrument_id_or_name	instrument_id
	instrument_name
target_name	target_name
data_set_parameter_name	data_set_parameter_name
instrument_parameter_name	instrument_parameter_name
data_set_id_or_name	data_set_id
	data_set_name

3.2.6 TARGET INFORMATION

(1.) GENERAL TARGET INFORMATION

(2.) TARGET ASSOCIATED DATA SETS

(3.) ASSOCIATED MISSIONS AND SPACECRAFT

(4.) ASSOCIATED SECONDARY BODIES AND RINGS

(5.) TARGET PHYSICAL PARAMETERS

(6.) TARGET DYNAMIC PARAMETERS

(7.) TARGET PHYSICAL AND DYNAMIC PARAMETERS

(8.) TARGET PARAMETER INFORMATION

3.2.6.1 GENERAL TARGET INFORMATION

User View Terse Name: htarginfo

The General Target Information user view allows the input of parameters that identify targets or primary bodies. The output of the user view consists of selected values for the input parameters as well as radius, mass, pressure, temperature, and orbital parameters.

Input:	Output:
target_name	target_name
target_type	target_type
primary_body_name	primary_body_name
	mean_radius
	equatorial_radius
	mass_density
	mean_surface_pressure
	mean_surface_temperature
	surface_gravity
	revolution_period
	obliquity
	orbital_semimajor_axis

3.2.6.2 TARGET ASSOCIATED DATA SETS

User View Terse Name: htargds

The Target Associated Data Sets user view allows the input of parameters that identify targets or data sets. The output of the user view consists of the selected values for the input parameters, and the retrieved values for those parameters which were not specified.

Input:	Output:
target_name	target_name
target_type	target_type
data_set_id_or_name	data_set_id
	data_set_name

3.2.6.3 ASSOCIATED MISSIONS AND SPACECRAFT

User View Terse Name: htargmsnsc

The Associated Missions and Spacecraft user view allows the input of parameters that identify targets or spacecraft. The output of the user view consists of the selected values for the input parameters as well as associated missions.

Input:	Output:
target_name	target_name
target_type	target_type
	mission_name
spacecraft_id_or_name	spacecraft_id
	spacecraft_name *

3.2.6.4 ASSOCIATED SECONDARY BODIES AND RINGS

User View Terse Name: htargsec

The Associated Secondary Bodies and Rings user view allows the input of parameters that identify targets or secondary bodies. The output of the user view consists of the selected values for the input parameters as well as related rings and their descriptions.

Input:	Output:
target_name	target_name
target_type	target_type
primary_body_name	primary_body_name
	ring_system_summary

3.2.6.5 TARGET PHYSICAL PARAMETERS

User View Terse Name: htargphys

The Target Physical Parameters user view allows the input of parameters that relate targets or their physical parameters. These include target identifiers, types, radii, masses, pressures, temperatures, and surface gravities. The output of the user view consists of the selected values for the input parameters, and the retrieved values for those parameters which were not specified.

Input:	Output:
target_name	target_name
target_type	target_type
mean_radius(min) *	mean_radius
mean_radius(max) *	
equatorial_radius(min) *	equatorial_radius
equatorial_radius(max) *	
a_axis_radius(min) *	a_axis_radius
a_axis_radius(max) *	
b_axis_radius(min) *	b_axis_radius
b_axis_radius(max) *	
c_axis_radius(min) *	c_axis_radius
c_axis_radius(max) *	
flattening(min) *	flattening
flattening(max) *	
mass(min) *	mass
mass(max) *	
mass_density(min) *	mass_density
mass_density(max) *	
mean_surface_pressure(min) *	mean_surface_pressure
mean_surface_pressure(max) *	
min_surface_pressure(min) *	minimum_surface_pressure
min_surface_pressure(max) *	
max_surface_pressure(min) *	maximum_surface_pressure
max_surface_pressure(max) *	
mean_surface_temperature(min) *	mean_surface_temperature
mean_surface_temperature(max) *	
min_surface_temperature(min) *	minimum_surface_temperature
min_surface_temperature(max) *	
max_surface_temperature(min) *	maximum_surface_temperature
max_surface_temperature(max) *	
surface_gravity(min) *	surface_gravity
surface_gravity(max) *	
bond_albedo(min) *	bond_albedo
bond_albedo(max) *	
magnetic_moment(min) *	magnetic_moment
magnetic_moment(max) *	

3.2.6.6 TARGET DYNAMIC PARAMETERS

User View Terse Name: htargdyn

The Target Dynamic Parameters user view allows the input of parameters that specify targets or their dynamic parameters. These include target identifiers and orbit parameters. The output of the user view consists of the selected values for the input parameters, and the retrieved values for those parameters which were not specified.

Input:	Output:
target_name	target_name
target_type	target_type
orbit_direction_type	orbit_direction_type
rotation_direction_type	rotation_direction_type
flattening(min) *	flattening
flattening(max) *	
magnetic_moment(min) *	magnetic_moment
magnetic_moment(max) *	
revolution_period(min) *	revolution_period
revolution_period(max) *	
obliquity(min) *	obliquity
obliquity(max) *	
pole_right_ascension(min) *	pole_right_ascension
pole_right_ascension(max) *	
pole_declination(min) *	pole_declination
pole_declination(max) *	
mean_solar_day(min) *	mean_solar_day
mean_solar_day(max) *	
sidereal_rotation_period(min) *	sidereal_rotation_period
sidereal_rotation_period(max) *	
orbital_semimajor_axis(min) *	orbital_semimajor_axis
orbital_semimajor_axis(max) *	
orbital_eccentricity(min) *	orbital_eccentricity
orbital_eccentricity(max) *	
orbital_inclinition(min) *	orbital_inclination
orbital_inclinition(max) *	
ascending_node_longitude(min) *	ascending_node_longitude
ascending_node_longitude(max) *	
periapsis_argument_angle(min) *	periapsis_argument_angle
periapsis_argument_angle(max) *	

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3.2.6.7 TARGET PHYSICAL AND DYNAMIC PARAMETERS

User View Terse Name: htargphydyn

The Target Physical and Dynamic Parameters user view allows the input of parameters that identify targets or their physical or dynamic parameters. These include target identifiers, types, radii, masses, pressures, temperatures, surface gravities, and orbit parameters. The output of the user view consists of the selected values for the input parameters, and the retrieved values for those parameters which were not specified.

Input:	Output:
target_name	target_name
target_type	target_type
	primary_body_name
	orbit_direction_type
	rotation_direction_type
	mean_radius
	equatorial_radius
	a_axis_radius
	b_axis_radius
	c_axis_radius
	flattening
	mass
	mass_density
	mean_surface_pressure
	minimum_surface_pressure
	maximum_surface_pressure
	mean_surface_temperature
	minimum_surface_temperature
	maximum_surface_temperature
	surface_gravity
	bond_albedo
	magnetic_moment
	revolution_period
	obliquity
	pole_right_ascension
	pole_declination
	mean_solar_day
	sidereal_rotation_period
	orbital_semimajor_axis
	orbital_eccentricity
	orbital_inclination
	ascending_node_longitude
	periapsis_argument_angle

3.2.6.8 TARGET PARAMETER INFORMATION

User View Terse Name: htargparm

The Target Parameter Information user view allows the input of parameters that identify targets or their parameters. The output of the user view consists of the selected values for the input parameters as well as the uncertainties, epochs, and sources of the target parameter values.

Input:	Output:
target_name	target_name
target_parameter_name	target_parameter_name
	target_parameter_uncertainty
	target_parameter_epoch
	data_source_desc

3.3 DETAILED LEVEL CATALOG

3.3.1 FIELDS AND PARTICLES DETAILED CATALOG

(1.) GENERAL DATA SET INFORMATION
(2.) DATA SET RELATED CONTAMINATION DESCRIPTION
(3.) DEFAULT POSITION INFORMATION
(4.) DATA SET RELATED DATA QUALITY
(5.) DATA SET RELATED DATA QUALITY SCHEME
(6.) EVENT RELATED DATA QUALITY
(7.) POSITION RELATED DATA QUALITY
(8.) PARAMETER AVAILABILITY (LOCATION AND DATA SETS)
(9.) DATA SET AND INSTRUMENT PARAMETERS
(10.) TARGET RELATED SPACECRAFT AND TIME
(11.) TARGET AND TIME RELATED DATA QUALITY

3.3.1.1 GENERAL DATA SET INFORMATION

User View Terse Name: fdsinfo

The General Data Set Information user view allows the input of a parameter that identifies data sets. The user view output consists of the selected data set identifiers as well as related targets, instruments, instrument hosts, time ranges, sampling parameter information and data distributors.

Input:	Output:
data_set_id	data_set_id
target_name	target_name
spacecraft_id	spacecraft_id *
instrument_id	instrument_id
	start_of_data_set *
	end_of_data_set *
	sampling_parameter_interval
	sampling_parameter_unit
	producer_full_name

3.3.1.2 DATA SET RELATED CONTAMINATION DESCRIPTION

User View Terse Name: fcontamd

The Data Set Related Contamination Description user view allows the input of parameters that identify data sets or contamination levels. The user view output consists of the selected values for the inputs as well as the contamination description.

Input:	Output:
data_set_id	data_set_id
contamination_id	contamination_id
	contamination_desc

3.3.1.3 DEFAULT POSITION INFORMATION

User View Terse Name: fdefaultpos

The Default Position Information user view allows the input of parameters that identify a target. The output of the user view consists of default coordinate information for the target.

Input:	Output:
target_name	target_name
	coordinate_system_id
	vector_component_id_1
	vector_component_id_2
	vector_component_id_3

3.3.1.4 DATA SET RELATED DATA QUALITY

User View Terse Name: fdataqual

The Data Set Related Data Quality user view allows the input of parameters that specify data sets, instrument hosts, or time ranges. The user view output consists of the selected values for the input parameters as well as information about sampling parameters, data coverage, data quality, contamination, and browse capabilities.

Input:	Output:
data_set_id	data_set_id
spacecraft_id	spacecraft_id
instrument_id	instrument_id
event_start_time	start_of_hour *
event_stop_time	
	browse_flag
	sampling_parameter_interval
	sampling_parameter_unit
	data_coverage_percentage
	contamination_id
	data_quality_id

3.3.1.5 DATA SET RELATED DATA QUALITY SCHEME

User View Terse Name: fdataqualsch

The Data Set Related Data Quality Scheme user view allows the input of parameters that identify data sets or data quality levels. The user view output consists of the selected values for the input parameters as well as data quality descriptions.

Input:	Output:
data_set_id	data_set_id
data_quality_id	data_quality_id
	data_quality_desc

3.3.1.6 EVENT RELATED DATA QUALITY

User View Terse Name: fevtqual

The Event Related Data Quality user view allows the input of parameters that are related to events. These include values that specify events, instrument hosts, instruments, targets, or time ranges. The user view output consists of the selected values for the input as well as related data sets and information about sampling parameters, data coverage, data quality, contamination, and browse capabilities.

Input:	Output:
R event_type	event_type
event_name	event_name
spacecraft_id	spacecraft_id
instrument_id	instrument_id
target_name	target_name
event_start_time	event_start_time
event_stop_time	event_stop_time
	data_set_id
	start_of_hour *
	browse_flag
	sampling_parameter_interval
	sampling_parameter_unit
	data_coverage_percentage
	contamination_id
	data_quality_id

3.3.1.7 POSITION RELATED DATA QUALITY

User View Terse Name: fposqual

The Position Related Data Quality user view allows the input of parameters that are associated with an instrument or its position when data was collected. These include values that specify instrument hosts, instruments, targets, coordinate systems, or location. The user view output consists of the selected values for the input parameters as well as related data sets and information about sampling parameters, data coverage, data quality, contamination and browse capabilities.

Input:	Output:
R spacecraft_id	spacecraft_id
coordinate_system_id	coordinate_system_id
vector_component_id_1	vector_component_id_1
(min) *	vector_component_1
(max) *	
vector_component_id_2	vector_component_id_2
(min) *	vector_component_2
(max) *	
vector_component_id_3	vector_component_id_3
(min) *	vector_component_3
(max) *	
instrument_id	instrument_id
R target_name	target_name
	start_of_hour *
	data_set_id
	browse_flag
	sampling_parameter_interval
	sampling_parameter_unit
	data_coverage_percentage
	contamination_id
	data_quality_id

3.3.1.8 PARAMETER AVAILABILITY (LOCATION AND DATA SETS)

User View Terse Name: fparmavail

The Parameter Availability Location and Data Sets user view allows the input of parameters that identify instrument hosts, targets, data set parameters, or instrument parameters. The user view output consists of the selected values for the input parameters as well as associated data sets and instruments.

Input:	Output:
data_set_parameter_name	data_set_parameter_name
instrument_parameter_name	instrument_parameter_name
	number_of_important_inst_parms *
	instrument_id
spacecraft_id	spacecraft_id *
	data_set_id
target_name	target_name

3.3.1.9 DATA SET AND INSTRUMENT PARAMETERS

User View Terse Name: fparms

The Data Set And Instrument Parameters user view allows the input of parameters that identify instument hosts, data set parameters, or instrument parameters. The user view output consists of the selected values for the input parameters as well as the number of instrument parameters used to derive the data set parameters.

Input:	Output:
spacecraft_id	spacecraft_id *
data_set_parameter_name	data_set_parameter_name
instrument_parameter_name	instrument_parameter_name
	number_of_important_inst_parms *

3.3.1.10 TARGET RELATED SPACECRAFT AND TIME

User View Terse Name: ftargsctime

The Target Related Spacecraft and Time user view allows the input of parameters that identify targets, instrument hosts, or instruments. The user view output consists of the selected values for the input parameters as well as time ranges.

Input:	Output:
target_name	target_name
spacecraft_id	spacecraft_id *
instrument_id	instrument_id
	start_date *
	stop_date *

3.3.1.11 TARGET AND TIME RELATED DATA QUALITY

User View Terse Name: ftargqual

The Target and Time Related Data Quality user view allows the input of parameters that specify targets, instrument hosts, instruments, or time ranges. The user view output consists of the selected values for the inputs parameters as well as associated data sets and information about sampling parameters, data coverage, data quality, contamination, and browse capabilities.

Input:	Output:
R target_name	target_name
spacecraft_id	spacecraft_id
instrument_id	instrument_id
	data_set_id
event_start_time	start_of_hour *
event_stop_time	
	browse_flag
	sampling_parameter_interval
	sampling_parameter_unit
	data_coverage_percentage
	contamination_id
	data_quality_id

3.3.2 LECP INSTRUMENT

(1.) LECP INSTRUMENT INFORMATION

(2.) LECP MODE INFORMATION

(3.) LECP CHANNEL INFORMATION

(4.) LECP PARTICLE MULTIPLE PARMS (PMP) INFORMATION

(5.) LECP PMP ACCEPTANCE DETECTOR DESCRIPTION

(6.) LECP PMP ACCEPTANCE INFORMATION DESCRIPTION

3.3.2.1 LECP INSTRUMENT INFORMATION

User View Terse Name: flcinstinfo

The LECP General Instrument Information user view allows the inputs of parameters that identify instrument hosts. The user view output consists of the selected values for the input parameters as well as the principal investigators and related information about the LECP instrument modes and parameters.

Input:	Output:
spacecraft_id	spacecraft_id instrument_id principal_investigator * instrument_mode_id section_id instrument_parameter_name instrument_parameter_unit

3.3.2.2 LECP MODE INFORMATION

User View Terse Name: flcmodeinfo

The Lecp Mode Information user view allows the input of parameters which identify an instrument mode. The user view output consists of the selected values for the input parameters as well as information about participating channels, the instrument parameters measured during the mode, and the sampling interval.

Input:	Output:
spacecraft_id instrument_mode_id	spacecraft_id instrument_id instrument_mode_id channel_group_name instrument_parameter_name sampling_parameter_interval channels

3.3.2.3 LECP CHANNEL INFORMATION

User View Terse Name: flcchnlinfo

The LECP Channel Information user view allows the input of parameters which characterize channels and the parameters they measure. The user view output consists of the selected values for the input parameters as well as information about the channels' geometric factors and the ranges and units of parameters measured by the channels.

Input:	Output:
spacecraft_id	spacecraft_id
	instrument_id
channel_group_name	channel_group_name
channel_id	channel_id
	channel_geometric_factor
instrument_parameter_name	Z_number_instrument_parameter_name *
	Z_number_minimum_instrument_parameter *
	Z_number_maximum_instrument_parameter *
	Z_number_instrument_parameter_unit *
particle_species_name	particle_species_name
	energy_rng_instrument_parameter_name *
	energy_rng_minimum_instrument_parameter *
	energy_rng_maximum_instrument_parameter *
	energy_rng_instrument_parameter_unit *

3.3.2.4 LECP PARTICLE MULTIPLE PARMS (PMP) INFORMATION

User View Terse Name: flcpmpinfo

The LECP Particle Multiple Parms (PMP) Information user view allows the input of parameters which specify a particular instrument. The user view output consists of the selected values for the input parameters as well as detailed information about the detectors which participate in PMP measurements and the parameters they measure.

Input:	Output:
spacecraft_id	spacecraft_id
	instrument_id
	channel_group_name
	detector_groups
	detector_group_name
	detectors
	instrument_parameter_name
	minimum_instrument_parameter
	maximum_instrument_parameter
	instrument_parameter_unit

3.3.2.5 LECP PMP ACCEPTANCE DETECTOR DESCRIPTION

User View Terse Name: flcpmpdetd

The LECP PMP Acceptance Detector Description user view allows the input of parameters that identify an instrument. The output of the user view consists of the PMP Acceptance Detector Description.

Input:	Output:
spacecraft_id	spacecraft_id instrument_id channel_group_name acceptance_detector_desc

3.3.2.6 LECP PMP ACCEPTANCE INFORMATION DESCRIPTION

User View Terse Name: flcpmpinfod

The LECP PMP Acceptance Information Description user view allows the input of parameters that identify an instrument. The output of the user view consists of the PMP Acceptance Information Description.

Input:	Output:
spacecraft_id	spacecraft_id instrument_id channel_group_name acceptance_information_desc

3.3.3 MAG INSTRUMENT

(1.) MAG INSTRUMENT INFORMATION

(2.) MAG MODE INFORMATION

(3.) MAG QUANTIZATION LEVELS

(4.) MAG SAMPLING INFORMATION

3.3.3.1 MAG INSTRUMENT INFORMATION

User View Terse Name: fmaginstinfo

The MAG General Instrument Information user view allows the inputs of parameters that identify instrument hosts. The user view output consists of the selected values for the input parameters as well as the principal investigators and related information about the MAG instrument modes and parameters.

Input:	Output:
spacecraft_id	spacecraft_id instrument_id principal_investigator * instrument_mode_id section_id instrument_parameter_name instrument_parameter_unit

3.3.3.2 MAG MODE INFORMATION

User View Terse Name: fmagmodeinfo

The MAG Mode Information user view allows the input of parameters which specify a particular instrument mode or detector. The user view output consists of the selected values for the input parameters as well as information about the range of parameters measured by the detectors.

Input:	Output:
spacecraft_id instrument_mode_id detector_id	spacecraft_id instrument_id instrument_mode_id detector_id instrument_parameter_name minimum_instrument_parameter maximum_instrument_parameter instrument_parameter_unit

3.3.3.3 MAG QUANTIZATION LEVELS

User View Terse Name: fmagquantlvl

The MAG Quantization Levels user view allows the input of parameters which specify a particular instrument's detector or measured parameter. The user view output consists of the selected values for the input parameters as well as information about the range of parameters measured by the detectors and the associated data quantization.

Input:	Output:
spacecraft_id	spacecraft_id
	instrument_id
detector_id	detector_id
instrument_parameter_name	instrument_parameter_name
	minimum_instrument_parameter
	maximum_instrument_parameter
	instrument_parameter_unit
	quantization_resolution

3.3.3.4 MAG SAMPLING INFORMATION

User View Terse Name: fmagsampinfo

The MAG Sampling Information user view allows the input of parameters which specify a particular instrument's detectors or sampling parameter. The user view output consists of the selected values for the input parameters as well as additional information about the data sampling.

Input:	Output:
spacecraft_id	spacecraft_id
	instrument_id
detector_id	detector_id
sampling_parameter_name	sampling_parameter_name
	sampling_parameter_interval
	sampling_parameter_unit

3.3.4 PLS INSTRUMENT

(1.) PLS INSTRUMENT INFORMATION

(2.) PLS DETAILED MODE INFORMATION

(3.) PLS DETAILED TEMPORAL INFORMATION

(4.) PLS DETAILED CHANNEL INFORMATION

(5.) PLS MODE DESCRIPTION

(6.) PLS CYCLE AND FRAME INFORMATION

3.3.4.1 PLS INSTRUMENT INFORMATION

User View Terse Name: fplsinstinfo

The PLS General Instrument Information user view allows the inputs of parameters that identify instrument hosts. The user view output consists of the selected values for the input parameters as well as the principal investigators and related information about the PLS instrument modes and parameters.

Input:	Output:
spacecraft_id	spacecraft_id
	instrument_id
	principal_investigator *
	instrument_mode_id
	section_id
	instrument_parameter_name
	instrument_parameter_unit

3.3.4.2 PLS DETAILED MODE INFORMATION

User View Terse Name: fplsmodeinfo

The PLS Detailed Mode Information user view allows the input of parameters which may be associated with an instrument mode. These include values that specify energy resolution, a range of instrument parameters, and the name of a particle species of interest. The user view output consists of the selected values for the input parameters as well as information about the detectors and channels participating in the particular mode of the instrument.

Input:	Output:
spacecraft_id	spacecraft_id
	instrument_id
instrument_mode_id	instrument_mode_id
nominal_energy_resolution(min) *	nominal_energy_resolution
nominal_energy_resolution(max) *	
sampling_parameter_name	sampling_parameter_name
minimum_sampling_parameter	minimum_sampling_parameter
maximum_sampling_parameter	maximum_sampling_parameter
	sampling_parameter_unit
particle_species_name	particle_species_name
	mode_integration_duration
	detectors
	detector_id
	channels
	channel_id
instrument_parameter_name	instrument_parameter_name

3.3.4.3 PLS DETAILED TEMPORAL INFORMATION

User View Terse Name: fplstempinfo

The PLS Detailed Temporal Resolution Info user view allows the input of parameters which identify a particular cycle or mode-derived parameter produced by an instrument. The user view output consists of the selected values for the input parameters as well as information about the measurement scheme used by the instrument, including information about frames, the temporal resolution within a mode, and the measurement of channels within frames.

Input:	Output:
target_name	target_name
spacecraft_id	spacecraft_id
	instrument_id
instrument_parameter_name	instrument_parameter_name
cycle_id	cycle_id
	frames
	frame_id
	frame_sequence_number
	frame_duration
	instrument_mode_id
	start_time_base
	minimum_channel_id
	maximum_channel_id
	mode_continuation_flag

3.3.4.4 PLS DETAILED CHANNEL INFORMATION

User View Terse Name: fplschnlinfo

The PLS Detailed Channel Information user view allows the input of parameters which specify a particular detector, channel, or range of measured parameters. The user view output consists of the selected values for the input parameters as well as the integration duration for each channel.

Input:	Output:
spacecraft_id	spacecraft_id
	instrument_id
instrument_mode_id	instrument_mode_id
detector_id	detector_id
channel_id	channel_id
minimum_instrument_parameter	minimum_instrument_parameter
maximum_instrument_parameter	maximum_instrument_parameter
	instrument_parameter_unit
	channel_integration_duration

3.3.4.5 PLS MODE DESCRIPTION

User View Terse Name: fplsmoded

The PLS Mode Description user view allows the input of parameters which specify a particular instrument mode. The user view output consists of the selected values for the input parameters as well as a text description of the mode.

Input:	Output:
spacecraft_id	spacecraft_id *
	instrument_id
instrument_mode_id	instrument_mode_id
	instrument_mode_desc

3.3.4.6 PLS CYCLE AND FRAME INFORMATION

User View Terse Name: fplscycfram

The PLS Cycle and Frame Information user view allows the input of parameters which specify a particular spacecraft operating mode, cycle, or frame. The user view output consists of the selected values for the input parameters as well as information about the frame sequences and durations within a cycle.

Input:	Output:
target_name	target_name
spacecraft_id	spacecraft_id
	instrument_id
spacecraft_operating_mode_id	spacecraft_operating_mode_id
cycle_id	cycle_id
	frames
frame_id	frame_id
	frame_sequence_number
	frame_duration
	instrument_mode_id

3.3.5 PWS INSTRUMENT

(1.) PWS INSTRUMENT INFORMATION

(2.) PWS MODE INFORMATION

(3.) PWS SAMPLING SCHEME

3.3.5.1 PWS INSTRUMENT INFORMATION

User View Terse Name: fpwsinstinfo

The PWS General Instrument Information user view allows the inputs of parameters that identify instrument hosts. The user view output consists of the selected values for the input parameters as well as the principal investigators and related information about the PWS instrument modes and parameters.

Input:	Output:
spacecraft_id	spacecraft_id instrument_id principal_investigator * instrument_mode_id section_id instrument_parameter_name instrument_parameter_unit

3.3.5.2 PWS MODE INFORMATION

User View Terse Name: fpwsmodeinfo

The PWS Mode Information user view allows the input of parameters which specify a particular instrument mode, section, or parameter measured by the instrument. The user view output consists of the selected values for the input parameters as well as the ranges of parameters measured in the instrument mode, the number of channels and gain states applicable to the specified mode, and a text description of the mode.

Input:	Output:
spacecraft_id	spacecraft_id
	instrument_id
instrument_mode_id	instrument_mode_id
section_id	section_id
instrument_parameter_name	instrument_parameter_name
	minimum_value(dynamic_range) *
	maximum_value(dynamic_range) *
	instrument_parameter_unit
	channels
	gain_modes
	instrument_mode_desc

3.3.5.3 PWS SAMPLING SCHEME

User View Terse Name: fpwssampsch

The PWS Sampling Scheme user view allows the input of parameters which specify a particular instrument mode, section, parameter measured by the instrument, or channel. The user view output consists of the selected values for the input parameters as well as parameters which provide specific information about how data are sampled in both time and frequency, and a text description of the sampling scheme used.

Input:	Output:
spacecraft_id	spacecraft_id
	instrument_id
instrument_mode_id	instrument_mode_id
section_id	section_id
instrument_parameter_name	instrument_parameter_name
	inst_sampling_parameter_name *
	inst_sampling_parameter_resolution *
	inst_minimum_sampling_parameter *
	inst_maximum_sampling_parameter *
	inst_sampling_parameter_interval *
	inst_sampling_parameter_unit *
channel_id	channel_id
	channel_sampling_parameter_name *
	channel_minimum_sampling_parameter *
	channel_maximum_sampling_parameter *
	channel_sampling_parameter_unit *
	center_frequency
	bandwidth
	sampling_desc

3.3.6 IMAGE DETAILED CATALOG

(1.) GENERAL IMAGE INFORMATION

(2.) RETICLE INFORMATION

(3.) IMAGE ORIENTATION

(4.) IMAGE INSTRUMENT MODE

(5.) IMAGING INSTRUMENT INFORMATION

(6.) IMAGE CHARACTERISTICS

(7.) CENTER POINT INFORMATION

(8.) FEATURE INFORMATION

(9.) FEATURE TYPE DESCRIPTION

(10.) REGION INFORMATION

(11.) REGION DESCRIPTION

3.3.6.1 GENERAL IMAGE INFORMATION

User View Terse Name: iimageinfo

The General Image Information user view allows the input of parameters that are associated with images. These include values that may specify image identifiers, targets, spacecraft, instruments, locations, data sets, scaling information, light condition measurements, or filters. The user view output consists of the selected values for the input parameters as well as any notes documenting the images.

Input:	Output:
target_name	target_name
spacecraft_id	spacecraft_id
instrument_id	instrument_id
image_key_id	image_key_id
image_id	image_id
image_number(min) *	image_number
image_number(max) *	
spacecraft_clock_start_count(min) *	spacecraft_clock_start_count
spacecraft_clock_start_count(max) *	
image_time(min) *	image_time
image_time(max) *	
image_observation_type	image_observation_type
planet_day_number(min) *	planet_day_number
planet_day_number(max) *	
latitude(min) *	center_latitude *
latitude(max) *	
longitude(min) *	center_longitude *
longitude(max) *	
data_set_id	data_set_id
scaled_pixel_height(min) *	center_scaled_pixel_height *
scaled_pixel_height(max) *	
scaled_pixel_width(min) *	center_scaled_pixel_width *
scaled_pixel_width(max) *	
phase_angle(min) *	center_phase_angle *
phase_angle(max) *	
incidence_angle(min) *	center_incidence_angle *
incidence_angle(max) *	
emission_angle(min) *	center_emission_angle *
emission_angle(max) *	
filter_number	filter_number
19 30	19

3.3.6.2 RETICLE INFORMATION

User View Terse Name: iret

The Reticle Information user view allows the input of parameters that identify images and reticle points. These include identifiers for images, spacecraft, or instruments as well as reticle point numbers. The user view output consists of selected values for the input parameters as well as information for each reticle, such as its location, light conditions and scaling.

Input:	Output:
spacecraft_id	spacecraft_id
image_key_id	image_key_id
reticle_point_number	reticle_point_number
	coordinate_system_ref_epoch
	longitude
	latitude
	azimuth
	elevation
	right_ascension
	declination
	slant_distance
	emission_angle
	incidence_angle
	phase_angle
	cone_angle
	cross_cone_angle
	scaled_pixel_height
	scaled_pixel_width

3.3.6.3 IMAGE ORIENTATION

User View Terse Name: iorient

The Image Orientation user view allows the input of parameters that identify images. These include values that specify images, spacecraft, instruments, locations, scaling, or light condition measurements. The user view output consists of the selected values for the input parameters as well as target and spacecraft locations and time information.

Input:	Output:
target_name	target_name
spacecraft_id	spacecraft_id
instrument_id	instrument_id
image_key_id	image_key_id
image_id	image_id
image_number(min) *	image_number
image_number(max) *	
spacecraft_clock_start_count(min) *	spacecraft_clock_start_count
spacecraft_clock_start_count(max) *	
image_time(min) *	image_time
image_time(max) *	
image_observation_type	image_observation_type
planet_day_number(min) *	planet_day_number
planet_day_number(max) *	
latitude(min) *	center_latitude *
latitude(max) *	
longitude(min) *	center_longitude *
longitude(max) *	
data_set_id	data_set_id
scaled_pixel_height(min) *	center_scaled_pixel_height *
scaled_pixel_height(max) *	
scaled_pixel_width(min) *	center_scaled_pixel_width *
scaled_pixel_width(max) *	
phase_angle(min) *	center_phase_angle *
phase_angle(max) *	
incidence_angle(min) *	center_incidence_angle *
incidence_angle(max) *	
emission_angle(min) *	center_emission_angle *
emission_angle(max) *	
filter_number	filter_number
	earth_received_time
spacecraft_altitude(min) *	spacecraft_altitude
spacecraft_altitude(max) *	
	target_body_center_distance *
	sub_spacecraft_azimuth
	sub_spacecraft_latitude
	sub_spacecraft_longitude
	sub_solar_azimuth

sub_solar_latitude
sub_solar_longitude
true_anomaly_angle
time_from_closest_approach

3.3.6.4 IMAGE INSTRUMENT MODE

User View Terse Name: iinstmode

The Image Instrument Mode user view allows the input of parameters that identify images. These include values that specify images, spacecraft, instruments, locations, scaling, or light condition measurements. The user view output consists of the selected values for the input parameters as well as spacecraft time and instrument mode information.

Input:	Output:
target_name	target_name
spacecraft_id	spacecraft_id
instrument_id	instrument_id
image_key_id	image_key_id
image_id	image_id
image_number(min) *	image_number
image_number(max) *	
spacecraft_clock_start_count(min) *	spacecraft_clock_start_count
spacecraft_clock_start_count(max) *	
image_time(min) *	image_time
image_time(max) *	
image_observation_type	image_observation_type
planet_day_number(min) *	planet_day_number
planet_day_number(max) *	
latitude(min) *	center_latitude *
latitude(max) *	
longitude(min) *	center_longitude *
longitude(max) *	
data_set_id	data_set_id
scaled_pixel_height(min) *	center_scaled_pixel_height *
scaled_pixel_height(max) *	
scaled_pixel_width(min) *	center_scaled_pixel_width *
scaled_pixel_width(max) *	
phase_angle(min) *	center_phase_angle *
phase_angle(max) *	
incidence_angle(min) *	center_incidence_angle *
incidence_angle(max) *	
emission_angle(min) *	center_emission_angle *
emission_angle(max) *	
filter_number	filter_number
	earth_received_time
	north_azimuth
spacecraft_altitude(min) *	spacecraft_altitude
spacecraft_altitude(max) *	
	target_body_center_distance *
local_time(min) *	local_time
local_time(max) *	
solar_longitude(min) *	solar_longitude

solar_longitude(max) *

exposure_duration
filter_name
instrument_mode_id
shutter_mode_id
edit_mode_id
time_from_closest_approach

3.3.6.5 IMAGING INSTRUMENT INFORMATION

User View Terse Name: iinstinfo

The Imaging Instrument Information user view allows the input of parameters that identify instrument modes. These include values that specify spacecraft, instruments, or instrument modes. The user view output consists of the selected values for the input parameters as well as mode information which is specific to imaging instruments.

Input:	Output:
spacecraft_id	spacecraft_id
instrument_id	instrument_id
instrument_mode_id	instrument_mode_id
detector_id	detector_id
	gain_mode_id
	exposure_offset_number
	exposure_offset_flag
	light_flood_state_flag
	minimum_instrument_exposr_dur
	maximum_instrument_exposr_dur
	temperature_translation_desc

3.3.6.6 IMAGE CHARACTERISTICS

User View Terse Name: iimagechar

The Image Characteristics user view allows the input of spacecraft_id and image_id. These input parameters uniquely identify an image within the PDS. The user view output consists of all image information except for the center point information. Center point information may be obtained via the Center Point Information user view. Image_id is a required input parameter for this user view.

Input:	Output:
spacecraft_id	spacecraft_id
R image_key_id	image_key_id
	instrument_id
	filter_number
	target_name
	image_observation_type
	instrument_mode_id
	orbit_number
	exposure_duration
	filter_name
	surface_clarity_percentage
	data_coverage_percentage
	image_number
	image_time
	image_id
	spacecraft_clock_start_count
	earth_received_time
	shutter_mode_id
	edit_mode_id
	sub_solar_azimuth
	sub_solar_latitude
	sub_solar_longitude
	sub_spacecraft_azimuth
	sub_spacecraft_latitude
	sub_spacecraft_longitude
	true_anomaly_angle
	solar_longitude
	north_azimuth
	local_time
	spacecraft_altitude
	time_from_closest_approach
	planet_day_number
	target_center_distance
	scaled_image_height
	scaled_image_width

3.3.6.7 CENTER POINT INFORMATION

User View Terse Name: ictrpoint

The Center Point Information user view allows the input of spacecraft_id and image_id. These two input parameters uniquely identify an image within the PDS. The output of the user view consists of all center point information. Image_id is a required input parameter for this user view.

Input:	Output:
spacecraft_id	spacecraft_id
R image_key_id	image_key_id
	instrument_id
	latitude
	longitude
	azimuth
	elevation
	right_ascension
	declination
	cone_angle
	cross_cone_angle
	slant_distance
	emission_angle
	incidence_angle
	phase_angle
	scaled_pixel_height
	scaled_pixel_width

3.3.6.8 FEATURE INFORMATION

User View Terse Name: ifeat

The Feature Information user view allows the input of parameters that identify features or images. These include values that specify features, images, spacecraft, instruments, locations, scaling, or light condition measurements. The user view output consists of the selected values for the input parameters, and the retrieved values for those parameters which were not specified.

Input:	Output:
target_name	target_name
spacecraft_id	spacecraft_id
instrument_id	instrument_id
image_key_id	image_key_id
image_id	image_id
image_number(min) *	image_number
image_number(max) *	
spacecraft_clock_start_count(min) *	spacecraft_clock_start_count
spacecraft_clock_start_count(max) *	
image_time(min) *	image_time
image_time(max) *	
image_observation_type	image_observation_type
planet_day_number(min) *	planet_day_number
planet_day_number(max) *	
latitude(min) *	center_latitude *
latitude(max) *	
longitude(min) *	center_longitude *
longitude(max) *	
data_set_id	data_set_id
scaled_pixel_height(min) *	center_scaled_pixel_height *
scaled_pixel_height(max) *	
scaled_pixel_width(min) *	center_scaled_pixel_width *
scaled_pixel_width(max) *	
phase_angle(min) *	center_phase_angle *
phase_angle(max) *	
incidence_angle(min) *	center_incidence_angle *
incidence_angle(max) *	
emission_angle(min) *	center_emission_angle *
emission_angle(max) *	
filter_number	filter_number
feature_name	feature_name

3.3.6.9 FEATURE TYPE DESCRIPTION

User View Terse Name: ifeatd

The Feature Type Description user view allows the input of a feature type. The output of the user view consists of the feature type description. The authoriative list of features is contained in the IAU Gazetteer.

Input:	Output:
feature_type	feature_type feature_type_desc

3.3.6.10 REGION INFORMATION

User View Terse Name: iregion

The Region Information user view allows the input of parameters that identify regions or images. These include values that specify regions, images, spacecraft, instruments, locations, scaling, or light condition measurements. The user view output consists of the selected values for the input parameters, and the retrieved values for those parameters which were not specified.

Input:	Output:
target_name	target_name
spacecraft_id	spacecraft_id
instrument_id	instrument_id
image_key_id	image_key_id
image_id	image_id
image_number(min) *	image_number
image_number(max) *	
spacecraft_clock_start_count(min) *	spacecraft_clock_start_count
spacecraft_clock_start_count(max) *	
image_time(min) *	image_time
image_time(max) *	
image_observation_type	image_observation_type
planet_day_number(min) *	planet_day_number
planet_day_number(max) *	
latitude(min) *	center_latitude *
latitude(max) *	
longitude(min) *	center_longitude *
longitude(max) *	
data_set_id	data_set_id
scaled_pixel_height(min) *	center_scaled_pixel_height *
scaled_pixel_height(max) *	
scaled_pixel_width(min) *	center_scaled_pixel_width *
scaled_pixel_width(max) *	
phase_angle(min) *	center_phase_angle *
phase_angle(max) *	
incidence_angle(min) *	center_incidence_angle *
incidence_angle(max) *	
emission_angle(min) *	center_emission_angle *
emission_angle(max) *	
filter_number	filter_number
region_name	region_name

3.3.6.11 REGION DESCRIPTION

User View Terse Name: iregiond

The Region Description user view allows the input of a region name. The output of the user view consists of the region description.

Input:	Output:
region_name	region_name region_desc

3.4 SYSTEM DATA

3.4.1 INSPECT DATA

(1.) DICTIONARY ELEMENT DESCRIPTION

(2.) DICTIONARY ELEMENT FORMAT

(3.) HELP TEXT

3.4.1.1 DICTIONARY ELEMENT DESCRIPTION

User View Terse Name: dictelemd

The Describe Dictionary Element returns the textual description of a dictionary element given the bl_name.

Input:	Output:
bl_name	bl_name column_description

3.4.1.2 DICTIONARY ELEMENT FORMAT

User View Terse Name: dictelemfmt

The Dictionary Element Format returns the attributes of an element necessary to validate the user data input.

Input:	Output:
bl_name parameter_type query_name	bl_name parameter_type query_name column_name_alias display_format sql_format column_unit_type

3.4.1.3 HELP TEXT

User View Terse Name: helptxt

The Help Text returns the help text for screens given the screen_id and help_id.

Input:	Output:
screen_id help_id	screen_id help_id help_text

3.4.2 ACCOUNT AND ORDER INFORMATION

(1.) PERSONNEL INFORMATION

(2.) USER ACCOUNT INFORMATION

(3.) ORDER STATUS

(4.) ORDER ITEM COMPONENTS

(5.) ORDER ITEM SPECIAL INSTRUCTIONS

(6.) ORDER ITEM SHIPPING INSTRUCTIONS

(7.) ORDER SHIPPING ADDRESS

3.4.2.1 PERSONNEL INFORMATION

User View Terse Name: hpersinfo

The Personnel Information user view allows the input of parameters that identify persons associated with PDS. These include values that specify persons, nodes, or institutions. The user view output consists of the selected values for the input parameters as well as contact information and all involvement with missions, tasks, and nodes.

Input:	Output:
user_full_name *	user_full_name *
person_institution_name	person_institution_name
node_id	node_id
node_name	node_name
	mailing_address *
	telephone_number
	fts_number
	electronic_mail_type
	electronic_mail_id
	preference_id
	mission_name
	spacecraft_id
	instrument_id
	mission_expertise *
	mission_specialty *
	mission_role *
	task_name
	task_expertise *
	task_specialty *
	task_role *
	personnel_shipping_carrier_nam

3.4.2.2 USER ACCOUNT INFORMATION

User View Terse Name: persusrinfo

The Account and Order Information user view retrieves information about a PDS User from the catalog. Using the name of the user as input, it returns profile information about the user, such as telephone number, mailing address, electronic mail address, etc. To view information about personnel associated with missions, instruments, or data sets, you may use the Personnel Information view or the User and Personnel Information view.

NOTE: The electronic mail address returned by this view is the one given the highest preference by the user. Other mail addresses for the users may not be obtained with this view.

Input:	Output:
user_full_name *	user_full_name *
	pds_user_id
	telephone_number
	fts_number
	shipping_carrier_name *
	shipping_account_number *
	electronic_mail_id
	electronic_mail_type
	mailing_address *

3.4.2.3 ORDER STATUS

User View Terse Name: orditmstatuv

The Order Status Information user view retrieves status information for data orders place at the Central Node. Using the name of the order initiator and an order number as inputs, it returns the most recent status of every item in the requested order. In addition it returns other information about the order, such as the date it was created, the data sets it includes and the nodes which will be filling the order items.

Additional information about a data order may be obtained with the Order Item Components, Order Shipping Address, Order Item Special Instructions, and Order Item Shipping Instructions views.

Input:	Output:
order_initiator	order_initiator
order_number	pds_user_id
	order_number
	order_date
	order_item_number
	data_set_id
	order_item_desc
	order_item_quantity
	distribution_node_id
	medium
	distribution_media_desc
	order_item_ship_quantity
	order_item_status
	order_item_status_date
	order_status_staff_name

3.4.2.4 ORDER ITEM COMPONENTS

User View Terse Name: orditmgranuv

The Order Item Components user view retrieves the components of order items. Using the name of the order initiator and an order number as inputs, it returns the components of each item in the requested data order. If an order item consists of an entire data set, then it will contain only one component (or granule): the entire data set. When an order item consists of portions of a data set, then it will have several components, and each component will consists of a start/stop pair which delineates a range of data to be included in the data order.

For instance, in the case of time-series data, the components will consist of time ranges. In the case of image data, the components will consist of ranges of image ids.

Input:	Output:
order_initiator	order_initiator
order_number	order_number
	order_item_number
	data_set_id
	component_start *
	component_stop *

3.4.2.5 ORDER ITEM SPECIAL INSTRUCTIONS

User View Terse Name: ordspcinstuv

The Order Item Special Instructions user view retrieves special instructions for data orders placed at the Central Node. Using the name of the order initiator and an order number as inputs, it returns the special instructions for each item in the requested data orders. The special instructions for an order item are used to request special treatment or processing of data.

Input:	Output:
order_initiator	order_initiator
order_number	order_number
	order_item_number
	data_set_id
	order_item_special_instr

3.4.2.6 ORDER ITEM SHIPPING INSTRUCTIONS

User View Terse Name: ordshpinstuv

The Order Item Shipping Instructions user view retrieves shipping instructions for data orders placed at the Central Node. Using the name of the order initiator and an order number as inputs, it returns the shipping instructions for each item in the requested data order.

Input:	Output:
order_initiator	order_initiator
order_number	order_number
	order_item_number
	data_set_id
	order_item_shipping_instr

3.4.2.7 ORDER SHIPPING ADDRESS

User View Terse Name: ordshpaddruv

The Order Shipping Address user view retrieves shipping addresses for data orders placed at the Central Node. Using the name of the order initiator and an order number as inputs, it returns the address the data will be shipped to, unless the order is filled electronically.

Input:	Output:
order_initiator	order_initiator
order_number	order_number
	order_shipping_address *

Chapter 4

LOGICAL RELATIONAL SCHEMA

4.1 INTRODUCTION

This chapter of the Catalog Design Document contains the full logical relational schema for the catalog database. For purposes of display only, the schema is divided into four sections, each one dealing with a different set of catalog data. The schema for the High Level Catalog is presented in Section 4.2. Section 4.3 contains the schema for the Detailed Level Catalogs. Section 4.3.1 shows the Image Detailed Level Catalog schema, and Section 4.3.2 shows the Fields and Particles Detailed Level Catalog schema. Section 4.4 gives the schema for all of the data having to do with PDS system functions, and section 4.5 contains the schema for the data dictionary relations. The following paragraph is intended to summarize the distinctions between the various catalogs. A more complete discussion is contained in Chapter 3 of the PDS FDD.

The PDS catalog system has been divided conceptually into two levels of information. The meta-data in the High Level Catalog provides information that is generic to all of the data sets in the PDS. It contains information about entities such as spacecraft, targets, personnel, instruments, data sets, etc., that is not discipline or data set specific. It also contains information necessary for the ordering and distribution of data. The second conceptual level of information in the system provides more detailed information about a particular data set or instrument, or any other entity. This detailed information may apply to all of the data from a particular discipline as a whole, or to one (or more) individual data sets or instruments. For Version 1.0 of the PDS there are two detailed level catalogs that have been implemented for two of the discipline nodes: Imaging, and Fields and Particles. Ultimately there will be a detailed level catalog for each discipline. These will be added to the system after Version 1.0 becomes operational.

The organization of this Chapter into sections initially follows that of Chapter 3; i.e., High Level Catalog, Detailed Level Catalogs, System Data, Data Dictionary. In each section, the database schema for that section is depicted in two ways. First, there is an Extended Entity-Relationship (EER) diagram for that portion of the database referred to in each of the sections. These are the diagrams described in Section 2.2.2.2. Figure 4-1 depicts the symbols used in these diagrams, and gives their meanings. The actual database tables are depicted over the entity or relationship they describe. The EER schema for the entire catalog database is shown in Figures 4-2 through 4-4 for the High Level Catalog, Figure 4-13 for the Image Detailed Level Catalog, Figures 4-15 through 4-19 for the Fields and Particles Detailed Level Catalog, Figure 4-21 for the system data, and Figure 4-24 for the data dictionary.

The second type of diagrams show the relationships between tables having elements in common. These diagrams explicity show the primary and foreign keys which establish the connections between tables. The tables are grouped on a single diagram by the data dictionary entity they represent. These diagrams are intended to help programmers and/or users understand how tables can be linked together to satisfy a query. The High Level Catalog tables relationships are shown in Figures 4-5 through 4-12, the Image Catalog tables are related in Figure 4-14, the Fields and Particles tables are related in Figure 4-20, the system data table relationships are shown in Figures 4-22 and 4-23, and the data dictionary table relationships are shown in Figures 4-25 through 4-27.

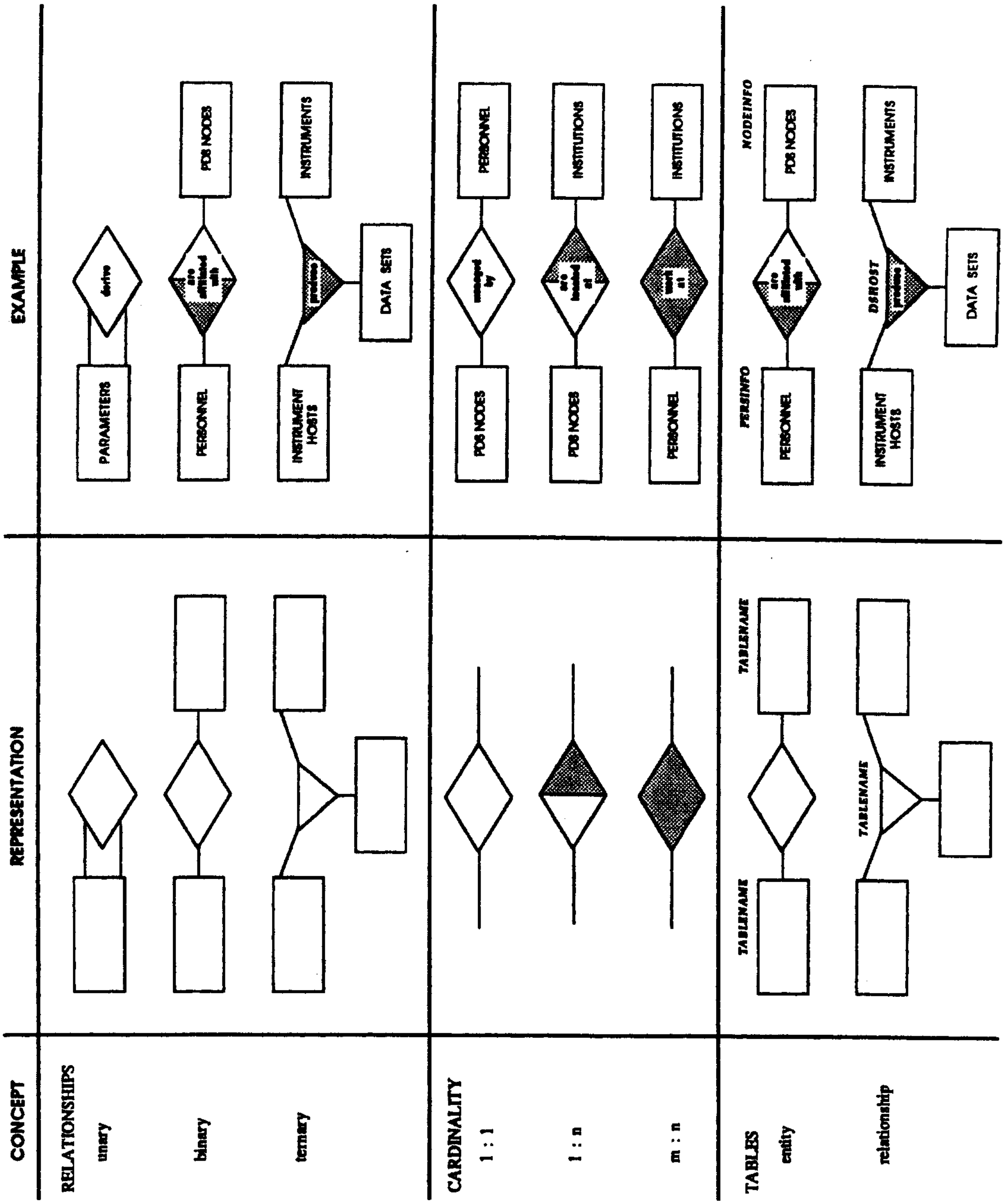

Figure 4–1: FUNDAMENTAL EER CONSTRUCTS

4.2 HIGH LEVEL CATALOG

The PDS High Level Catalog schema is depicted here in three diagrams. Figure 4-2 shows the schema for the main entities in the catalog. All of the relationships have been identified to reflect the requirements in the user views. The database tables derived from the entities and relationships are also shown. Figure 4-3 shows the schema for the complete set of instrument entities, and Figure 4-4 shows the schema for entities related to document references. This schema supports all of the requirements for data retrieval expressed in the High Level Catalog user views in Section 3.2.

All of the database tables to be in the DBMS appear on the EER diagrams, except for the many tables containing description text. Because of the restriction of fixed length rows to a maximum of 255 characters, all of the description elements in the system require a table of their own. Since this is really an implementation detail, and the descriptions are logically part of the entity table, multiple description table names are not shown on these logical design diagrams.

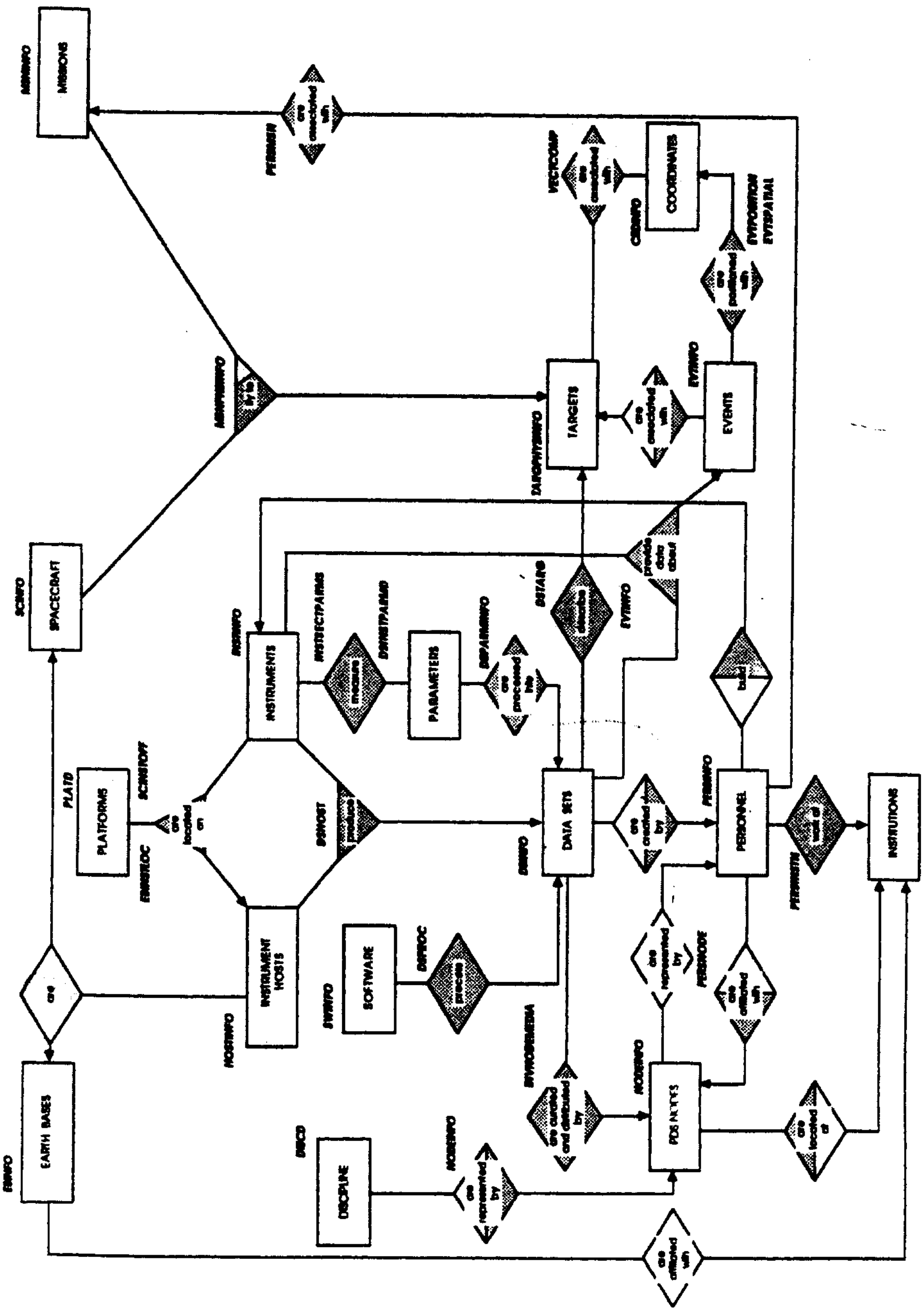

Figure 4–2: HIGH LEVEL CATALOG SCHEMA

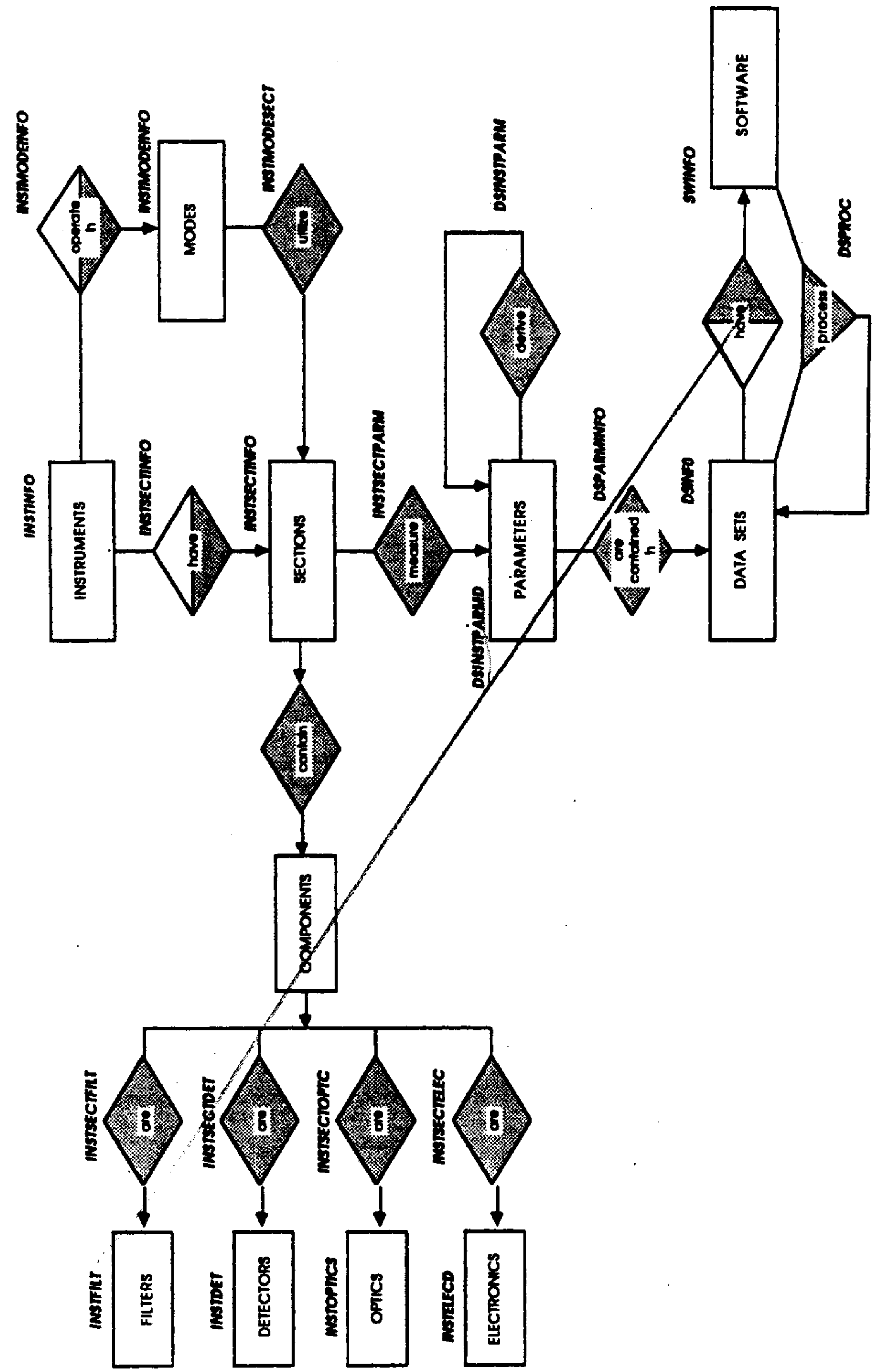

Figure 4–3: HIGH LEVEL CATALOG SCHEMA: INSTRUMENTS

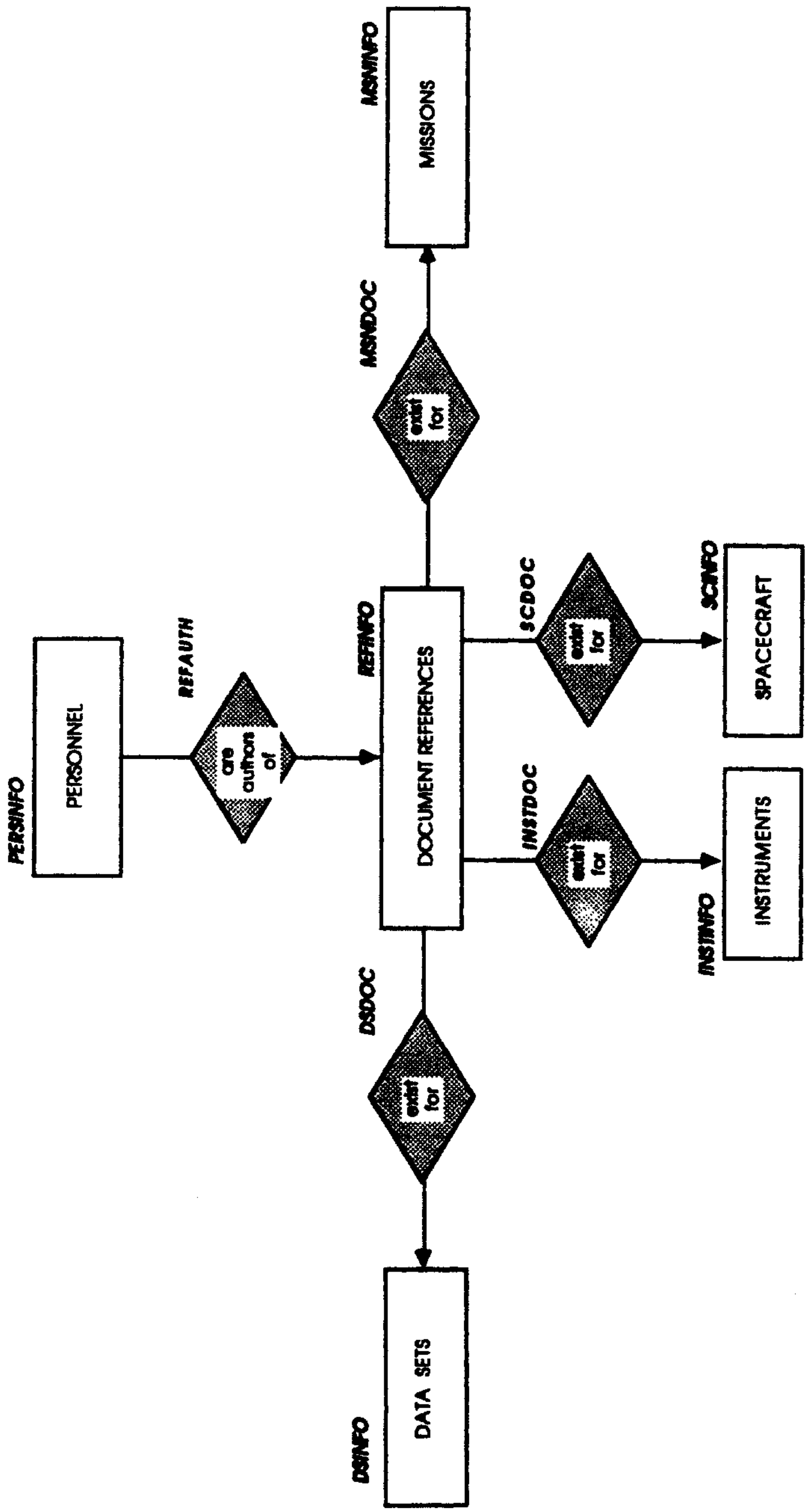

Figure 4–4: HIGH LEVEL CATALOG SCHEMA: REFERENCES

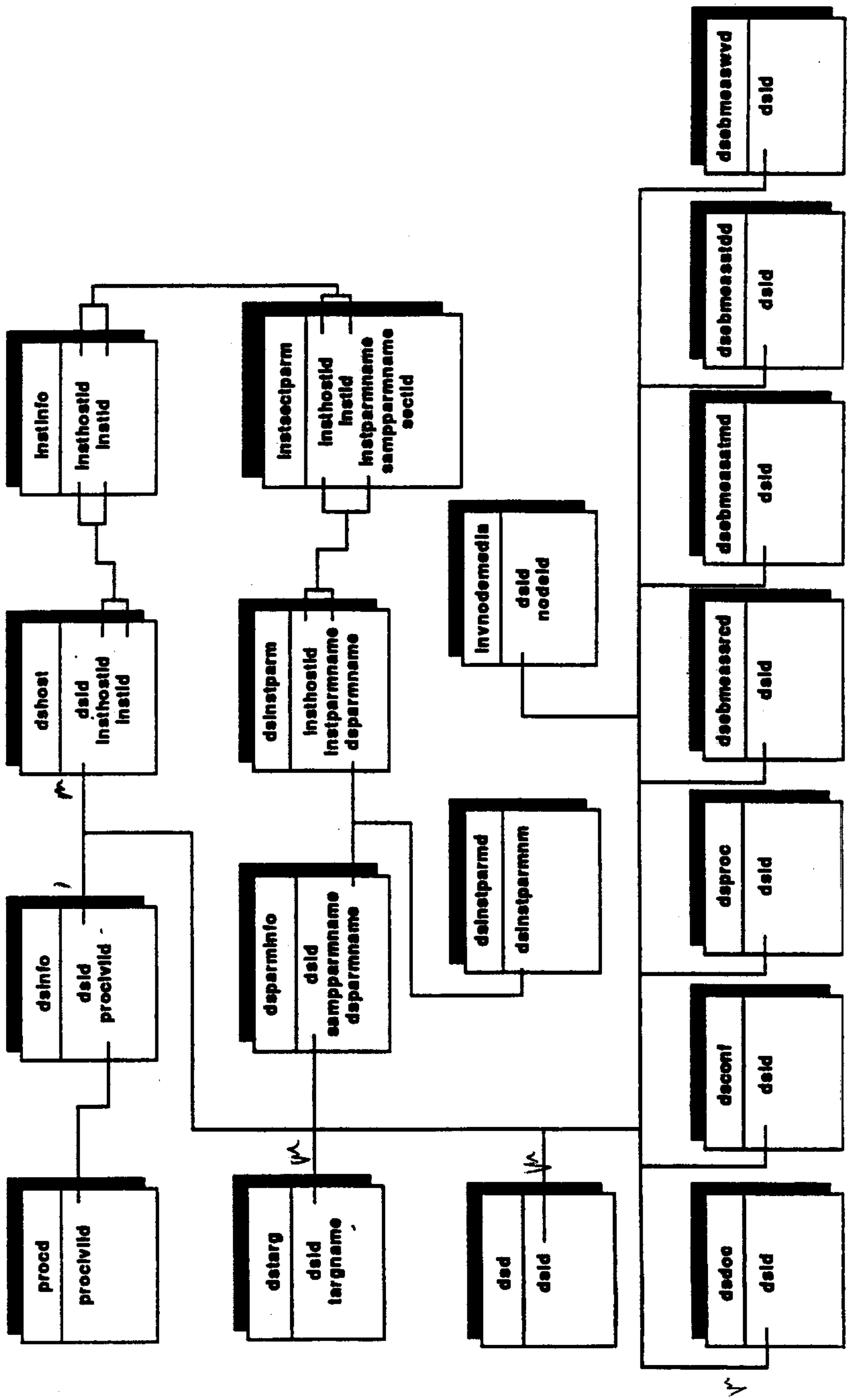

Figure 4–5: DATA SET TABLE RELATIONSHIPS

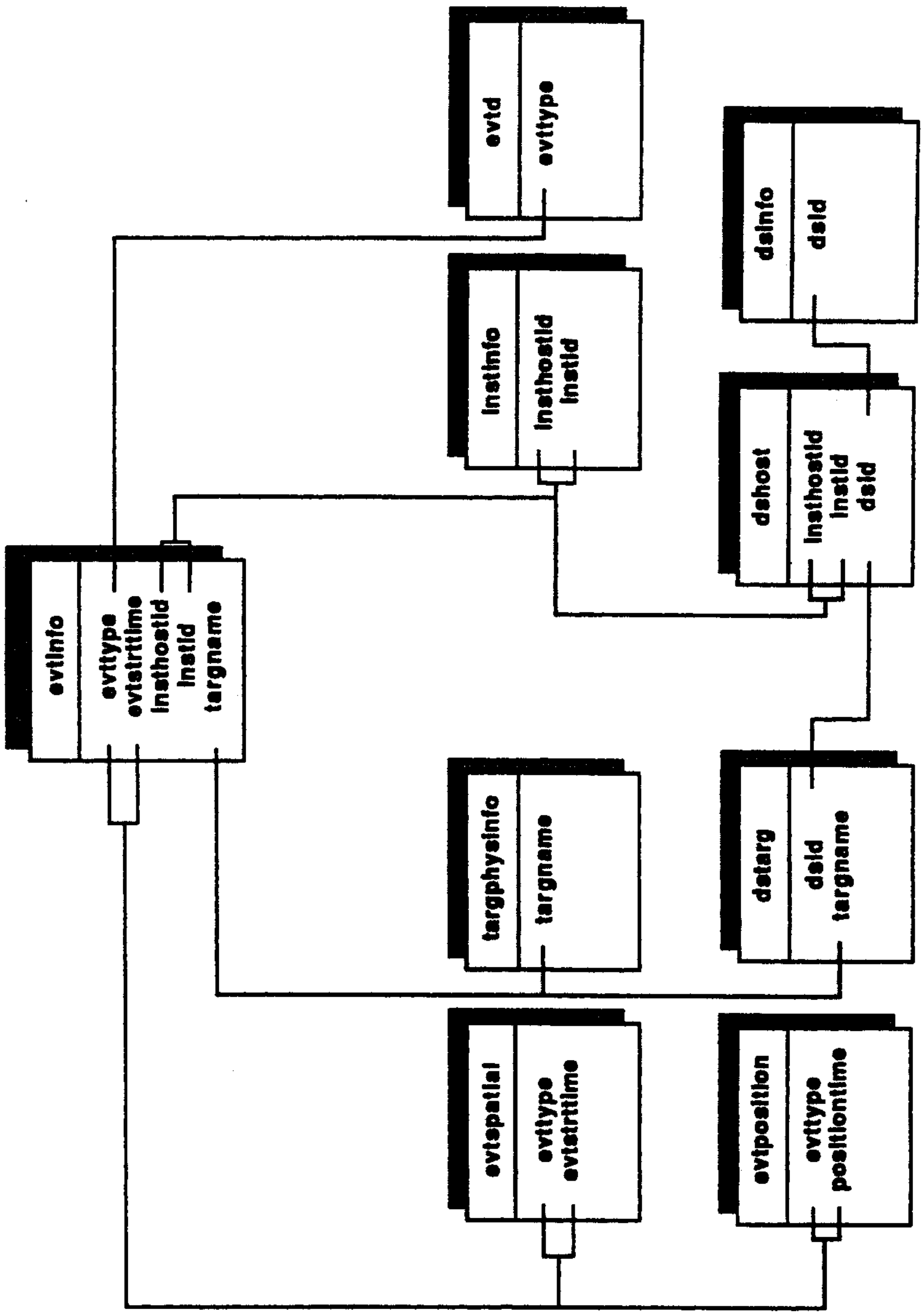

Figure 4–6: EVENT TABLE RELATIONSHIPS

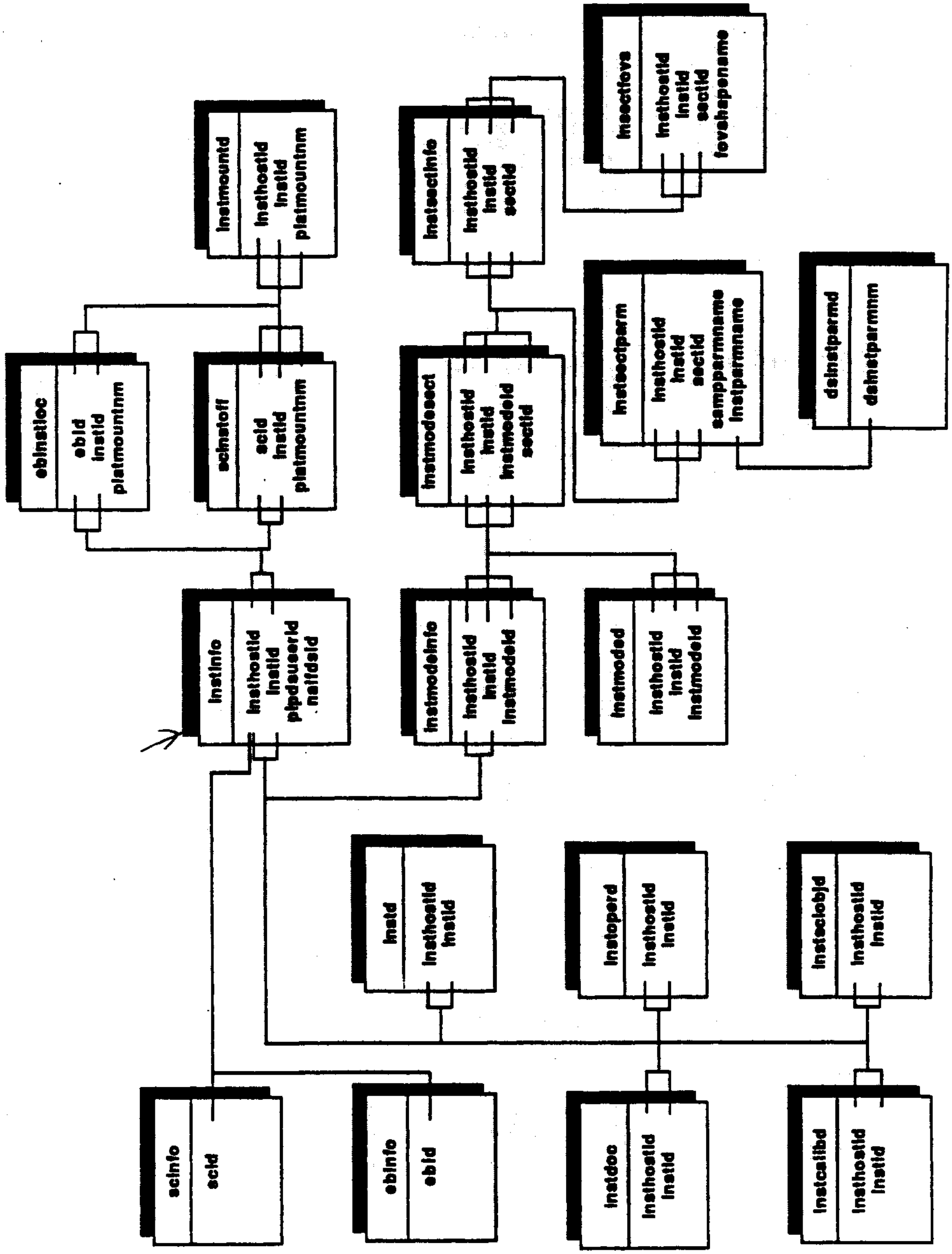

Figure 4-7: INSTRUMENT TABLE RELATIONSHIPS

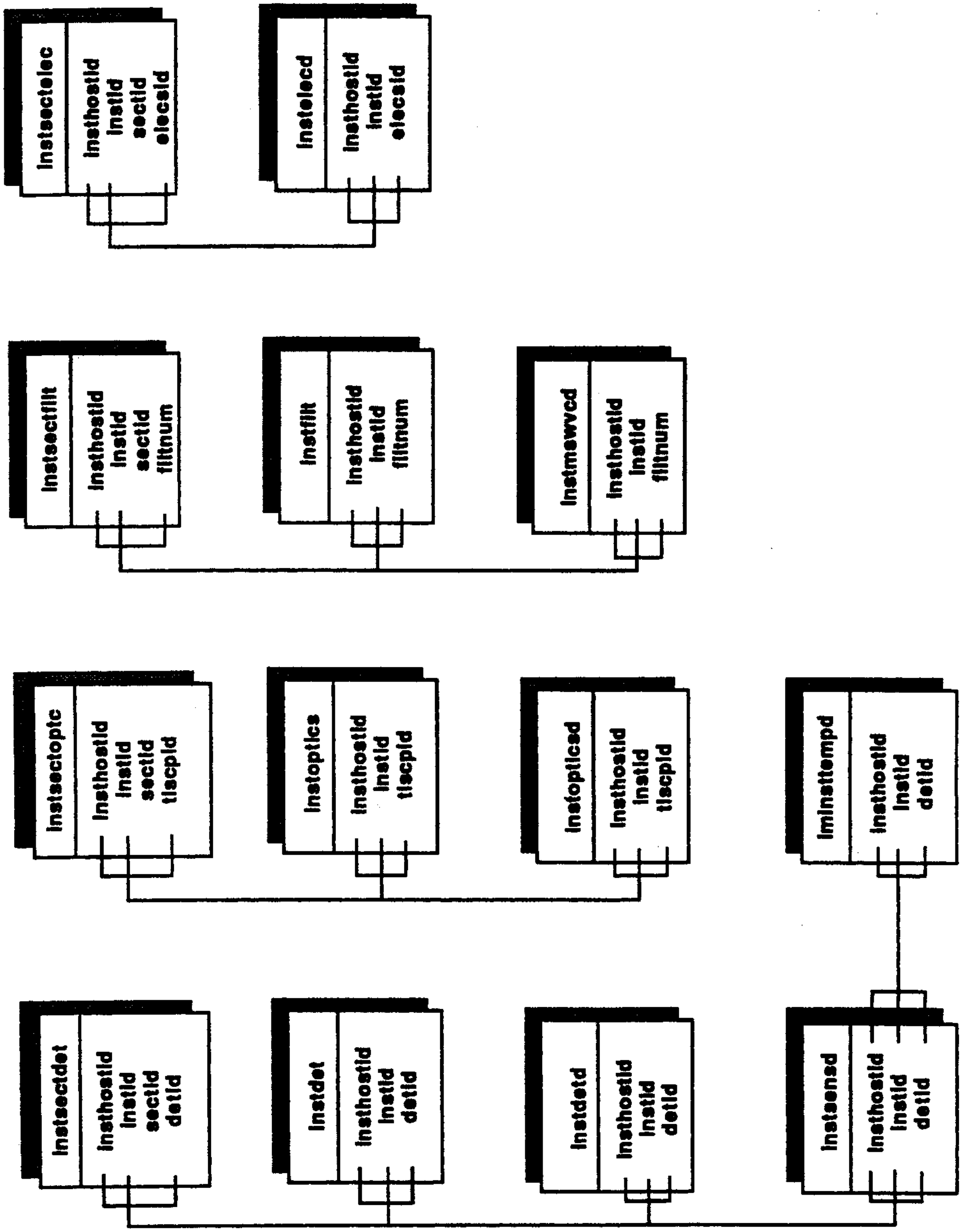

Figure 4–8: INSTRUMENT TABLE RELATIONSHIPS (cont.)

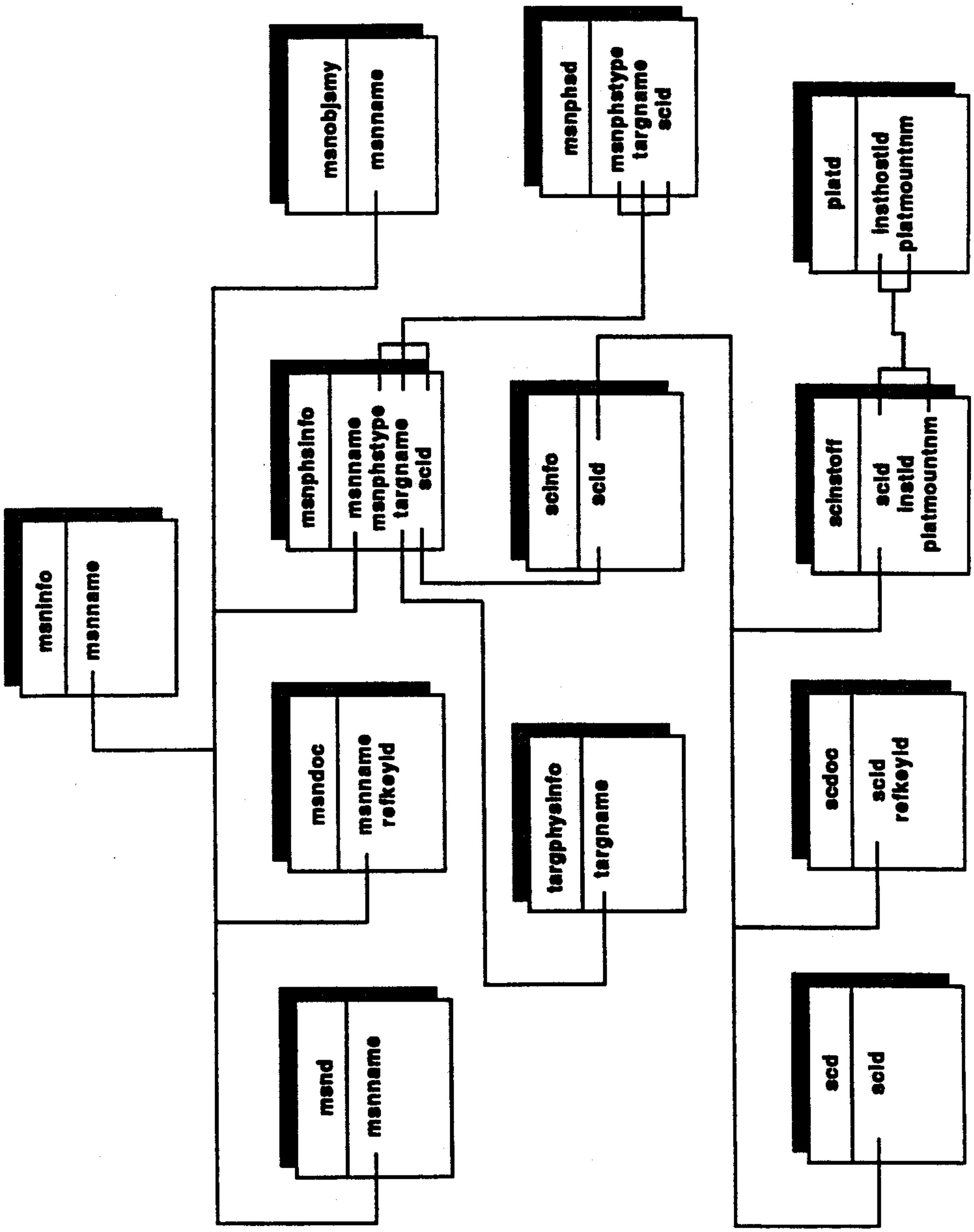

Figure 4–9: MISSION AND SPACECRAFT TABLE RELATIONSHIPS

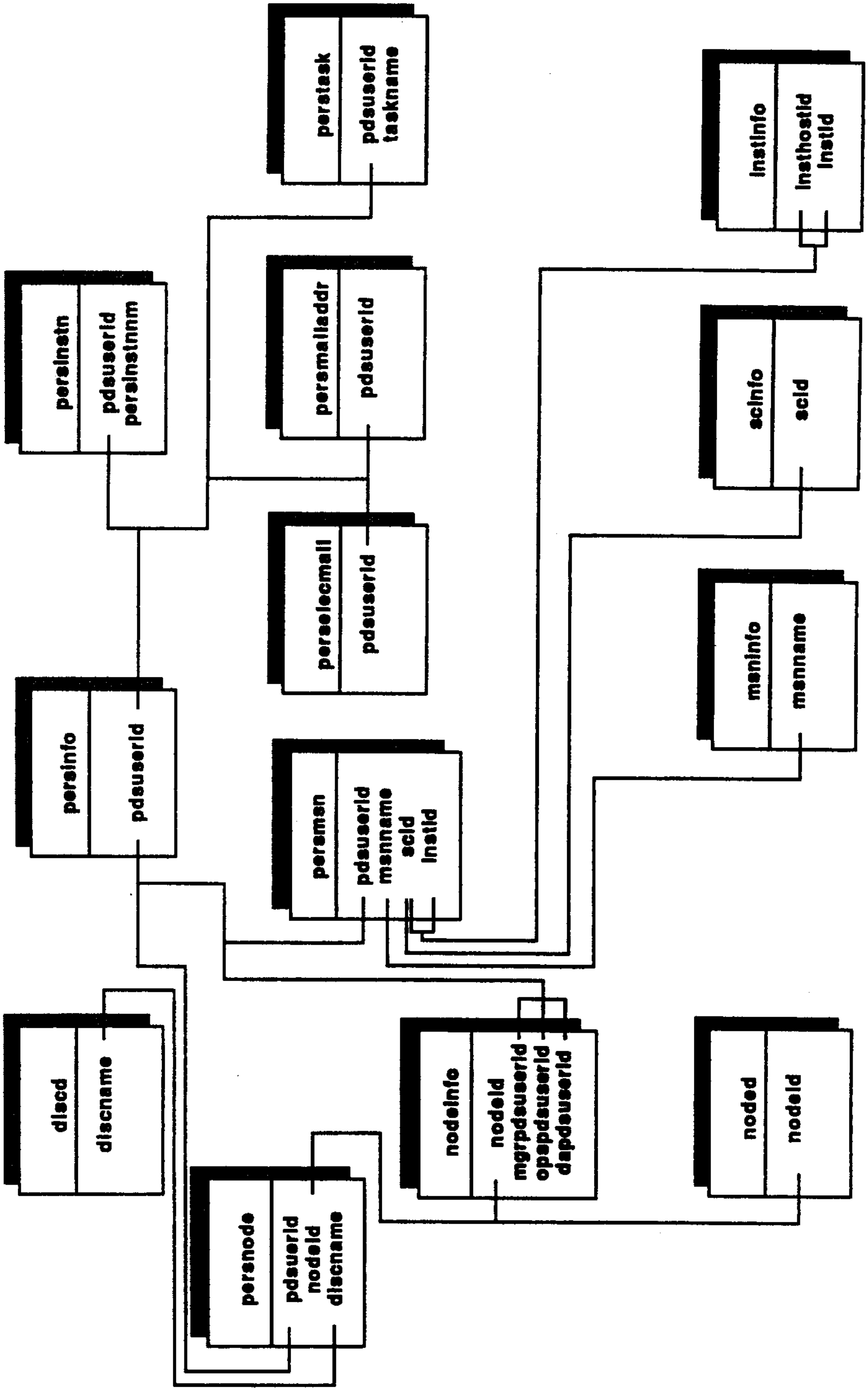

Figure 4–10: NODE AND PERSONNEL TABLE RELATIONSHIPS

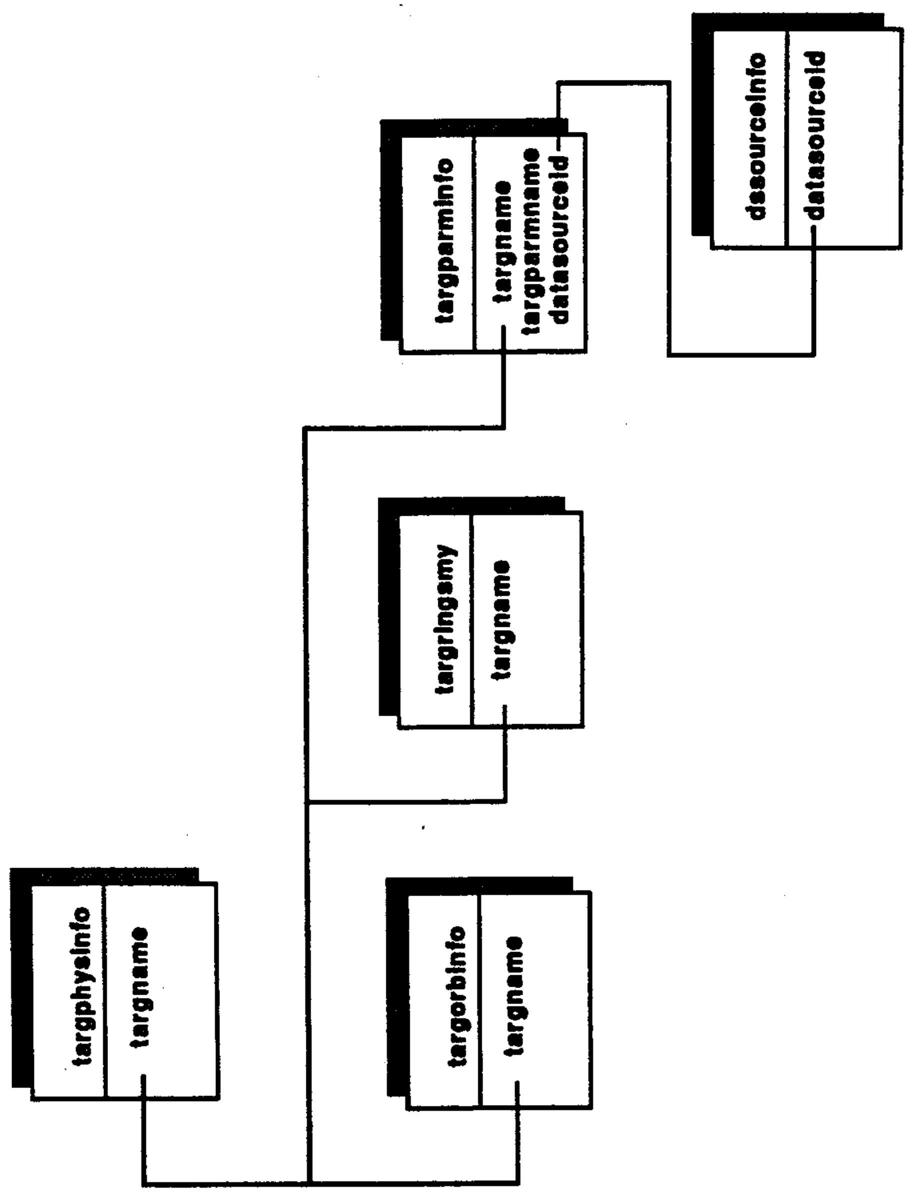

Figure 4–11: TARGET RELATIONSHIP TABLES

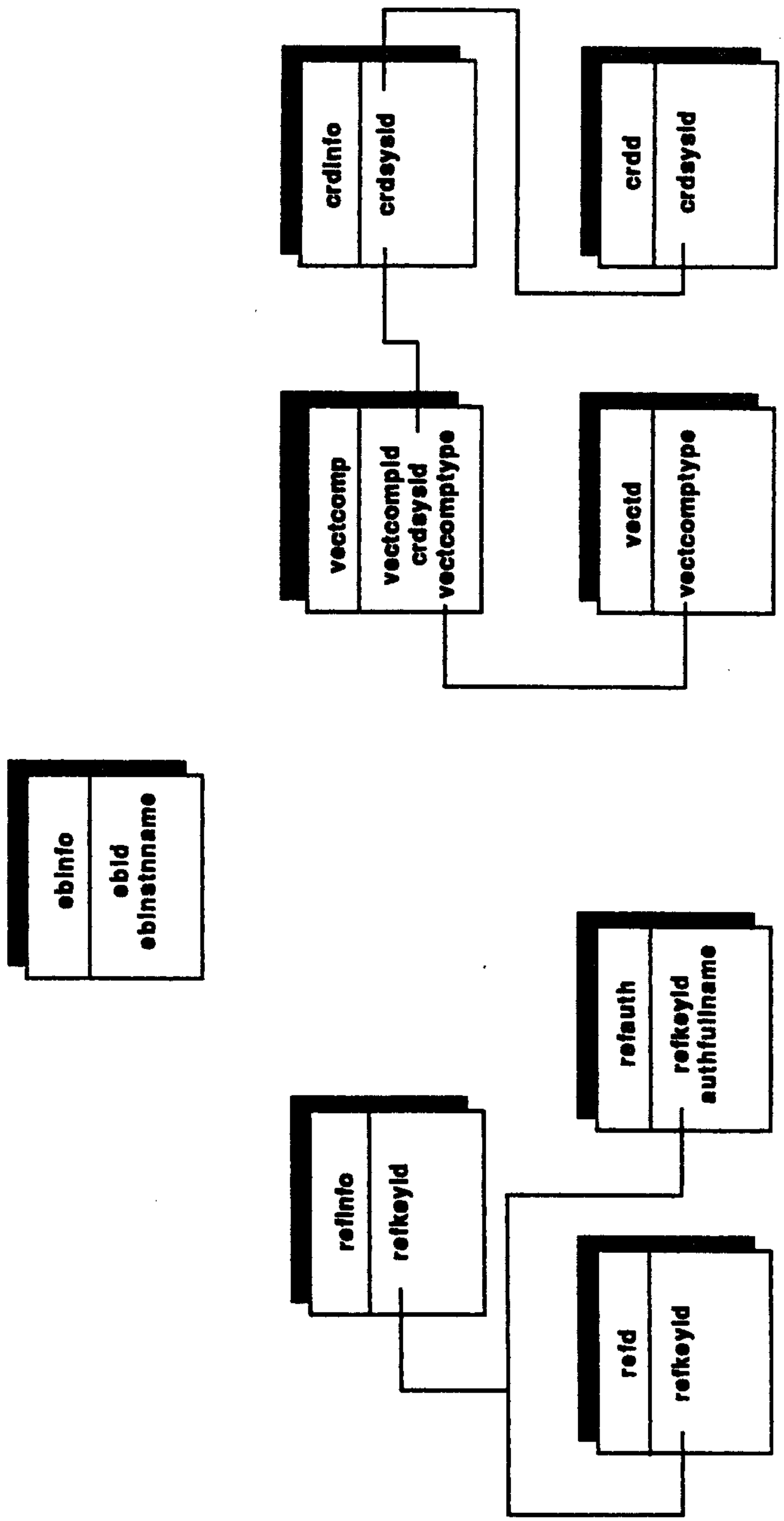

Figure 4–12: MISCELLANEOUS TABLE RELATIONSHIP

4.3 DETAILED LEVEL CATALOGS

The schema for the Image Detailed Level Catalog is shown in Figure 4-13. This schema supports the user views for image detailed information in Section 3.3.1. The table relationships are depicted in the following figure (Figure 4-14).

Figure 4-15 shows the main schema, while Figures 4-16 through 4-19 show the instrument data schemas in detail for the Fields and Particles Detailed Level Catalog. This schema supports the requirements for detailed Fields and Particles information in the user views of Section 3.3.2. The table relationships are shown in the accompanying figure (Figure 4-20).

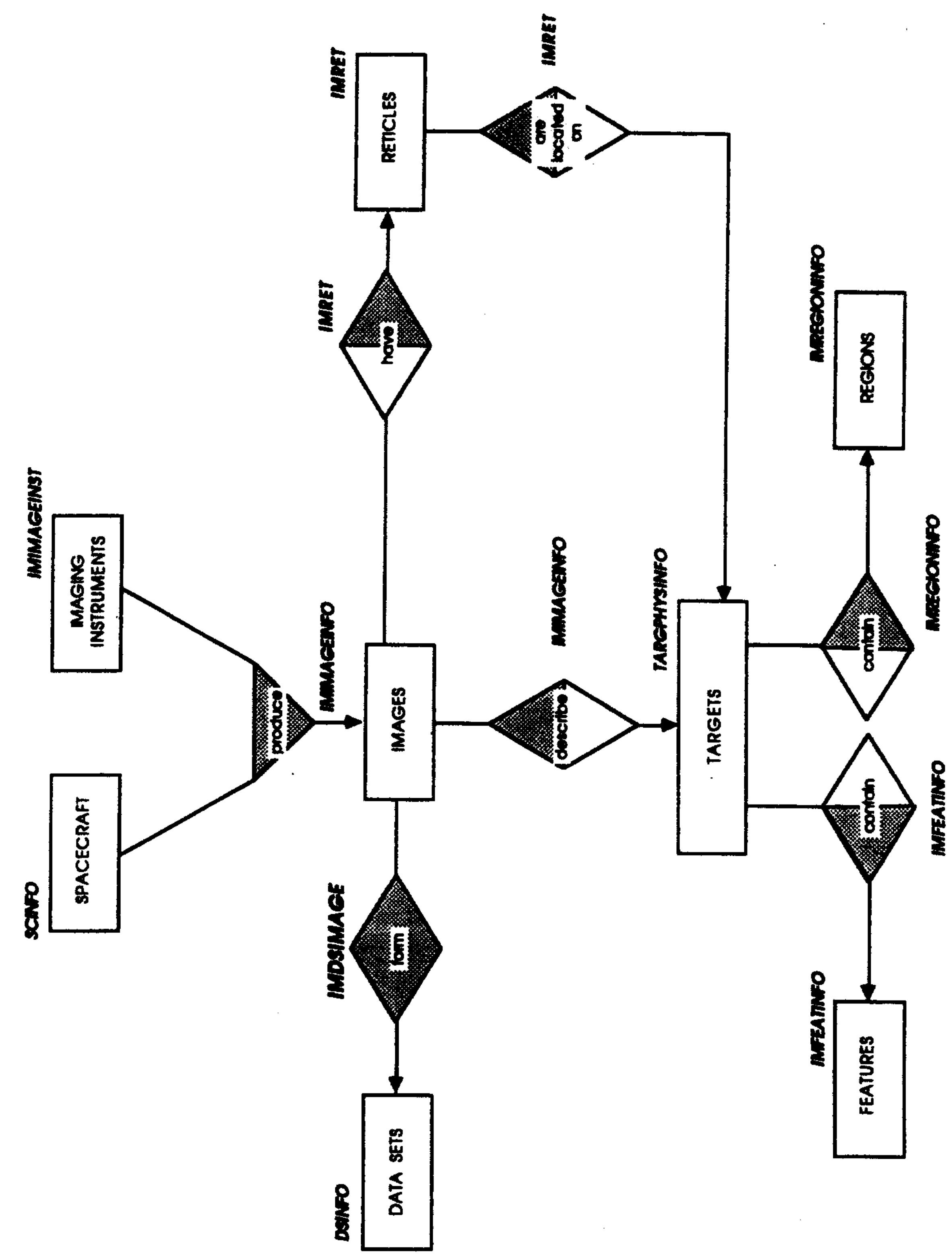

Figure 4–13: IMAGE DETAILED LEVEL CATALOG

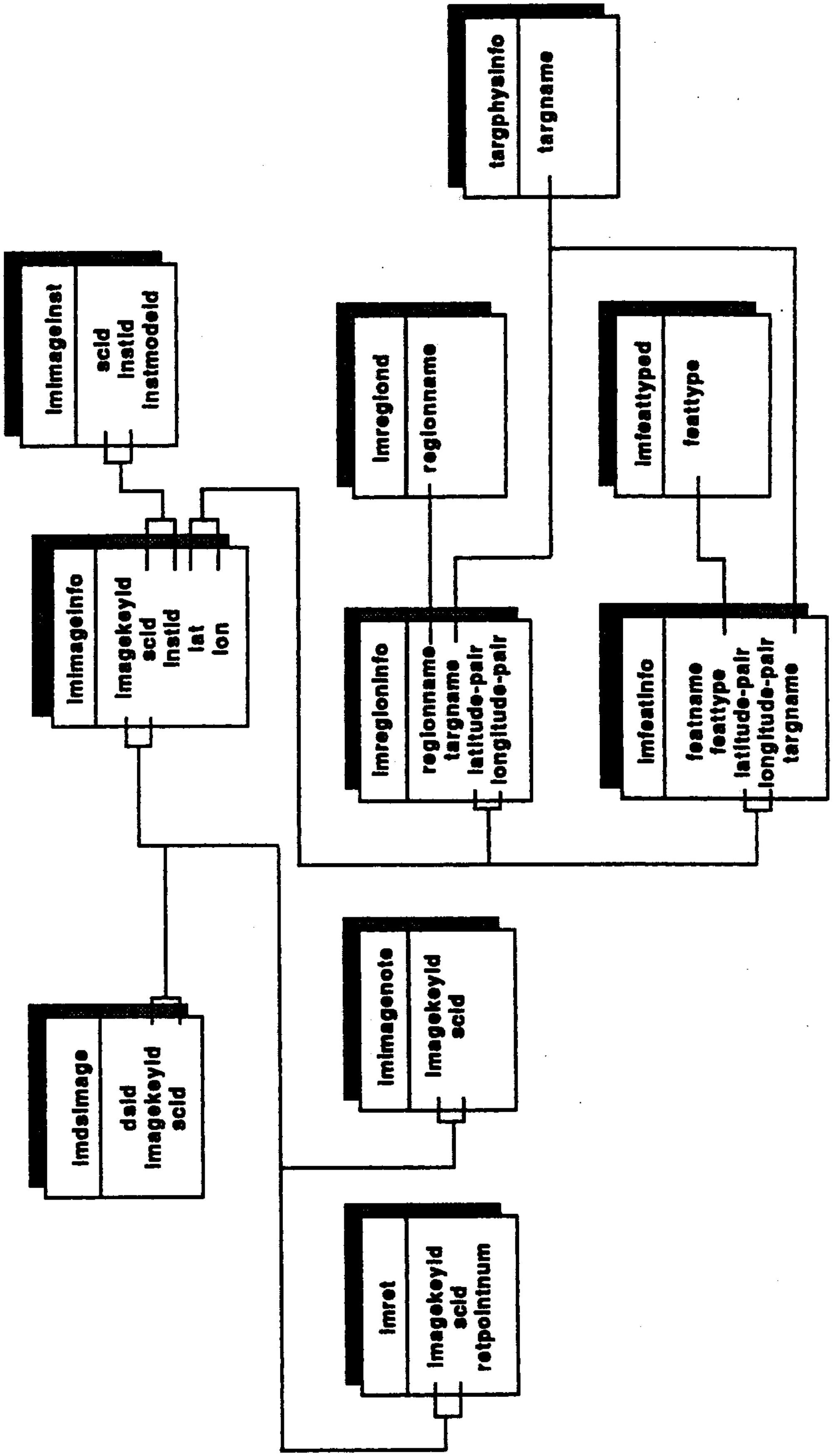

Figure 4–14: IMAGE TABLE RELATIONSHIPS

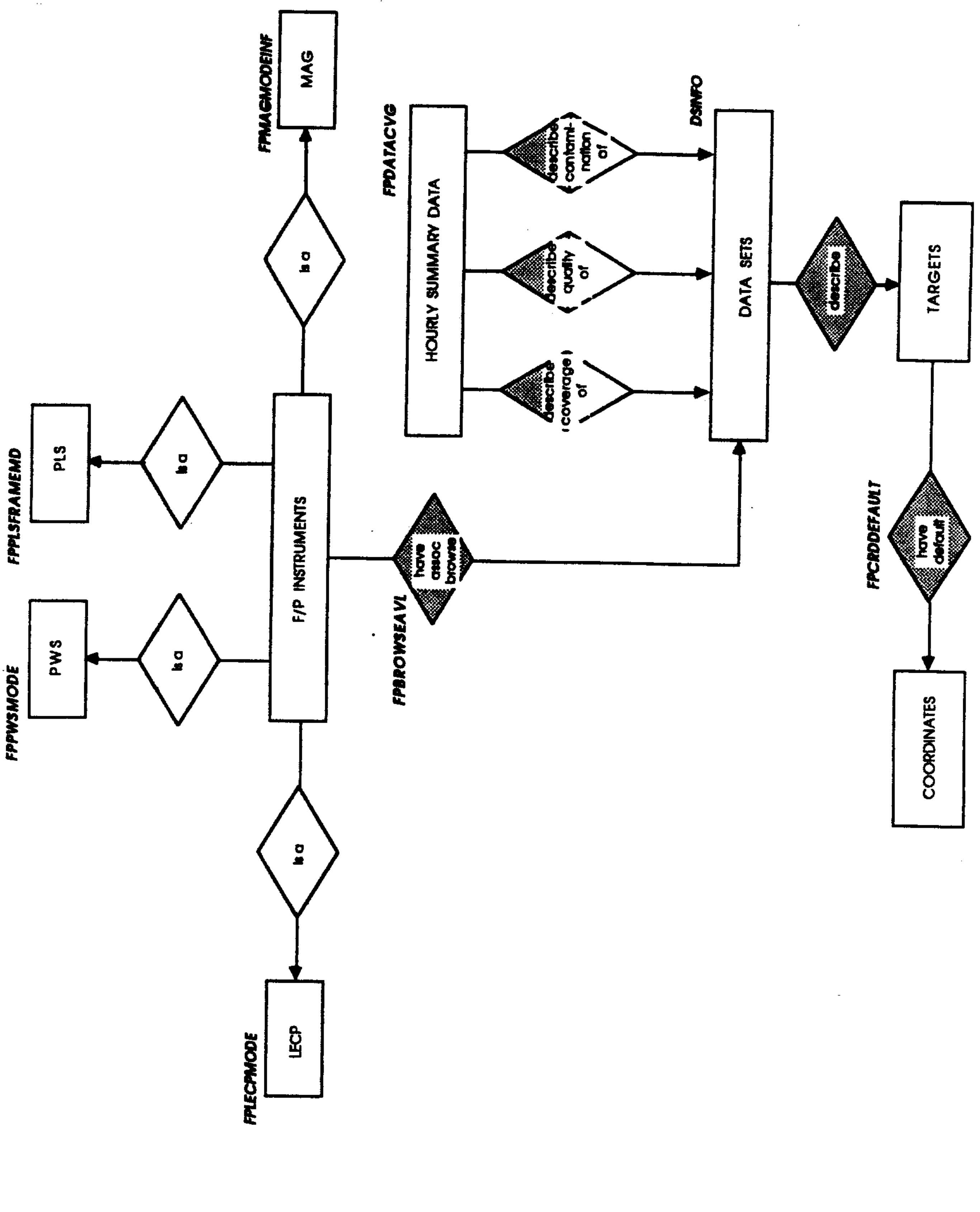

Figure 4–15: FIELDS AND PARTICLES DETAILED LEVEL CATALOG

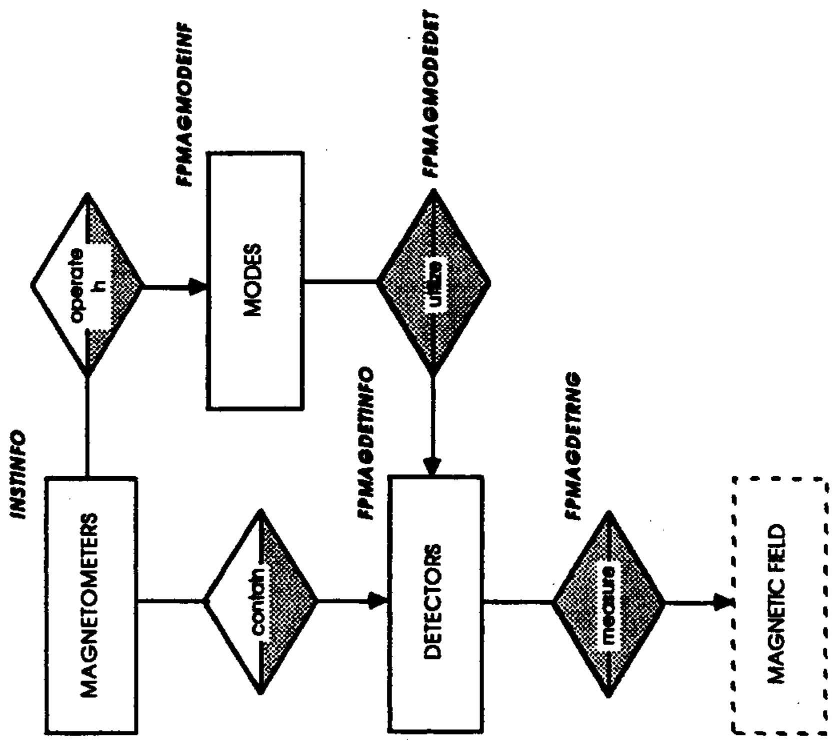

Figure 4–16: FIELDS AND PARTICLES - MAGNETOMETER

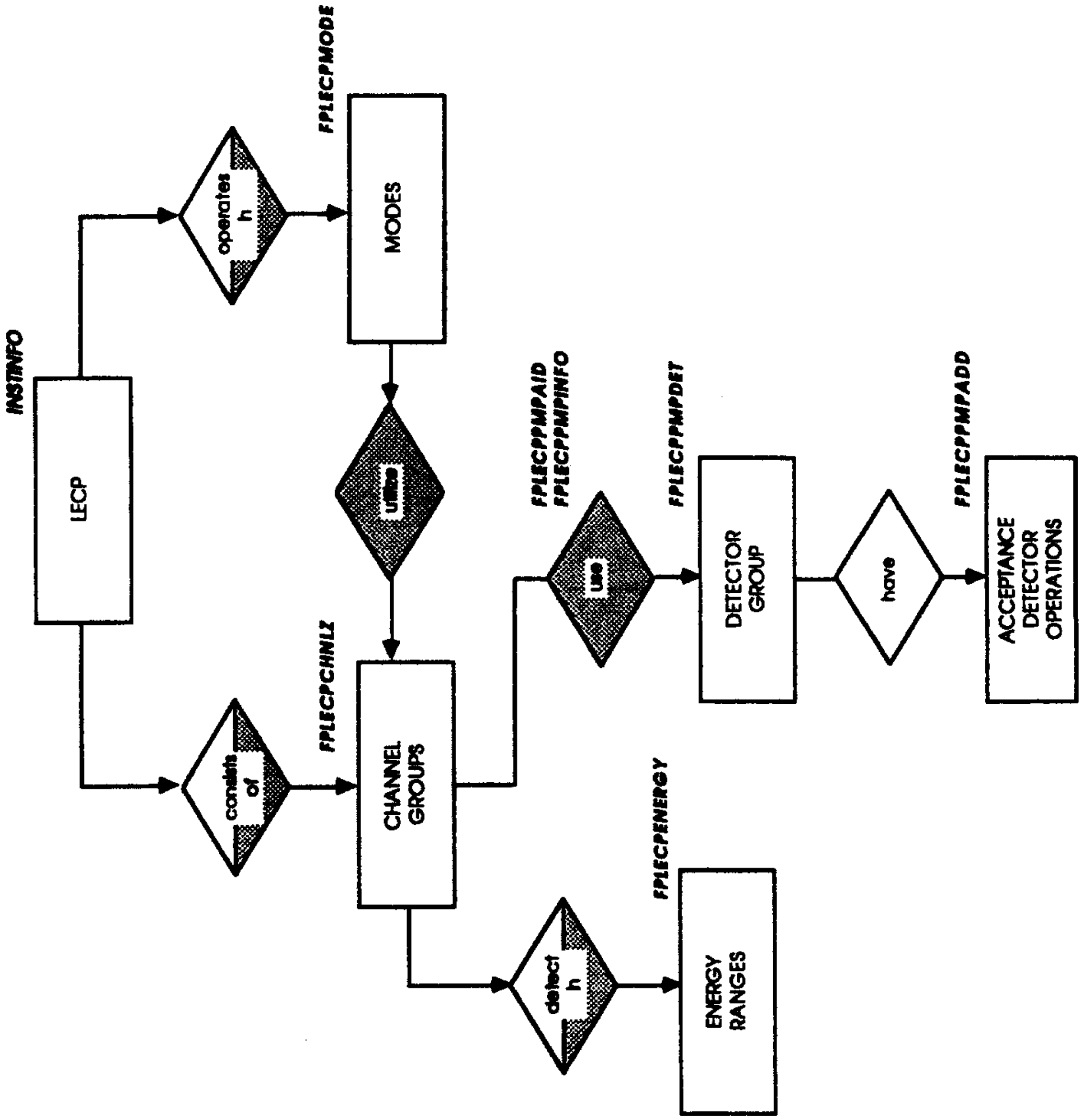

Figure 4-17: FIELDS AND PARTICLES - LOW ENERGY CHARGED PARTICLE DETECTOR

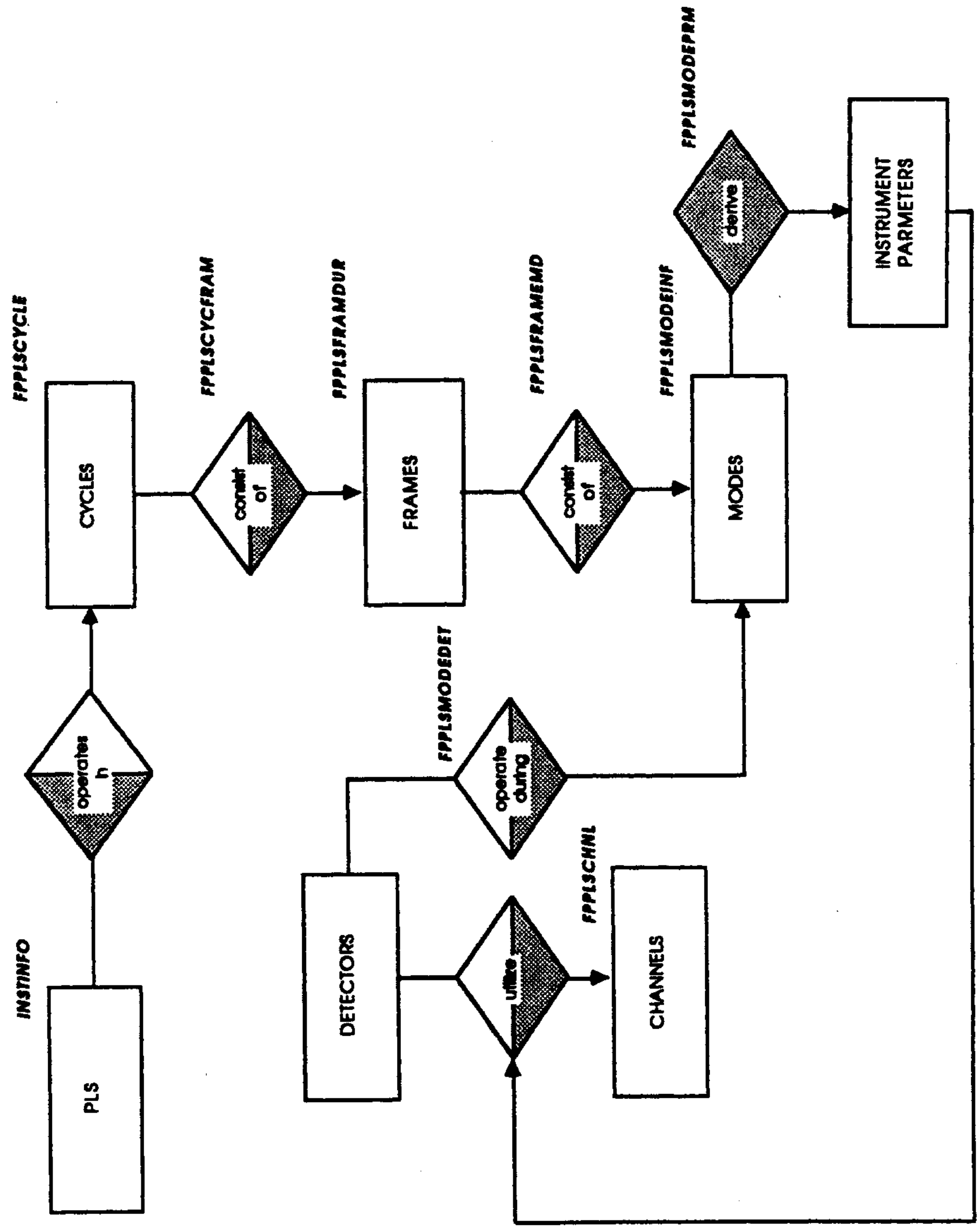

Figure 4-18: FIELDS AND PARTICLES - PLASMA SCIENCE INSTRUMENT

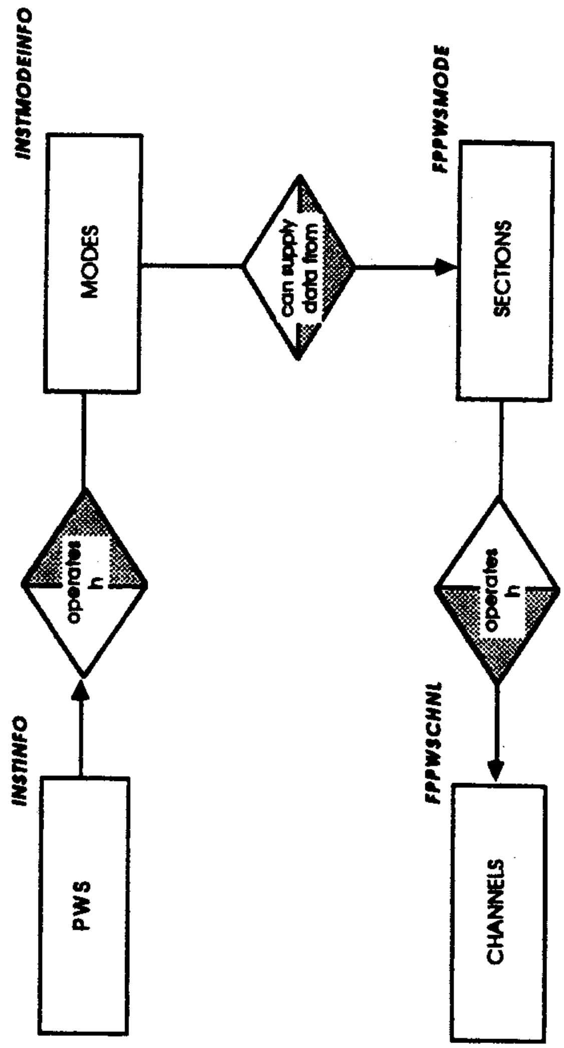

Figure 4–19: FIELDS AND PARTICLES - PLASMA WAVE SPECTROMETER

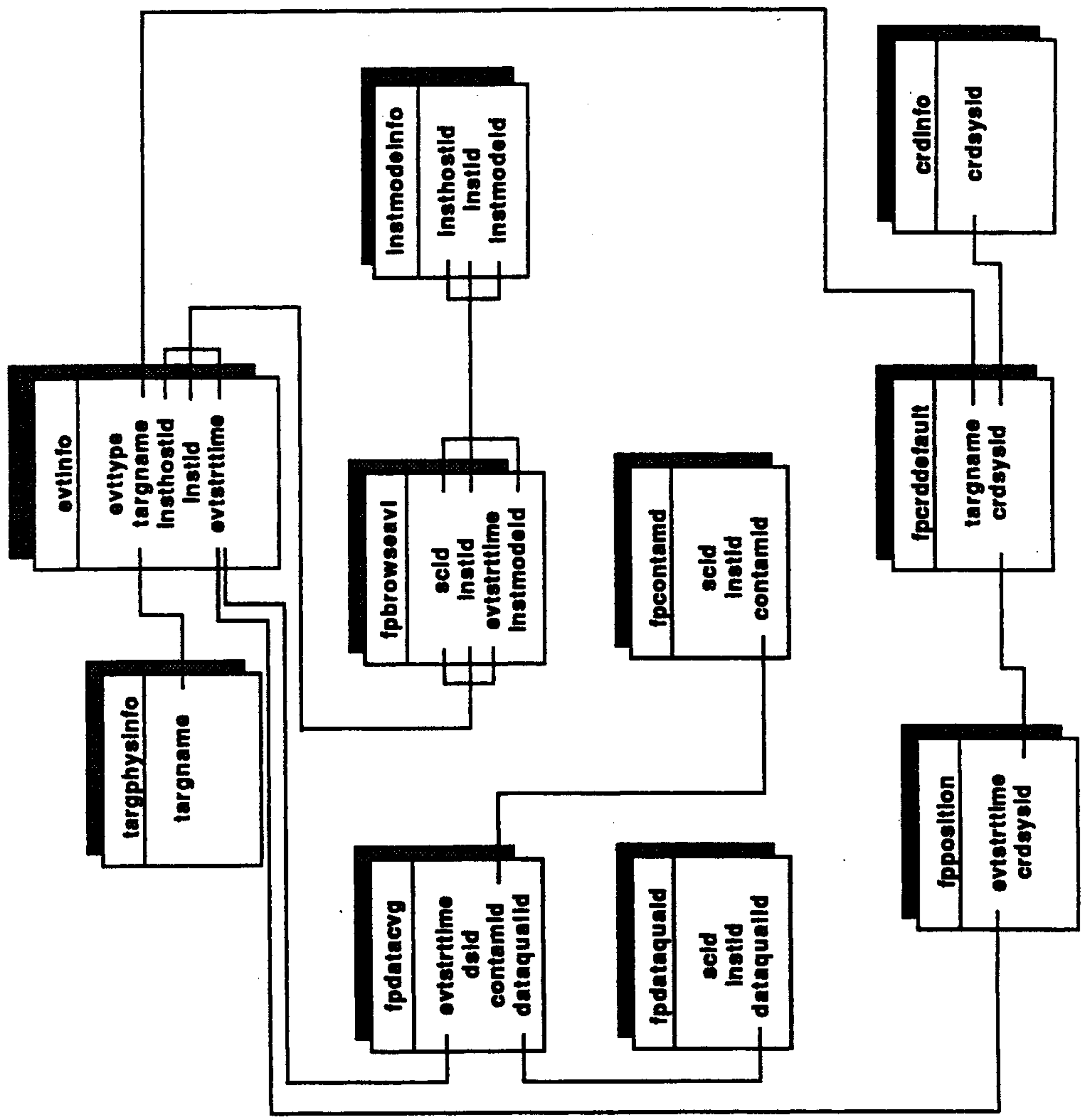

Figure 4–20: FIELDS AND PARTICLES TABLE RELATIONSHIPS

4.4 SYSTEM DATA

Figure 4-21 depicts the schema for the system data in the database. These data support system processing functions related to the ordering and distribution of data, the tracking of peer reviews, customer support, and data loading. The relationships between the various tables are shown in Figures 4-22 and 4-23.

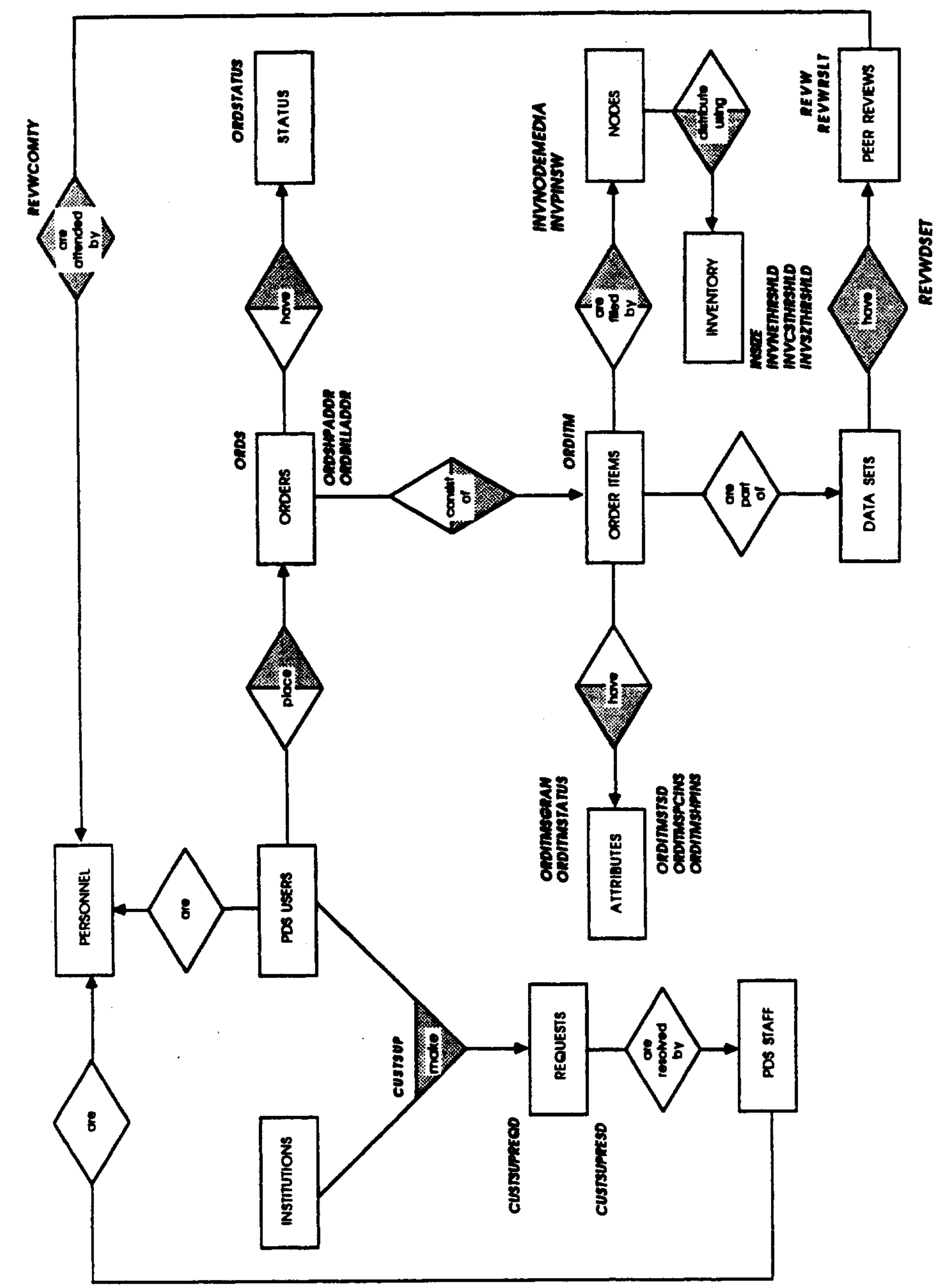

Figure 4-21: HIGH LEVEL CATALOG: SYSTEM DATA

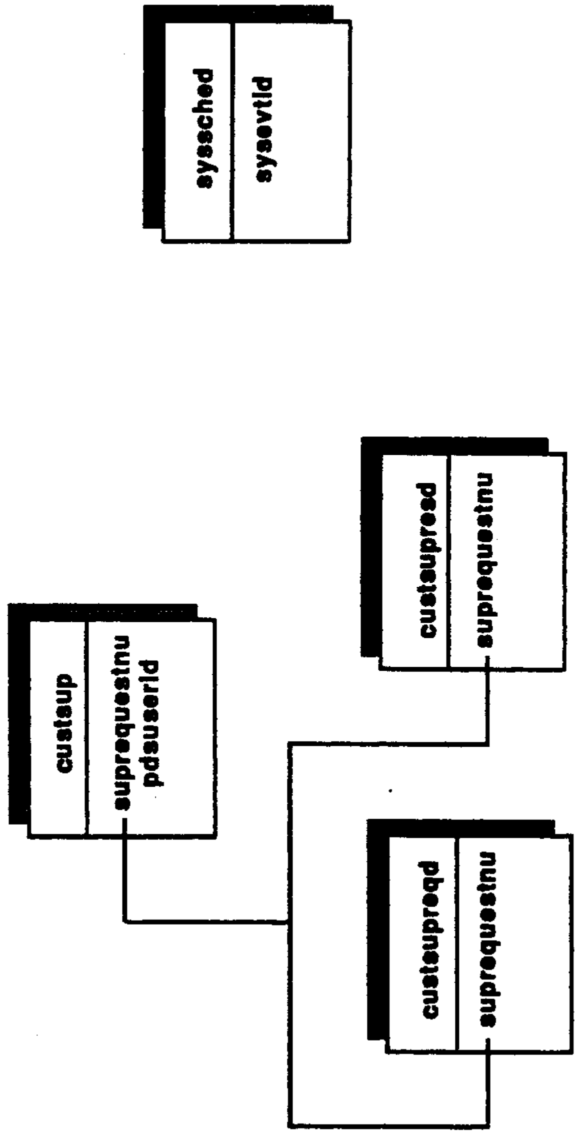

Figure 4–22: CUSTOMER SUPPORT AND SYSTEM SCHEDULE TABLE RELATIONSHIPS

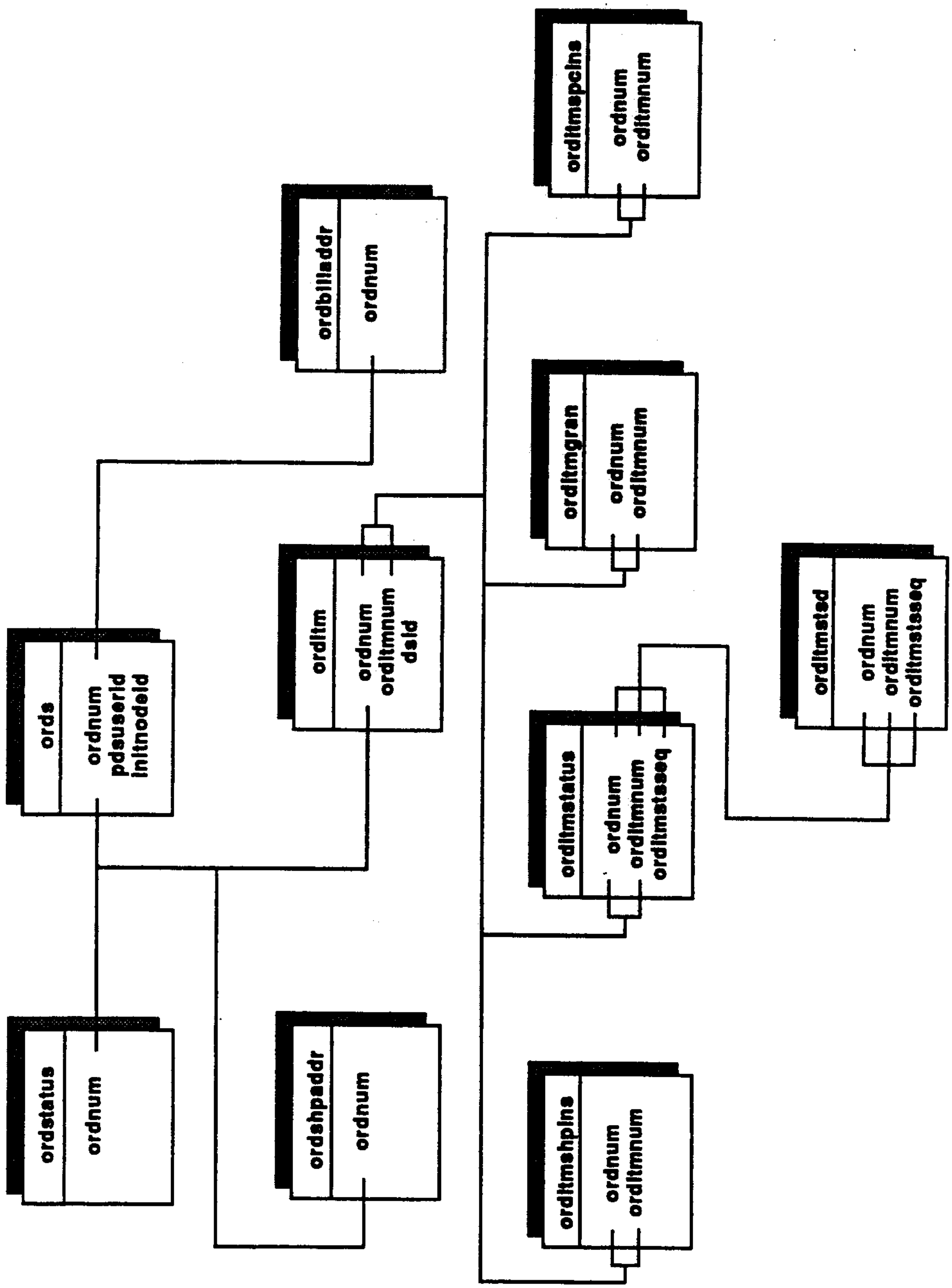

Figure 4–23: ORDER DATA TABLE RELATIONSHIPS

4.5 DATA DICTIONARY

The Data Dictionary is a collection of tables in the Science Catalogs relational database which contain definition information for all of the database constructs. It is, in form, simply a subset of the database. As such, its relational structure is represented in exactly the same way as any other part of the database.

The Data Dictionary is the repository for definitions of all of the Science Catalog data items and data structures for Version 1.0 of the PDS. The preliminary version of the PDS Data Dictionary, published at the end of the preliminary design phase of the system, also contained definitions of data items and data structures. There are differences between the preliminary Data Dictionary and this one. The preliminary version documented the conceptual design of the Science Catalogs, and used the terms of the Entity-Relationship Conceptual Schema. Thus, a data item was called an *element*, and a data structure composed of elements was called either a *group* or an *entity*. This *entity/group/element* nomenclature is the language of the Conceptual Model. The current Data Dictionary now represents the detailed design of the Science Catalogs. This design is expressed in the Relational Data Model, the logical model for the Science Catalogs database. In this model there are two sets of terms for data items and data structures. A data item is now called an attribute of a relation (the data structure), or, more commonly, a column of a table. Thus, the Data Dictionary in this document defines tables and columns and not entities and elements. The mapping from the conceptual terminology to the logical terminology is as follows:

Conceptual Term	Relational Term
entity	relation or table
element	attribute or column

Group structures in the conceptual model usually become tables in the relational model.

In Chapter 6, there are data dictionary definitions for all tables and for all columns in the database. The column definitions are the the element definitions from the earlier dictionary wherever the elements already existed. Some new definitions were added in the logical design phase, and some of the conceptual elements either changed names or were no longer required. The Data Dictionary contained in this document reflects the current design and supercedes the earlier version.

Figure 4-24 depicts the schema for the data dictionary tables. This schema contains tables which represent database tables and columns, standard values for columns, queries, screens, help text, and templates. Figures 4-25 through 4-27 show the relationships between these tables.

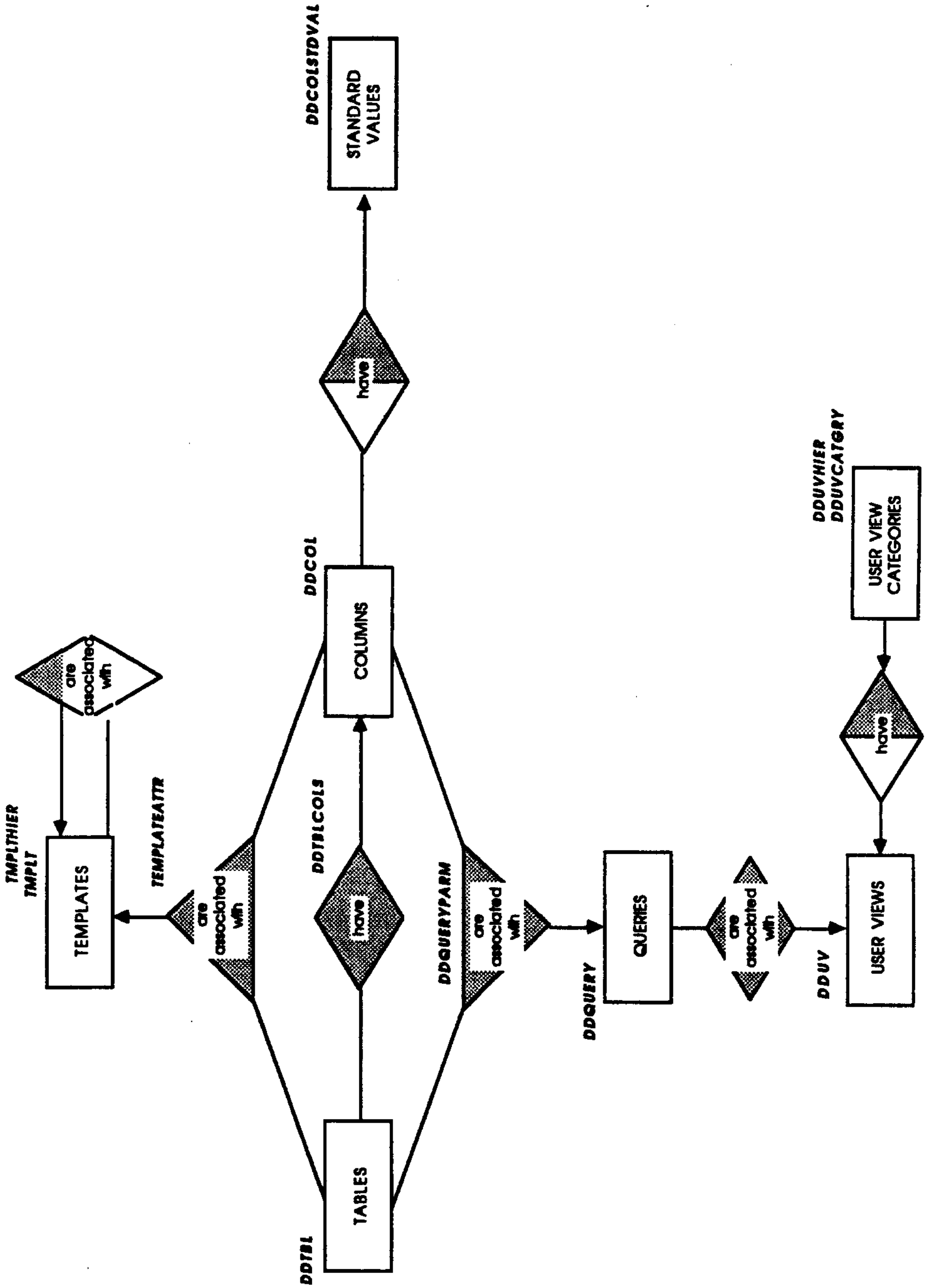

Figure 4–24: DATA DICTIONARY SCHEMA

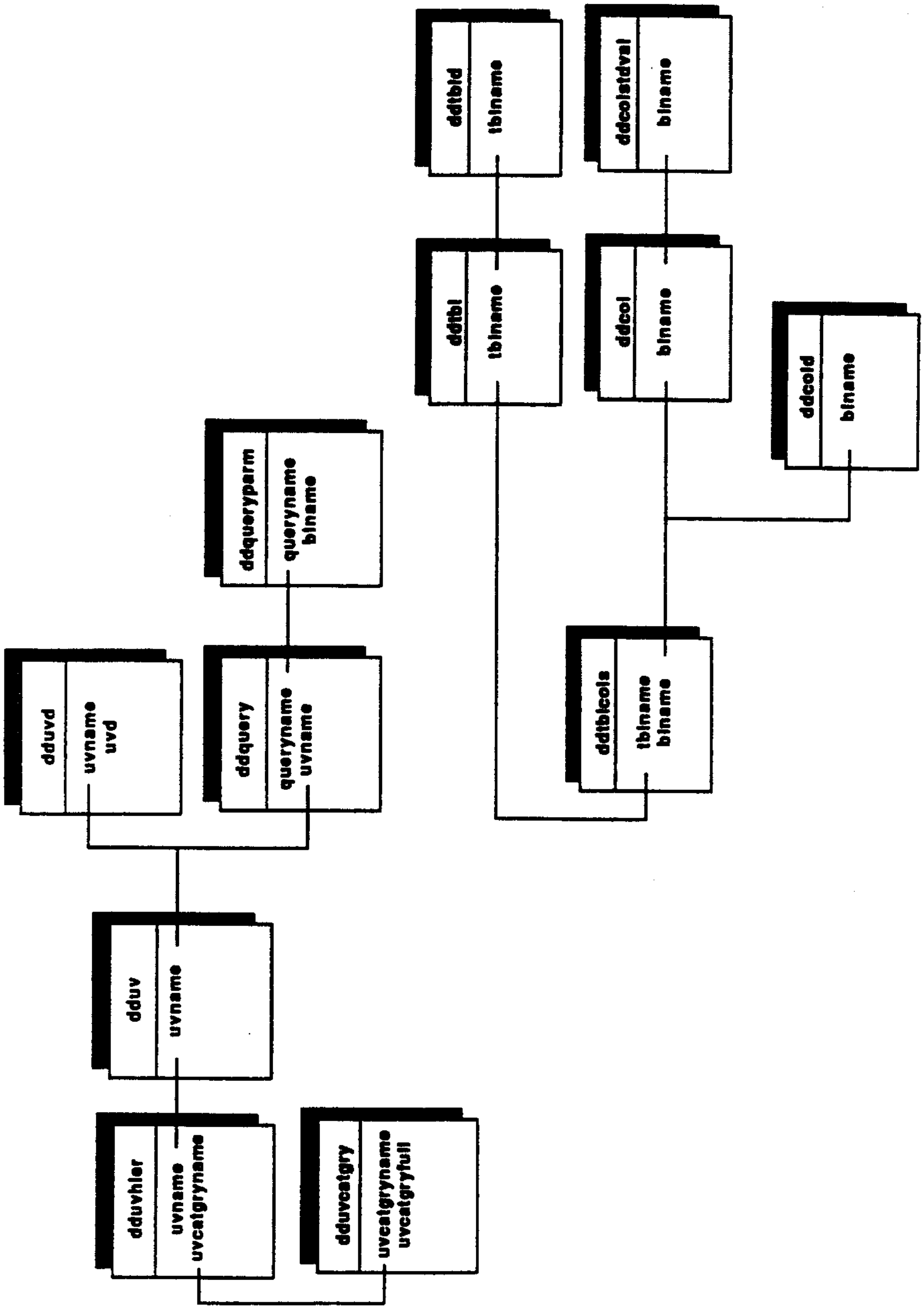

Figure 4–25: DATA DICTIONARY TABLE RELATIONSHIPS

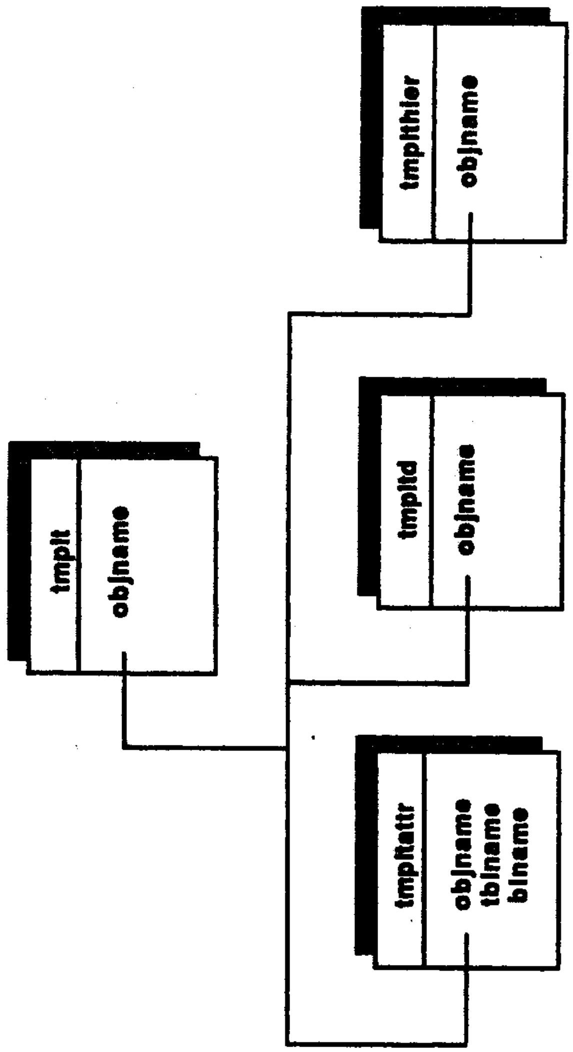

Figure 4–26: TEMPLATE OBJECT TABLE RELATIONSHIPS

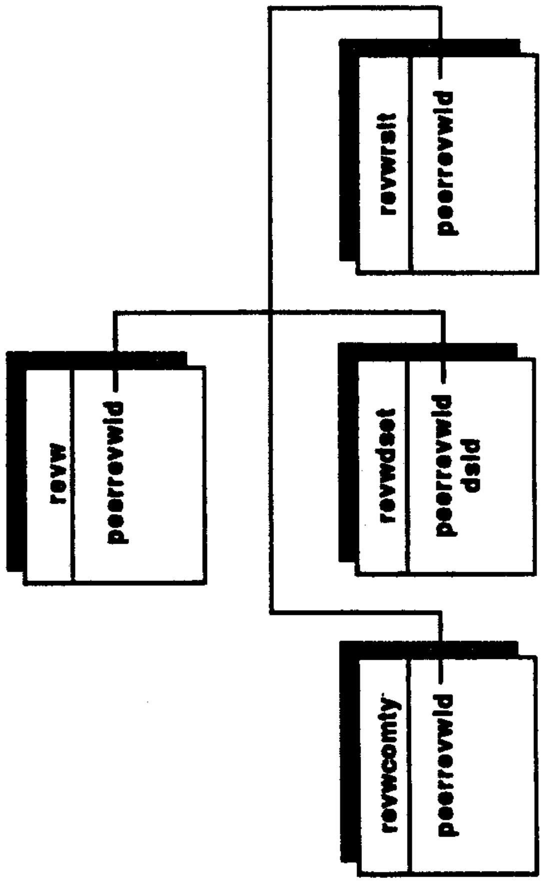

Figure 4–27: PEER REVIEW TABLE RELATIONSHIPS

Chapter 5

PHYSICAL SCHEMA

5.1 TABLE NAMES AND DEFINITIONS

This section identifies and defines all the tables (relations) in the database schema for the Science Catalogs and System Data. For each table, all of the columns (attributes) of the table are shown. For each column, its SQL data type is given, along with indications of the column's role as a database key as either unique (i.e., primary) or foreign and whether or not that column is mandatory. A primary key is a column, or group of columns, that uniquely identifies a row (of a table). A foreign key means that the element is a primary key, or component of a primary key, in some other table in the database. A more complete explanation of these database terms can be found in *A Guide to the SQL Standard*, C. J. Date, 1987. If a column is mandatory (i.e. a "Y" entry appears under the mandatory heading) there must be a value in that column for every tuple of that table. A summary description of the table completes the table definition.

HIGH LEVEL CATALOG TABLES

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
crdd	crdsysid	char(8)	unique	Y
	tupseqnum	smallint	unique	N
	crdsysd	char(60)		N

TABLE DESCRIPTION: The crdd table 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.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
crdinfo	crdsysid	char(8)	unique	Y
	crdsysctrnm	char(40)		N
	crdsysepoch	float(17)		N
	crdsysname	char(30)		N

TABLE DESCRIPTION: The crdinfo table identifies a particular reference coordinate system and the location of its center, as well as the reference epoch.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
discd	**discname**	**char(30)**	**unique**	**Y**
	tupseqnum	**smallint**	**unique**	**Y**
	discd	**char(60)**		**N**

TABLE DESCRIPTION: **The discd table describes the discipline identified by the discipline_name element.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dsconf	**dsid**	**char(40)**	**unique**	**Y**
	tupseqnum	**smallint**	**unique**	**Y**
	conflvlnote	**char(60)**		**N**

TABLE DESCRIPTION: **The dsconf table describes the level of confidence in the accuracy of the data or in the ability of the software to produce accurate results.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dsd	**dsid**	**char(40)**	**unique**	**Y**
	tupseqnum	**smallint**	**unique**	**Y**
	dsd	**char(60)**		**N**

TABLE DESCRIPTION: **The dsd table describes the content and type of a data set and provides information required to use the data (such as binning information).**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dsdoc	**dsid**	**char(40)**	**unique**	**Y**
	refkeyid	**char(20)**	**unique**	**Y**

TABLE DESCRIPTION: **The dsdoc table identifies reference material pertaining to a data set.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dsebmeasatmd	**dsid**	**char(40)**	**unique**	**Y**
	insthostid	**char(4)**	**unique**	**Y**
	instid	**char(4)**	**unique**	**Y**
	tupseqnum	**smallint**	**unique**	**Y**
	measatmd	**char(60)**		**N**

TABLE DESCRIPTION: **The dsebmeasatmd table describes the atmospheric conditions through which ground data were taken.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dsebmeassrcd	dsid	char(40)	unique	Y
	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	tupseqnum	smallint	unique	Y
	meassourced	char(60)		N

TABLE DESCRIPTION: The dsebmeassrcd table describes the source of an earth-based generated data set.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dsebmeasstdd	dsid	char(40)	unique	Y
	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	tupseqnum	smallint	unique	Y
	measstdd	char(60)		N

TABLE DESCRIPTION: The dsebmeasstdd table describes the standard object on which observations are performed in order to calibrate an instrument

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dsebmeaswvd	dsid	char(40)	unique	Y
	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	tupseqnum	smallint	unique	Y
	measwvcalibd	char(60)		N

TABLE DESCRIPTION: The dsebmeaswvd table describes the technique and procedure used to calibrate wavelength.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dshost	dsid	char(40)	unique	Y
	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y

TABLE DESCRIPTION: The dshost table identifies a spacecraft instrument or an earth-based instrument which was used to produce a given data set. Also provides identification of the data sets produced by a given instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dsinfo	dsid	char(40)	unique	Y
	dataobjtype	char(30)		N
	detailcatflg	char(1)		N
	dsname	char(60)		N
	dsreleasedt	char(8)		N
	evtstoptime	char(18)		N
	evtstrttime	char(18)		N
	nativestoptm	char(40)		N
	nativestrttm	char(40)		N
	proclvlid	char(1)		Y
	procstoptime	char(18)		N
	procstrttime	char(18)		N
	prodfullname	char(60)		N
	prodinstnnm	char(60)		N
	swflag	char(1)		N

TABLE DESCRIPTION: The dsinfo table identifies and provides basic information about a data set or data product, including the time range covered.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dsinstparm	dsparmname	char(40)	unique	Y
	impinstparms	smallint	unique	N
	insthostid	char(4)	unique	Y
	instparmname	char(40)	unique	Y

TABLE DESCRIPTION: The dsinstparm table provides the relationship between instrument measured and data set derived parameters. For a given data set parameter one can determine the number of instrument parameters needed to produce it.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dsinstparmd	dsinstparmnm	char(40)	unique	Y
	tupseqnum	smallint	unique	Y
	dsinstparmd	char(60)		N

TABLE DESCRIPTION: The dsinstparmd table provides the description of either an instrument or data set parameter.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MAND.
dsparminfo	dsid	char(40)	unique	Y
	dsparmname	char(40)	unique	Y
	sampparmname	char(40)	unique	Y
	dsparmunit	char(60)		N
	maxsampparm	float(17)		N
	minavlsampiv	float(17)		N
	minsampparm	float(17)		N
	noiselevel	float(17)		N
	sampparmiv	float(17)		N
	sampparmres	float(17)		N
	sampparmunit	char(60)		N

TABLE DESCRIPTION: The dsparminfo table provides information about the sampling characteristics of data and identifies the data set physical parameters which were derived from instrument measured data. Also, identification of the noise level associated with the data is provided.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dsproc	proddsid	char(40)	unique	Y
	sourcedsid	char(30)	unique	Y
	swname	char(30)	unique	Y

40

TABLE DESCRIPTION: The dsproc table identifies data sets and the software used to process them.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dssourceinfo	datasourceid	char(60)	unique	Y
	tupseqnum	smallint	unique	Y
	datasourced	char(60)		N

TABLE DESCRIPTION: The dssourceinfo table describes the source of a data value for a target body.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dstarg	dsid	char(40)	unique	Y
	targname	char(30)	unique	Y

TABLE DESCRIPTION: The dstarg table identifies the target(s) of the instrument which recorded the data for a given data set. Also, provides identification of the available data sets for a given target.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ebinfo	ebid	char(4)	unique	Y
	ebinstnname	char(60)		N

TABLE DESCRIPTION: The ebinfo table identifies an earth-based instrument which was used to record a set of data, and the institution at which this instrument is located.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ebinstloc	ebid	char(4)	unique	Y
	instid	char(4)	unique	Y
	lat	float(17)		N
	lon	float(17)		N
	platmountnm	char(30)		Y

TABLE DESCRIPTION: The ebinstloc table provides information which defines the location of the mounting of an earth- based instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
evtd	evttype	char(30)	unique	Y
	tupseqnum	smallint	unique	Y
	evttyped	char(60)		N

TABLE DESCRIPTION: The evtd table describes the event identified by the event_name element. For science-related events, this table also describes the actual or potential impact of the event on the analysis of science data related to the event.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
evtinfo	evtstrttime	char(18)	unique	Y
	evttype	char(30)	unique	Y
	evtname	char(40)		N
	evtstoptime	char(18)		N
	insthostid	char(4)		Y
	instid	char(4)		Y
	targname	char(30)		Y

TABLE DESCRIPTION: The evtinfo table identifies a particular event (such as a bow shock crossing), and gives the time of occurrence of the event.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
evtposition	evttype	char(30)	unique	Y
	positiontime	char(18)	unique	Y
	crdsysid	char(8)		N
	localhourang	float(17)		N
	vectcomp1	float(17)		N
	vectcomp2	float(17)		N
	vectcomp3	float(17)		N
	vectcompid1	char(8)		N
	vectcompid2	char(8)		N
	vectcompid3	char(8)		N

TABLE DESCRIPTION: The evtposition table identifies the physical location of a particular event and the coordinate system used to reference the event location.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
evtspatial	evtstrttime	char(18)	unique	Y
	evttype	char(30)	unique	Y
	crdsysid	char(8)		N
	maxlat	float(17)		N
	maxlon	float(17)		N
	minlat	float(17)		N
	minlon	float(17)		N
	positiontime	char(18)		N

TABLE DESCRIPTION: The evtspatial table provides information about the spatial extent of an event. It identifies four latitude/longitude pairs that define the corners of a rectilinear box or bin. This box or bin defines a logical construct which serves as a bound on a set of data or geological area.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
hostinfo	insthostid	char(4)	unique	Y
	insthostname	char(60)		N
	insthosttype	char(20)		N

TABLE DESCRIPTION: The hostinfo table identifies and describes an instrument's host. This may be a spacecraft, laboratory, or observatory.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instcalibd	**insthostid**	**char(4)**	**unique**	**Y**
	instid	**char(4)**	**unique**	**Y**
	tupseqnum	**smallint**	**unique**	**Y**
	instcalibd	**char(60)**		**N**

TABLE DESCRIPTION: **The instcalibd table explains the method of calibrating an instrument and identifies reference documents which explain in detail the calibration of the instrument.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instd	**insthostid**	**char(4)**	**unique**	**Y**
	instid	**char(4)**	**unique**	**Y**
	tupseqnum	**smallint**	**unique**	**Y**
	instd	**char(60)**		**N**

TABLE DESCRIPTION: **The instd table describes a given instrument.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instdet	**detid**	**char(20)**	**unique**	**Y**
	insthostid	**char(4)**	**unique**	**Y**
	instid	**char(4)**	**unique**	**Y**
	detaspectrto	**float(17)**		**N**
	dettype	**char(20)**		**N**
	maxwave	**float(17)**		**N**
	minwave	**float(17)**		**N**
	nomopertemp	**float(17)**		**N**

TABLE DESCRIPTION: **The instdet table identifies an instrument detector and its operational characteristics.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instdetd	**detid**	**char(20)**	**unique**	**Y**
	insthostid	**char(4)**	**unique**	**Y**
	instid	**char(4)**	**unique**	**Y**
	tupseqnum	**smallint**	**unique**	**Y**
	detd	**char(60)**		**N**

TABLE DESCRIPTION: **The instdetd table describes a detector utilized by an instrument.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instdoc	**insthostid**	**char(4)**	**unique**	**Y**
	instid	**char(4)**	**unique**	**Y**
	refkeyid	**char(20)**	**unique**	**Y**

TABLE DESCRIPTION: **The instdoc table identifies reference material pertaining to an instrument, including reference documents as well as applicable SPICE I-Kernel information.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instelecd	**elecsid**	**char(20)**	**unique**	**Y**
	insthostid	**char(4)**	**unique**	**Y**
	instid	**char(4)**	**unique**	**Y**
	tupseqnum	**smallint**	**unique**	**Y**
	elecsd	**char(60)**		**N**

TABLE DESCRIPTION: **The instelecd table describes the electronics associated with a particular instrument.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instfilt	**filtnum**	**char(4)**	**unique**	**Y**
	insthostid	**char(4)**	**unique**	**Y**
	instid	**char(4)**	**unique**	**Y**
	ctrfiltwave	**float(17)**		**N**
	filtname	**char(20)**		**N**
	filttype	**char(30)**		**N**
	maxwave	**float(17)**		**N**
	minwave	**float(17)**		**N**

TABLE DESCRIPTION: **The instfilt table identifies and characterizes the instrument filter.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instinfo	**insthostid**	**char(4)**	**unique**	**Y**
	instid	**char(4)**	**unique**	**Y**
	builddate	**char(8)**		**N**
	instheight	**float(17)**		**N**
	instlength	**float(17)**		**N**
	instmass	**float(17)**		**N**
	instmfgname	**char(60)**		**N**
	instname	**char(40)**		**N**
	instserlnum	**char(20)**		**N**
	insttype	**char(30)**		**N**
	instwidth	**float(17)**		**N**
	naifdsid	**char(40)**		**Y**
	pipdsuserid	**char(60)**		**Y**

TABLE DESCRIPTION: **The instinfo table provides identification of a spacecraft-based or earth-based instrument including its physical characteristics.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instmoded	**insthostid**	**char(4)**	**unique**	**Y**
	instid	**char(4)**	**unique**	**Y**
	instmodeid	**char(20)**	**unique**	**Y**
	tupseqnum	**smallint**	**unique**	**Y**
	instmoded	**char(60)**		**N**

TABLE DESCRIPTION: **The instmoded table describes the instrument mode which is identified by the instrument_mode_id element.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instmodeinfo	**datapathtype**	**char(60)**	**unique**	**N**
	insthostid	**char(4)**	**unique**	**Y**
	instid	**char(4)**	**unique**	**Y**
	instmodeid	**char(20)**	**unique**	**Y**
	gainmodeid	**char(30)**		**N**
	instpwrcnsmp	**float(17)**		**N**

TABLE DESCRIPTION: **The instmodeinfo table provides identification and information about an instrument's operating mode.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instmodesect	**insthostid**	**char(4)**	**unique**	**Y**
	instid	**char(4)**	**unique**	**Y**
	instmodeid	**char(20)**	**unique**	**Y**
	sectid	**char(4)**	**unique**	**Y**

TABLE DESCRIPTION: **The instmodesect table provides identification of an instrument's modes and section(s).**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
10 **instmountd**	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	platmountnm	char(30)	unique	Y
	tupseqnum	smallint	unique	Y
	instmountd	char(60)		N

TABLE DESCRIPTION: The instmountd table describes the mounting of an instrument (on a platform on spacecraft or a mounting at an earth-base) and the orientation of the instrument with respect to the platform

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
11 **instmswvcd**	filtnum	char(4)	unique	Y
	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	tupseqnum	smallint	unique	Y
	measwvcalibd	char(60)		N

TABLE DESCRIPTION: The instmswvcd table describes the techniques and procedures used to calibrate wavelength.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
12 **instoperd**	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	tupseqnum	smallint	unique	Y
	operconsidd	char(60)		N

TABLE DESCRIPTION: The instoperd table provides a brief description of operational characteristics which affect the measurements made by an instrument.

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TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instoptics	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	tlscpid	char(60)	unique	Y
	tlscpdiam	float(17)		N
	tlscpfnum	float(17)		N
	tlscpfoclen	float(17)		N
	tlscpres	float(17)		N
	tlscpserlnum	char(20)		N
	tlscptnum	float(17)		N
	tlscptnumerr	float(17)		N
	tlscpxmit	float(17)		N

TABLE DESCRIPTION: The instoptics table identifies the physical and operational characteristics of the optics of an instrument.

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TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instopticsd	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	tlscpid	char(60)	unique	Y
	tupseqnum	smallint	unique	Y
	opticsd	char(60)		N

TABLE DESCRIPTION: The instopticsd table provides a description of the physical and operational characteristics of the optics of an instrument.

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TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instsciobjd	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	tupseqnum	smallint	unique	Y
	sciobjsmy	char(60)		N

TABLE DESCRIPTION: The instsciobjd table explains the science data-gathering purposes for a particular type of observation, for a particular observation sequence or for which an instrument was designed.

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TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instsectdet	detid	char(20)	unique	Y
	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	sectid	char(4)	unique	Y

TABLE DESCRIPTION: The instsectdet table identifies the detectors which provide data for an instrument's section.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instsectelec	elecsid	char(20)	unique	Y
	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	sectid	char(4)	unique	Y

TABLE DESCRIPTION: The instsectelec table identifies the electronics which provide data for an instrument's section.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instsectfilt	filtnum	char(4)	unique	Y
	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	sectid	char(4)	unique	Y

TABLE DESCRIPTION: The instsectfilt table identifies the filters which provide data for an instrument's section.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instsectfovs	fovshapename	char(20)	unique	Y
	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	sectid	char(4)	unique	Y
	fovs	smallint		N
	horzfov	float(17)		N
	horzpixfov	float(17)		N
	vertfov	float(17)		N
	vertpixfov	float(17)		N

TABLE DESCRIPTION: The instsectfovs table provides identification and information about the field-of-views available within a section of an instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instsectinfo	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	sectid	char(4)	unique	Y
	datarate	float(17)		N
	sampbits	integer		N
	scanmodeid	char(8)		N
	totfovs	smallint		N

TABLE DESCRIPTION: The instsectinfo table provides information about an instrument's operating functions in terms of the parameter produced by the instrument's section.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instsectoptc	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	sectid	char(4)	unique	Y
	tlscpid	char(60)	unique	Y

TABLE DESCRIPTION: The instsectoptc table identifies the optics which provide data for an instrument's section.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instsectparm	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	instparmname	char(40)	unique	Y
	sampparmname	char(40)	unique	Y
	sectid	char(4)	unique	Y
	instparmunit	char(60)		N
	maxinstparm	float(17)		N
	maxsampparm	float(17)		N
	mininstparm	float(17)		N
	minsampparm	float(17)		N
	noiselevel	float(17)		N
	sampparmiv	float(17)		N
	sampparmres	float(17)		N
	sampparmunit	char(60)		N

TABLE DESCRIPTION: The instsectparm table defines the sampling parameters of a given instrument's section. It also provids information about the instrument measured parameters and the dynamic range of the instrument as it operates in a given section.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
instsensd	detid	char(20)	unique	Y
	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	tupseqnum	smallint	unique	Y
	sensd	char(60)		N

TABLE DESCRIPTION: The instsensd table describes the minimum response threshold of a detector.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
msnd	msnname	char(30)	unique	Y
	tupseqnum	smallint	unique	Y
	msnd	char(60)		N

TABLE DESCRIPTION: The msnd table summarizes major aspects of a planetary mission or project, including the number and type of spacecraft, the target body or bodies and major accomplishments.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
msndoc	msnname	char(30)	unique	Y
	refkeyid	char(20)	unique	Y

TABLE DESCRIPTION: The msndoc table identifies reference material pertaining to a mission.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
msninfo	msnname	char(30)	unique	N
	msnaliasname	char(30)		N
	msnstopdate	char(8)		N
	msnstrtdate	char(8)		N

TABLE DESCRIPTION: The msninfo table identifies the institution a particular mission is associated with and the time period for that association

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
msnobjsmy	msnname	char(30)	unique	Y
	tupseqnum	smallint	unique	Y
	msnobjsmy	char(60)		N

TABLE DESCRIPTION: The msnobjsmy table describes the major scientific objectives of a planetary mission or project.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
msnphsd	msnphstype	char(20)	unique	Y
	scid	char(4)	unique	Y
	targname	char(30)	unique	Y
	tupseqnum	smallint	unique	Y
	msnphsd	char(60)		N

TABLE DESCRIPTION: The msnphsd table summarizes key aspects of a mission phase.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
msnphsinfo	msnphsstrttm	char(18)	unique	N
	msnphstype	char(20)	unique	N
	scid	char(4)	unique	Y
	targname	char(30)	unique	Y
	msnname	char(30)		Y
	msnphsstoptm	char(18)		N
	scopertype	char(60)		N

TABLE DESCRIPTION: The msnphsinfo table identifies a major segment or "phase" (such as cruise) of a spacecraft mission, the time range covered by that phase and the targets and objectives of that phase.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
noded	nodeid	char(10)	unique	Y
	tupseqnum	smallint	unique	Y
	noded	char(60)		N

TABLE DESCRIPTION: The noded table describes a PDS node.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
nodeinfo	nodeid	char(10)	unique	Y
	dapdsuserid	char(60)		N
	discname	char(30)		Y
	mgrpdsuserid	char(60)		Y
	ndinstnname	char(60)		N
	nodename	char(60)		N
	opspdsuserid	char(60)		Y

TABLE DESCRIPTION: The nodeinfo table provides information about a PDS node. It identifies the node manager, contact, and the institution at which a node resides.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
perselecmail	elecmailid	char(60)	unique	Y
	elecmailtype	char(20)	unique	N
	pdsuserid	char(16)	unique	Y
	preferenceid	smallint		N

TABLE DESCRIPTION: The perselecmail table provides electronic mail pathways for a person associated with the PDS.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
persinfo	pdsuserid	char(16)	unique	Y
	ftsnum	char(7)		N
	fullname	char(60)		N
	lastname	char(30)		N
	regdate	char(8)		N
	scifundid	char(12)		N
	telephonenum	char(10)		N

TABLE DESCRIPTION: The persinfo table provides information about personnel associated with the PDS, including node and discipline association and a telephone number.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
persinstn	pdsuserid	char(16)	unique	Y
	persinstnnm	char(60)	unique	N

TABLE DESCRIPTION: The persinstn table provides information about personnel association with an institution.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
persmailaddr	pdsuserid	char(16)	unique	Y
	tupseqnum	smallint	unique	Y
	mailaddrline	char(60)		N

TABLE DESCRIPTION: The persmailaddr table provides the mailing address of an individual.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
persmsn	instid	char(4)	unique	N
	msnname	char(30)	unique	N
	pdsuserid	char(16)	unique	Y
	scid	char(4)	unique	N
	exprtareatyp	char(20)		N
	roled	char(60)		N
	spcld	char(60)		N

TABLE DESCRIPTION: The persmsn table provides current and historical information about personnel association with missions.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
persnode	nodeid	char(10)	unique	Y
	pdsuserid	char(16)	unique	Y

TABLE DESCRIPTION: The persnode table provides information about a person's association with a PDS node.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
perstask	taskname	char(40)	unqiue	N
	pdsuserid	char(16)	unique	Y
	exprtareatyp	char(20)		N
	roled	char(60)		N
	spcld	char(60)		N

TABLE DESCRIPTION: The perstask table provides current and historical information about personnel association with tasks.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
platd	insthostid	char(4)	unique	Y
	platmountnm	char(30)	unique	Y
	tupseqnum	smallint	unique	Y
	platmountd	char(60)		N

TABLE DESCRIPTION: The platd table describes the spacecraft platform or earth-based mounting frame on which an instrument is mounted.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
procd	proclvlid	char(1)	unique	Y
	tupseqnum	smallint	unique	Y
	proclvld	char(60)		N

TABLE DESCRIPTION: The procd table provides the CODMAC standard definition corresponding to a particular processing_level_id value.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
refauth	authfullname	char(60)	unique	N
	refkeyid	char(20)	unique	Y

TABLE DESCRIPTION: The refauth table identifies the authors of a referenced document.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
refd	refkeyid	char(20)	unique	Y
	tupseqnum	smallint	unique	Y
	refd	char(60)		N

TABLE DESCRIPTION: The refd table describes the references of a document in a bibliographical format.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
refinfo	refkeyid	char(20)	unique	Y
	doctopictype	char(60)		Y
	journalname	char(60)		N
	publdate	char(8)		N

TABLE DESCRIPTION: The refinfo table identifies documents which are referenced elsewhere in the PDS. Identification elements include document topic, publication date, and journal name.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
scd	scid	char(4)	unique	Y
	tupseqnum	smallint	unique	Y
	scd	char(60)		N

TABLE DESCRIPTION: The scd table 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.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
scdoc	refkeyid	char(20)	unique	Y
	scid	char(4)	unique	Y

TABLE DESCRIPTION: The scdoc table identifies reference material pertaining to a spacecraft.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
scinfo	scid	char(4)	unique	Y
	launchdate	char(8)		N

TABLE DESCRIPTION: The scinfo table provides information that describes the characteristics of a given spacecraft including its name and launch date.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
scinstoff	instid	char(4)	unique	Y
	scid	char(4)	unique	Y
	coneoffang	float(17)		N
	crsconoffang	float(17)		N
	platmountnm	char(30)		Y
	twistoffang	float(17)		N

TABLE DESCRIPTION: The scinstoff table provides information which defines the mounting of an instrument in relation to the primary axes of a spacecraft.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
swd	swname	char(30)	unique	Y
	tupseqnum	smallint	unique	Y
	swd	char(60)		N

TABLE DESCRIPTION: The swd table describes a software element.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
swinfo	swname	char(30)	unique	Y
	cogfullname	char(60)		N
	nodeid	char(10)		N
	swaccessd	char(60)		N
	swreleasedt	char(8)		N
	swtype	char(30)		N

TABLE DESCRIPTION: The swinfo table provides identification and information about a software element.

TABLE NAME		COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
targorbinfo		targname	char(30)	unique	Y
	7-6	ascnodelon	float(17)		N
	2/14	meansolarday	float(17)		N
	3-1	obliquity	float(17)		N
	[illegible]	orbdirtype	char(30)		N
	3-2	orbecc	float(17)		N
	3-4	orbincln	float(17)		N
	3-5	orbsemimajax	float(17)		N
	3-7	periargang	float(17)		N
	2/10	poledecl	float(17)		N
	2/9	polera	float(17)		N
	2/8	revper	float(17)		N
	2/[illegible]	rotdirtype	char(30)		N
	2/[illegible]	sidrotper	float(17)		N

TABLE DESCRIPTION: The targorbinfo table provides orbital and rotational information for a given target.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
targparminfo	targname	char(30)	unique	Y
	targparmname	char(30)	unique	Y
	datasourceid	char(60)		N
	targparmunct	char(40)		N
	targprmepoch	char(18)		N

TABLE DESCRIPTION: The targparminfo table provides information about the degree of uncertainty in the values of each of the stored target parameters (e.g.,mass density, periapsis argument angle, etc.), and their associated reference epochs. Also, an identification is provided which allows the source of the parameter value to be identified.

TABLE NAME		COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
targphysinfo	2 1-1	targname	char(30)	unique	Y
	1-4	aaxisradius	float(17)		N
	1-5	baxisradius	float(17)		N
	1-7	bondalb	float(17)		N
	1-6	caxisradius	float(17)		N
	2-5	equatradius	float(17)		N
	1-8	flattening	float(17)		N
	1-9	magmoment	float(17)		N
	1-10	mass	float(17)		N
	1-11	massdensity	float(17)		N
	1-13	maxsurfpres	float(17)		N
	2-3	maxsurftemp	float(17)		N
	2-6	meanradius	float(17)		N
	1-14	meansurfpres	float(17)		N
	2-4	meansurftemp	float(17)		N
	1-12	minsurfpres	float(17)		N
	2-2	minsurftemp	float(17)		N
	1-3	primbodyname	char(30)		Y
	2-7	surfgrav	float(17)		N
	1-2	targtype	char(20)		N

TABLE DESCRIPTION: The targphysinfo table identifies a particular target and its type. It also provides information about the target's physical characteristics.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
targringsmy	targname	char(30)	unique	Y
	tupseqnum	smallint	unique	Y
	ringsyssmy	char(60)		N

TABLE DESCRIPTION: The targringsmy table provides a brief and general description of the rings or ring-like features associated with a particular solar system body.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
vectcomp	crdsysid	char(8)	unique	Y
	vectcompid	char(8)	unique	Y
	refobjname	char(60)		N
	reftargname	char(30)		N
	vectcomptype	char(12)		N
	vectcompunit	char(60)		N

TABLE DESCRIPTION: The vectcomp table provides information about a particular vector component, including its identification, type, the associated unit of measure and the names of the reference objects used to define the vector component. The reference coordinate system is also identified.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
vectd	tupseqnum	smallint	unique	N
	vectcomptype	char(12)	unique	Y
	vectcomptypd	char(60)		N

TABLE DESCRIPTION: The vectd table describes a particular vector_ component_type.

DETAILED LEVEL CATALOG TABLES - IMAGES

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
imdsimage	dsid	char(40)	unique	Y
	imagekeyid	char(30)	unique	Y
	scid	char(4)	unique	Y

TABLE DESCRIPTION: The imdsimage table handles the many to many relationship that exists between data sets and images.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
imfeatinfo	featname	char(40)	unique	Y
	feattype	char(30)		N
	maxlat	float(17)		N
	maxlon	float(17)		N
	minlat	float(17)		N
	minlon	float(17)		N
	targname	char(30)		Y

TABLE DESCRIPTION: The imfeatinfo table describes a number of major features on solar system bodies which are used as reference areas by researchers in locating or describing particular data sets or products. This information is is gathered from the 1986 Annual Gazetteer of Planetary Nomenclature, produced by the International Astronomical Union (IAU).

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
imfeattyped	feattype	char(30)	unique	Y
	tupseqnum	smallint	unique	Y
	feattyped	char(60)		N

TABLE DESCRIPTION: The imfeattyped table provides the IAU standard definition for a particular feature_type.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
imimageinfo	imagekeyid	char(30)	unique	Y
	scid	char(4)	unique	Y
	az	float(17)		N
	coneang	float(17)		N
	crsconeang	float(17)		N
	datacvgpct	float(17)		N
	declination	float(17)		N
	earthrcvdtm	char(18)		N
	editmodeid	char(20)		N
	elevation	float(17)		N
	emissang	float(17)		N
	exposdur	float(17)		N
	filtname	char(20)		N
	filtnum	char(4)		Y
	imageid	char(30)		N
	imagenum	char(30)		N
	imageobstype	char(10)		N
	imagetime	char(18)		N
	incidang	float(17)		N
	instid	char(4)		Y
	instmodeid	char(20)		Y
	lat	float(17)		N
	localtime	float(17)		N
	lon	float(17)		N
	northaz	float(17)		N
	orbnum	float(17)		N
	phsang	float(17)		N
	planetdaynum	float(17)		N
	ra	float(17)		N
	scaleimageht	float(17)		N
	scaleimagewd	float(17)		N
	scalepixht	float(17)		N
	scalepixwd	float(17)		N
	scalt	float(17)		N
	sclkstrtcnt	char(30)		N
	shutmodeid	char(20)		N
	slantdist	float(17)		N
	sollon	float(17)		N
	subscaz	float(17)		N
	subsclat	float(17)		N
	subsclon	float(17)		N
	subsolaz	float(17)		N
	subsollat	float(17)		N
	subsollon	float(17)		N
	surfclarpct	float(17)		N
	targctrdist	float(17)		N
	targname	char(30)		Y
	timeclsapr	float(17)		N
	trueanomang	float(17)		N

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TABLE DESCRIPTION: The imimageinfo table describes the characteristics of a solar system body image, including viewing conditions, surface coverage, instrument mode, center point, and surface dimensions.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
imimageinst	instid	char(4)	unique	Y
	instmodeid	char(20)	unique	Y
	scid	char(4)	unique	Y
	exposoffflg	char(3)		N
	exposoffnum	float(17)		N
	litefldstflg	char(3)		N
	maxexposdur	float(17)		N
	minexposdur	float(17)		N

TABLE DESCRIPTION: The imimageinst table provides detailed information about the operational modes of an imaging instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
imimagenote	imagekeyid	char(30)	unique	Y
	scid	char(4)	unique	Y
	tupseqnum	smallint	unique	Y
	note	char(60)		N

TABLE DESCRIPTION: The imimagenote table provides miscellaneous notes or comments (for example, concerning a given data set or a given data processing program).

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
iminsttempd	detid	char(20)	unique	Y
	insthostid	char(4)	unique	Y
	instid	char(4)	unique	Y
	tupseqnum	smallint	unique	Y
	temptransd	char(60)		N

TABLE DESCRIPTION: The iminsttempd table provides a description of the conversion necessary to translate an instrument's transmitted temperature reading to a value which is relative to a standard temperature scale.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
imregiond	regionname	char(30)	unique	Y
	tupseqnum	smallint	unique	Y
	regiond	char(60)		N

TABLE DESCRIPTION: The imregiond table describes a particular region of a planetary surface, indicating its historical significance, identifying major geological features and providing other descriptive information.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
imregioninfo	regionname	char(30)	unique	Y
	maxlat	float(17)		N
	maxlon	float(17)		N
	minlat	float(17)		N
	minlon	float(17)		N
	targname	char(30)		Y

TABLE DESCRIPTION: The imregioninfo table locates commonly used divisions of a planetary surface or atmosphere into areas or subsets which serve as the basis for large scale mapping activities.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
imret	imagekeyid	char(30)	unique	Y
	retpointnum	char(1)	unique	Y
	scid	char(4)	unique	Y
	az	float(17)		N
	coneang	float(17)		N
	crsconeang	float(17)		N
	declination	float(17)		N
	elevation	float(17)		N
	emissang	float(17)		N
	incidang	float(17)		N
	lat	float(17)		N
	lon	float(17)		N
	phsang	float(17)		N
	ra	float(17)		N
	scalepixht	float(17)		N
	scalepixwd	float(17)		N
	slantdist	float(17)		N

TABLE DESCRIPTION: The imret table describes the characteristics of the four corner points, i.e. reticle points, of an image, including location, resolution, and viewing conditions.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpbrowseavl	evtstrttime	char(18)	unique	Y
	instid	char(4)	unique	Y
	instmodeid	char(20)	unique	Y
	scid	char(4)	unique	Y
	browseflag	char(1)		N

TABLE DESCRIPTION: The fpbrowseavl table indicates whether a particular instrument's browse-format data are available for a given hour at a given target.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpcontamd	contamid	char(3)	unique	Y
	instid	char(4)	unique	Y
	scid	char(4)	unique	Y
	tupseqnum	smallint	unique	Y
	contamd	char(60)		N

TABLE DESCRIPTION: The fpcontamd table describes the type of data contamination which is associated with a particular contamination_identification value.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpcrddefault	targname	char(30)	unique	Y
	crdsysid	char(8)		Y
	vectcompid1	char(8)		N
	vectcompid2	char(8)		N
	vectcompid3	char(8)		N

TABLE DESCRIPTION: The fpcrddefault table provides the default coordinate system information for a given target name.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpdatacvg	contamid	char(3)	unique	Y
	dsid	char(40)	unique	Y
	evtstrttime	char(18)	unique	Y
	datacvgpct	float(17)		N
	dataqualid	char(3)		Y
	evtstrthour	char(10)		N

TABLE DESCRIPTION: The fpdatacvg table provides information about percentage of data available in a given hour and about contamination types for those data and the data quality which is associated with each level of contamination.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpdataquald	dataqualid	char(3)	unique	Y
	instid	char(4)	unique	Y
	scid	char(4)	unique	Y
	tupseqnum	smallint	unique	Y
	dataquald	char(60)		N

TABLE DESCRIPTION: The fpdataquald table describes the data quality which is associated with a particular data_quality_identification value.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fplecpchnlz	chnlgrpname	char(20)	unique	N
	chnlid	char(4)	unique	N
	instid	char(4)	unique	N
	scid	char(4)	unique	N
	chnlgeomfact	float(17)		N
	instparmname	char(40)		N
	instparmunit	char(60)		N
	maxinstparm	float(17)		N
	mininstparm	float(17)		N

TABLE DESCRIPTION: The fplecpchnlz table provides information about the Z numbers of particles detected by particular LECP channels.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fplecpenergy	chnlgrpname	char(20)	unique	N
	chnlid	char(4)	unique	N
	instid	char(4)	unique	N
	scid	char(4)	unique	N
	instparmname	char(40)		N
	instparmunit	char(60)		N
	maxinstparm	float(17)		N
	mininstparm	float(17)		N
	partspecsnm	char(20)		N

TABLE DESCRIPTION: The fplecpenergy table provides information about the energy ranges of particles detected by particular LECP channels.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fplecpmode	chnlgrpname	char(20)	unique	N
	instid	char(4)	unique	N
	instmodeid	char(20)	unique	N
	instparmname	char(40)	unique	N
	scid	char(4)	unique	N
	chnls	integer		N
	sampparmiv	float(17)		N

TABLE DESCRIPTION: The fplecpmode table provides detailed-level information about the channels and sampling of the modes of the LECP instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fplecppmpadd	chnlgrpname	char(20)	unique	N
	detgrpname	char(20)	unique	N
	instid	char(4)	unique	N
	scid	char(4)	unique	N
	tupseqnum	smallint	unique	N
	acceptdetd	char(60)		N

TABLE DESCRIPTION: The fplecppmpadd table describes the acceptance scheme by which data from particular detectors is selected during measurement of particle multiple parameters (PMPs) by the LECP instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fplecppmpaid	chnlgrpname	char(20)	unique	N
	instid	char(4)	unique	N
	scid	char(4)	unique	N
	tupseqnum	smallint	unique	N
	acceptinfod	char(60)		N

TABLE DESCRIPTION: The fplecppmpaid table describes the general technique by which data is gathered and accepted from particular channel groups during measurement of particle multiple parameters (PMPs) by the LECP instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fplecppmpdet	chnlgrpname	char(20)	unique	N
	detgrpname	char(20)	unique	N
	instid	char(4)	unique	N
	scid	char(4)	unique	N
	dets	smallint		N
	instparmname	char(40)		N
	instparmunit	char(60)		N
	maxinstparm	float(17)		N
	mininstparm	float(17)		N

TABLE DESCRIPTION: The fplecppmpdet table provides information about the energy ranges measured by detectors participating in the measurement of particle multiple parameters (PMPs) by the LECP instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fplecppmpinf	chnlgrpname	char(20)	unique	N
	instid	char(4)	unique	N
	scid	char(4)	unique	N
	detgrps	integer		N

TABLE DESCRIPTION: The fplecppmpinf table provides information about the channel and detector groups participating in the measurement of particle multiple parameters (PMPs) by the LECP.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpmagdetinfo	detid	char(20)	unique	N
	instid	char(4)	unique	N
	scid	char(4)	unique	N
	instparmrngs	integer		N
	sampparmiv	float(17)		N
	sampparmname	char(40)		N
	sampparmunit	char(60)		N

TABLE DESCRIPTION: The fpmagdetinfo table provides information about the sampling of a given detector of the MAG instrument and the number of parameter ranges it can detect.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpmagdetrng	detid	char(20)	unique	N
	instid	char(4)	unique	N
	mininstparm	float(17)	unique	N
	scid	char(4)	unique	N
	instparmname	char(40)		N
	instparmunit	char(60)		N
	maxinstparm	float(17)		N
	quantzres	float(17)		N

TABLE DESCRIPTION: The fpmagdetrng table provides information about the parameter ranges and associated quantization values for a given detector of the MAG instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpmagmodedet	detid	char(20)	unique	N
	instid	char(4)	unique	N
	instmodeid	char(20)	unique	N
	scid	char(4)	unique	N

TABLE DESCRIPTION: The fpmagmodedet table provides the id of detectors used by each mode of the MAG instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpmagmodeinf	instid	char(4)	unique	N
	instmodeid	char(20)	unique	N
	scid	char(4)	unique	N
	dets	smallint		N

TABLE DESCRIPTION: The fpmagmodeinf table provides the number of detectors used by each mode of the MAG instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpplschnl	chnlid	char(4)	unique	N
	instid	char(4)	unique	N
	instmodeid	char(20)	unique	N
	scid	char(4)	unique	N
	maxsampparm	float(17)		N
	minsampparm	float(17)		N
	sampparmname	char(40)		N
	sampparmunit	char(60)		N

TABLE DESCRIPTION: The fpplschnl table provides information about the detectable voltage ranges of particular channels of the PLS instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpplscycfram	cycleid	char(10)	unique	N
	frameid	char(10)	unique	N
	frameseqnum	integer	unique	N
	instid	char(4)	unique	N
	scid	char(4)	unique	N
	targname	char(30)	unique	N

TABLE DESCRIPTION: The fpplscycfram table identifies and provides the sequence of frames occurring in a given PLS cycle.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpplscycle	**cycleid**	**char(10)**	**unique**	**N**
	instid	**char(4)**	**unique**	**N**
	scid	**char(4)**	**unique**	**N**
	scopermodeid	**char(10)**	**unique**	**N**
	targname	**char(30)**	**unique**	**N**
	frames	**integer**		**N**

TABLE DESCRIPTION: **The fpplscycle table provides information identifying the cycles and number of frames of the PLS instrument which are present at a given target for a particular spacecraft operating mode.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpplsframdur	**frameid**	**char(10)**	**unique**	**N**
	instid	**char(4)**	**unique**	**N**
	scid	**char(4)**	**unique**	**N**
	framedur	**float(17)**		**N**

TABLE DESCRIPTION: **The fpplsframdur table provides the duration of each frame of the PLS instrument.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpplsframemd	**frameid**	**char(10)**	**unique**	**N**
	instid	**char(4)**	**unique**	**N**
	instmodeid	**char(20)**	**unique**	**N**
	scid	**char(4)**	**unique**	**N**
	maxchnlid	**char(4)**		**N**
	minchnlid	**char(4)**		**N**
	modecontflag	**char(1)**		**N**
	strttimebase	**float(17)**		**N**

TABLE DESCRIPTION: **The fpplsframemd table identifies and provides structure information about the PLS instrument modes which occur during a given frame. Ranges of channel ids are also given.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpplsmodedet	**detid**	**char(20)**	**unique**	**N**
	instid	**char(4)**	**unique**	**N**
	instmodeid	**char(20)**	**unique**	**N**
	scid	**char(4)**	**unique**	**N**

TABLE DESCRIPTION: **The fpplsmodedet table provides the id of detectors used by each mode of the PLS instrument.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpplsmodeinf	instid	char(4)	unique	N
	instmodeid	char(20)	unique	N
	scid	char(4)	unique	N
	chnlintgdur	float(17)		N
	chnls	integer		N
	dets	smallint		N
	maxsampparm	float(17)		N
	minsampparm	float(17)		N
	modeintgdur	float(17)		N
	nomenergyres	float(17)		N
	partspecsnm	char(20)		N
	sampparmname	char(40)		N
	sampparmunit	char(60)		N

TABLE DESCRIPTION: The fpplsmodeinf table provides detailed-level information about the energy ranges, species names, and nominal temporal resolution of particles detected by the PLS instrument in a given mode. The number of detectors and channels participating in the mode is also provided.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpplsmodeprm	instid	char(4)	unique	N
	instmodeid	char(20)	unique	N
	instparmname	char(40)	unique	N
	scid	char(4)	unique	N

TABLE DESCRIPTION: The fpplsmodeprm table specifies what parameters can be derived from data measured during a particular mode of the PLS instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fpposition	evtstrttime	char(18)	unique	Y
	crdsysid	char(8)		Y
	localhourang	float(17)		N
	vectcomp1	float(17)		N
	vectcomp2	float(17)		N
	vectcomp3	float(17)		N
	vectcompid1	char(8)		Y
	vectcompid2	char(8)		Y
	vectcompid3	char(8)		Y

TABLE DESCRIPTION: The fpposition table provides vector information which defines the position of the Fields and Particles instrument at the beginning of a given hour and identifies the reference coodinate sytem.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fppwschnl	chnlid	char(4)	unique	N
	instid	char(4)	unique	N
	instmodeid	char(20)	unique	N
	scid	char(4)	unique	N
	sectid	char(4)	unique	N
	bandwidth	float(17)		N
	ctrfreq	float(17)		N
	maxsampparm	float(17)		N
	minsampparm	float(17)		N
	sampparmname	char(40)		N
	sampparmunit	char(60)		N

TABLE DESCRIPTION: The fppwschnl table provides information about the detectable frequencies of particular channels of the PWS instrument.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fppwsmode	instid	char(4)	unique	N
	instmodeid	char(20)	unique	N
	scid	char(4)	unique	N
	sectid	char(4)	unique	N
	chnls	integer		N
	gainmodes	integer		N
	instparmname	char(40)		N

TABLE DESCRIPTION: The fppwsmode table provides detailed-level information about the parameters and number of participating channels of a particular section of the PWS instrument while it is operating in a given mode.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
fppwssampd	instid	char(4)	unique	N
	instmodeid	char(20)	unique	N
	scid	char(4)	unique	N
	sectid	char(4)	unique	N
	tupseqnum	smallint	unique	N
	sampd	char(60)		N

TABLE DESCRIPTION: The fppwssampd table describes the specific sampling scheme used by each section of the PWS instrument while it is operating in a given mode.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
custsup	suprequestnu	integer	unique	Y
	nodeid	char(10)		Y
	pdsuserid	char(16)		Y
	supreqdate	char(8)		N
	supresdate	char(8)		N
	supstaffname	char(60)		Y

TABLE DESCRIPTION: The custsup table consists of the when, who, and where information pertaining to the customer support tracking for the PDS. Each request is assigned a unique number for tracking.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
custsupreqd	suprequestnu	integer	unique	Y
	tupseqnum	smallint	unique	Y
	supreqd	char(60)		N

TABLE DESCRIPTION: The cstsupreqd table consists of text that defines each customer support request. The support request number matches the number in the custsup table and the cstsupresd table.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
custsupresd	suprequestnu	integer	unique	Y
	tupseqnum	smallint	unique	Y
	supres	char(60)		N

TABLE DESCRIPTION: The cstsupresd table consists of text that describes each customer support resolution. The support request number matches the number in the custsupport table and the cstsupreqdsc table.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ddcol	blname	char(12)	unique	Y
	avlvaltype	char(1)		N
	blsqlfmt	char(15)		N
	colname	char(30)		N
	colunittype	char(12)		N
	dspfmt	char(12)		N
	maxcolval	float(17)		N
	mincolval	float(17)		N
	sqlfmt	char(15)		N
	stdvaltype	char(10)		N
	tersename	char(12)		N
	txtflag	char(1)		N

TABLE DESCRIPTION: The ddcol table contains all the attributes used in the PDS database. Each attribute is unique and may be used in one or more database tables. This table will support validation of data types, taename lookups, and provide characteristics of each element. These attributes are also used in queries and screen layouts.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ddcold	blname	char(12)	unique	Y
	tupseqnum	smallint	unique	Y
	cold	char(60)		N

TABLE DESCRIPTION: The ddcold table consists of text that defines each attribute used in the PDS database.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ddcolstdval	blname	char(12)	unique	Y
	colval	char(80)	unique	Y
	colvalnodeid	char(10)		Y
	colvaltype	char(1)		Y
	outputflag	char(1)		N

TABLE DESCRIPTION: This ddcolstdval table contains the know valid values for certain database attributes. These values may be reviewed and updated at any time by the data administrator. These values are used in validating bulk input template data and in online help functions provided by the PDS.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ddhelp	helpid	smallint	unique	Y
	helpname	char(16)	unique	Y
	tupseqnum	smallint	unique	Y
	helptext	char(60)		N

TABLE DESCRIPTION: The ddhelp table contains the text which is provides help messages used in the Inspect Data Function.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ddquery	queryname	char(12)	unique	Y
	tupseqnum	smallint	unique	Y
	uvname	char(12)	unique	Y
	querycontext	char(1)		Y

TABLE DESCRIPTION: The ddquery table identifies the stored commands used to implement a user view.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ddqueryparm	blname	char(12)	unique	Y
	parmseqnum	smallint	unique	N
	parmtype	char(1)	unique	Y
	queryname	char(12)	unique	Y
	tblname	char(12)	unique	Y
	uvname	char(12)	unique	Y
	colnamealias	char(40)		N
	colreqflag	char(1)		N
	dspfmt	char(12)		N
	uvwarning	char(60)		N

TABLE DESCRIPTION: The ddqueryparm table contains information pertaining to user view and stored command input and output parameters.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ddtbl	tblname	char(12)	unique	Y
	createdate	char(8)		N
	tbltype	char(1)		N

TABLE DESCRIPTION: This ddtbl table contains the tables used in the PDS database with the creation date.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ddtblcols	blname	char(12)	unique	Y
	tblname	char(12)	unique	Y
	clustkey	char(12)		N
	colord	smallint		N
	critical	char(1)		N
	mandatorycol	char(1)		N
	nonclustkey	char(1)		N

TABLE DESCRIPTION: The ddtblcols table contains the component attributes in each table in the PDS catalog.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ddtbld	tblname	char(12)	unique	Y
	tupseqnum	smallint	unique	Y
	tbld	char(60)		N

TABLE DESCRIPTION: The ddtbld table contains the text which defines each table contained in the PDS database.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ddunitd	colunittype	char(12)	unique	Y
	unitname	char(30)		N
	unitqty	char(40		N

TABLE DESCRIPTION: The ddunitd table defines units of measurement for PDS data elements by providing information on unit symbol, unit name, and the measured quantity.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dduv	uvname	char(12)	unique	Y
	uvfullname	char(50)		N
	uvtype	char(1)		N

TABLE DESCRIPTION: The dduv table contains version-control information about user views.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dduvcatgry	uvcatgryname	char(12)	unique	Y
	tupseqnum	smallint		Y
	uvcatgryfull	char(50)		N
	uvtype	char(1)		N

TABLE DESCRIPTION: The dduvcatgry table contains information about categories of user views. A user view category groups a set of user views by related function, i.e. the Observed Event Information category includes several user views which allow an examination of catalog data relating to observed events.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dduvd	tupseqnum	smallint	unique	Y
	uvname	char(12)	unique	Y
	uvd	char(60)		N

TABLE DESCRIPTION: The dduvd table contains user view descriptions. These descriptions are a high-level, user-oriented narrative of the function of the user view, including a description of user view inputs and outputs in general terms.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
dduvhier	uvcatgryname	char(12)	unique	Y
	uvname	char(12)	unique	Y
	tupseqnum	smallint		N

TABLE DESCRIPTION: The dduvhier table contains information which establishes the hierarchy of user views within a user view category.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
~~invcsthrshld~~	medium	char(30)	unique	Y
	nodeid	char(10)	unique	Y
	thrshldcost	integer		N

TABLE DESCRIPTION: The invcsthrshld table specifies cost threshold for order items, based on the node and the order distribution medium.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
~~invnethrshld~~	nodeid	char(10)	unique	Y
	thrshldbytes	integer		N

TABLE DESCRIPTION: The invnethrshld table specifies a byte threshold for data transfers (order distribution) over the SPAN network. Each PDS node has a specific threshold value.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
invnodemedia ✓	~~dsid~~ predelsred	char(40)	unique	Y
	medium ✓	char(30)	unique	Y
	nodeid ✓	char(10)	unique	Y
	dscost ✓	integer		N
	mediad ✓	char(60)		N

TABLE DESCRIPTION: The invnodemedia table stores node-specific data set distribution information. A node may distribute a data set on many media types and each media type has unique costs, lead times, and granularity.

dssethrsld ✓
copies

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
invpinsw	dsid proddsid	char(40)	unique	Y
	nodeid	char(10)	unique	Y
	pinswid	char(20)	unique	Y

TABLE DESCRIPTION: The invpinsw table identifies PIN software at a PDS node which may be used with a specified data set.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
invsize	dsid proddsid	char(40)	unique	Y
	dsbytes	integer		N
	totaldsgran	integer		N

TABLE DESCRIPTION: This invtable stores the volume in bytes of a unique data set. All data sets have a unique id thatis used in several tables for various purposes.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
~~invsthrshld~~	dsid	char(40)	unique	Y
	nodeid	char(10)	unique	Y
	dsgranname	char(20)		Y
	dsthrshld	integer		N

TABLE DESCRIPTION: The invsthrshld table defines the dataset threshold for each dataset at a node.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
kwdctltbl	objname	char(12)	unique	Y
	tblblname	char(12)	unique	Y
	tblname	char(12)	unique	Y
	tmpltloddate	char(8)	unique	Y
	tmpltlodtime	char(6)	unique	Y
	objattrval	char(80)		N
	parenttmplt	char(12)		N
	tmpltblname	char(12)		N

TABLE DESCRIPTION: The kwdctltbl table contains temporary data during processing of templates by the loader software. The contents of this table are eventually used to load the PDS catalog.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ordbilladdr	ordnum	integer	unique	Y
	tupseqnum	smallint	unique	Y
	billaddrline	char(60)		N

TABLE DESCRIPTION: This ordbilladdr table holds the multi-line billing addresses for all Central Node PDS orders. These addresses are associated with the order number in the orders table.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
orditm	dsid	char(40)	unique	Y
	orditmnum	smallint	unique	Y
	ordnum	integer	unique	Y
	deliverydate	char(8)		N
	distnodeid	char(10)		N
	dsgranname	char(20)		N
	dstnmediad	char(60)		N
	medium	char(30)		N
	nodeorditmid	char(30)		N
	orditmbytes	integer		N
	orditmd	char(30)		N
	orditmmedcst	integer		N
	orditmprccst	integer		N
	orditmqty	smallint		N
	orditmshpcst	integer		N
	screenid	char(10)		N

TABLE DESCRIPTION: This orditm table tracks the individual data requests assigned to an order in the orders table. A unique key is created for each order item by combining the order number and a order item number. The order item number would be 1 for the first item, 2 for the second and so on. Each order item may have several status changes throughout the life of the order. Each status is tracked in the orditmstat table and the orditmstsdsc table.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
orditmgran	granseqnum	smallint	unique	N
	orditmnum	smallint	unique	Y
	ordnum	integer	unique	Y
	granstop	char(25)		N
	granstrt	char(25)		N

TABLE DESCRIPTION: The orditmgran table specifies group(s) of one or more granules within an order item. The granules which comprise a group are identified with the granule_start and the granule_stop elements.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
orditmshpins	orditmnum	smallint	unique	Y
	ordnum	integer	unique	Y
	tupseqnum	smallint	unique	Y
	orditmshpin	char(60)		N

TABLE DESCRIPTION: The orditmshpins table is part of the order function of the PDS that holds the shipping instructions for each order item in a PDS order

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
orditmspcins	orditmnum	smallint	unique	Y
	ordnum	integer	unique	Y
	tupseqnum	smallint	unique	Y
	orditmspcin	char(60)		N

TABLE DESCRIPTION: The orditmspcins table specifies special instructions which apply to distribution of a PDS order.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
orditmstatus	orditmnum	smallint	unique	Y
	orditmstsseq	smallint	unique	Y
	ordnum	integer	unique	Y
	orditmshpqty	smallint		N
	orditmstaff	char(60)		Y
	orditmstatus	char(20)		N
	orditmstsdt	char(8)		N

TABLE DESCRIPTION: The orditmstatus table is part of the order function of the PDS that supports the tracking of all changes in status that an order item may assume. All known status codes are in the ddcolstdval table.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
orditmstsd	orditmnum	smallint	unique	Y
	orditmstsseq	smallint	unique	Y
	ordnum	integer	unique	Y
	tupseqnum	smallint	unique	Y
	orditmstsd	char(60)		N

TABLE DESCRIPTION: The orditmstsd table is a part of the order function in the PDS that allow special text to be assigned to an order item status. This text would expand on the reason for a change in status. This table is an order function option.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ords	ordnum	integer	unique	Y
	elecmailid	char(60)		N
	elecmailtype	char(20)		N
	initnodeid	char(10)		Y
	orddate	char(8)		N
	ordinitr	char(60)		N
	ordshpcarrnm	char(20)		N
	pdsuserid	char(16)		Y
	pershpcaract	char(20)		N

TABLE DESCRIPTION: The ords table tracks each order in the PDS systems placed at the Central Node for any data set. A unique order number is assigned to each order along with the pds user id, user name, and current date when an order is accepted by the PDS. Each order will have one or more order items (i.e.,data requests) for each order.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ordshpaddr	ordnum	integer	unique	Y
	tupseqnum	smallint	unique	Y
	shpaddrline	char(60)		N

TABLE DESCRIPTION: The ordshpaddr table indicates the shipping address for a PDS data order placed through the Central Node. This is associated with an order number.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
ordstatus	ordnum	integer	unique	Y
	ordstseqnum	smallint	unique	Y
	ordstatus	char(10)		N
	ordstsdate	char(8)		N

TABLE DESCRIPTION: The ordstatus table is a part of the order function in the PDS that allow an order to have more than one status during the lifetime of the order. The valid status codes are defined in the ddcolstdval table.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
persbilladdr	pdsuserid	char(16)	unique	Y
	tupseqnum	smallint	unique	Y
	billaddrline	char(60)		N

TABLE DESCRIPTION: The persbilladdr table specifies the default billing address for a PDS user.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
persorder	pdsuserid	char(16)	unique	Y
	ordprefid	smallint		N
	pershpcaract	char(20)		N
	persshpcarr	char(30)		N

TABLE DESCRIPTION: The persorder table provides personnel information which pertains to placement of a PDS order.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
revw	peerrevwid	char(40)	unique	Y
	revwstopdate	char(8)		N
	revwstrtdate	char(8)		Y

TABLE DESCRIPTION: The revw table supports the results of a peer review whenever a data set is accepted by the PDS. Each review is assigned a unique number which is used in other tables.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
revwcomty	peerrevwid	char(40)	unique	Y
	comtfullname	char(60)		N
	peerrevwrole	char(30		N

TABLE DESCRIPTION: The revwcomty table stores all the names of the members on the peer review committee.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
revwdset	dsid	char(40)	unique	N
	peerrevwid	char(40)	unique	Y
	peerrvwdssts	char(20)		N

TABLE DESCRIPTION: The revwdset table provides status information which data sets which have been peer reviewed.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
revwrslt	peerrevwid	char(40)	unique	Y
	tupseqnum	smallint	unique	Y
	peerrvwrslts	char(60)		N

TABLE DESCRIPTION: The revwrslt table stores the textual description of the results of a peer review.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
sysched	**sysevtid**	**integer**	**unique**	**Y**
	sysevtcrd	**char(60)**		**N**
	sysevtloc	**char(60)**		**N**
	sysevtname	**char(60)**		**N**
	sysevtstoptm	**char(18)**		**N**
	sysevtstrttm	**char(18)**		**N**

TABLE DESCRIPTION: **The sysched table allows scheduled PDS system events to be available for online query by a PDS user. This table will be kept up to date with currently know system events.**

entity

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
tmplt info	**objname**	**char(12)**	**unique**	**Y**
	tmpltname	**char(60)**		**N**
	tmpltrevdate	**char(8)**		**N**
	tmplttype	**char(12)**		**N**
	tmpltuseind	**char(1)**		**N**

TABLE DESCRIPTION: **The tmplt table stores the names for all valid template object used in the PDS. These templates are logical mappings to the physical tables in the PDS database. They are used by database bulk load software that automatically updates the PDS database from user supplied templates.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
tmpltattr	**objname**	**char(12)**	**unique**	**Y**
	parenttmplt	**char(12)**	**unique**	**Y**
	tblblname attr	**char(12)**	**unique** column	**Y**
	tblname table	**char(12)**	**unique**	**Y**
	editrtnname	**char(12)**		**N**
	kwddefault	**char(20)**		**N**
	kwdhelptxt	**char(30)**		**N**
	tmpltblname	**char(12)**		**N**
	tupseqnum	**smallint**		**N**

TABLE DESCRIPTION: **The tmpltattr table stores all the physical table and attribute names associated with a template objectname. An edit routine name is optional when special validations are required by bulk loading software.**

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
tmpltctltbl	objname	char(12)	unique	Y
	tmpltloddate	char(8)	unique	Y
	tmpltlodtime	char(6)	unique	Y
	pdssuplrname	char(30)		N
	tmpltstatus	char(40)		N

TABLE DESCRIPTION: The tmpltctltbl is populated with temporary data by the loader software to provide run-time status information during the loading process.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
tmpltd	objname	char(12)	unique	Y
	tupseqnum	smallint	unique	Y
	tmpltnote	char(60)		N

TABLE DESCRIPTION: This tmpltd is a textual description of a unique template in the PDS. This description is part of the template distributed to the data supplier when input catalog data is requested. For this reason, the description is geared towards the usage of a template by a data supplier.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
tmplthier	objname	char(12)	unique	Y
	tupseqnum	smallint	unique	Y
	subobjname	char(12)		Y

TABLE DESCRIPTION: The tmplthier table supports a hierarchy of templates used by the bulk loading software to validate input data received from data suppliers.

TABLE NAME	COLUMN NAME	SQL DATA TYPE	KEY TYPE	MANDATORY
txtctltbl	objname	char(12)	unique	Y
	tblname	char(12)	unique	Y
	tmpltloddate	char(8)	unique	Y
	tmpltlodtime	char(6)	unique	Y
	tupseqnum	smallint	unique	Y
	txtstrval	char(60)		N

TABLE DESCRIPTION: The txtctltbl contains temporary data during processing of templates by the loader software. The contents of this table are textual descriptions from templates, and are eventually used to load the PDS catalog.

Chapter 6

DATA DICTIONARY

This Chapter presents the current contents of the Data Dictionary for the PDS Science Catalogs and System Data. This hardcopy version is a snapshot in time of the dynamic storehouse of information about the PDS Science Catalogs and System Data database. During the design and development of Version 1.0, the data dictionary supported the evolution of the Science Catalogs. It is currently available on-line in the DBMS to PDS system developers. Since delivery of Version 1.0, the Data Dictionary has been available on-line to PDS users to assist their use of the PDS Science Catalogs.

Section 6.1 gives a brief overview of the Data Dictionary. Section 6.2 explains the nomenclature standards for constructing the names and terms encompassed by PDS. Section 6.3 contains definitions of all of the columns in the database tables. Section 6.4 lists the standard values and minimum/maximum values for a given column. Also included in that section is a units of measurement list.

6.1 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.

6.2 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.

6.2.1 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.

6.2.1.1 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

6.2.1.2 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

6.2.1.3 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.

6.2.1.3.1 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").

6.2.1.4 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

6.2.1.5 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~~ Explanation
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.
text	description is to be used.

6.2.2 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.

6.2.2.1 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.)

6.2.2.2 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 "fpMAGmodedet" and "fpLECPpmpinf".

6.2.2.3 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

6.2.2.4 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.

6.3 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.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS

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	conflvlnote	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.

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_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.

FORMATION RULE: YYYY-MM-DD

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.

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

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.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
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	**exposofflg**	**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.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
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.

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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.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
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**

physical

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**	**(how written, char(60), protocol)**	**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.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
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.

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.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
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.

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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.

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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

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS

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.

sensitivity_desc senad 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) 40 none

10/2/90

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 hieararchy 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.

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.

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

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.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS

temperature_translation_desc | tempttransd | 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. → S - system

H - HLL

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.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
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.

DATA DICTIONARY NAME	COLUMN NAME	SQL DATA TYPE	UNITS
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,

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.

6.4 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

	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	

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: horisontal_fov
Standard Value Type: RANGE

Data Dictionary Name: horisontal_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 SMA	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_expoar_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

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
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**

6.4.1 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	UN
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	noı
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.	non
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

6.4.2 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

Chapter 7

DATABASE QUERIES

This section contains the Structured Query Language (SQL) queries which implement the user views described in Chapter 3. These queries are commands which are stored in the database and are used by the user interface software to perform database searches.

In each stored command presented below, the following conventions are used:

(1.) The query name, as it is stored in the database, is presented at the top. This name is a unique name which is used by the user interface software to call a particular stored command.

(2.) The user view name is shown below the query name. This user view name is the unique name assigned to a particular user view. A user view can be considered to consist of a set of information items which a user expects to provide as input to a data search, and a set of information items which the user expects to retrieve as output from the search. The elements which make up the set of input and output items for each user view are specified in Chapter 3.

(3.) A description of the query follows, which tells the user what the user view provides.

(4.) A technical description of the query is given next, which describes how the query works.

(5.) The SQL text of the query is presented next. In general, the major clauses of the SQL text are presented so that the keywords appear to the left of the values supplied to that clause. This facilitates comparison of various stored commands.

There are many texts available to provide information on the syntax of Structured Query Language. Two texts in particular are of importance to the PDS stored command implementation. The standards specified in *A Guide to the SQL Standard*, (1987) by C. J. Date have been followed whenever they did not conflict with the Sharbase version of SQL. In particular, the Sharebase version of SQL, as presented in the SQL Reference Manual Sharebase Host Software September, 1988) has been used to write the stored commands.

7.1 fcontamd - Data Set Related Contamination Description

Query Name: fcontamd
User View: Data Set Related Contamination Description
User Description:
The Data Set Related Contamination Description user view allows the input of parameters that identify data sets or contamination levels. The user view output consists of the selected values for the inputs as well as the contamination descriptions.

Technical Description:
A contamination description is associated with a contamid, instid and scid. Since dsid is an input parameter then a join is performed between dshost and fpcontamd on instid and insthostid (in order to link the dsid with the appropriate instrument and instrument host).

Query :

```
select dsh.dsid, -
fpc.contamid, -
fpc.contamd -
from dshost dsh (minlock), -
fpcontamd fpc (minlock) -
where   dsh.dsid like &dsid -
and     dsh.insthostid = fpc.scid -
and     dsh.instid = fpc.instid -
and    fpc.contamid like &contamid -
order by dsh.dsid, -
         fpc.contamid, -
         fpc.tupseqnum -
```

7.2 fdataqual - Data Set Related Data Quality

Query Name: fdataqual
User View: Data Set Related Data Quality
User Description:

The Data Set Related Data Quality user view allows the input of parameters that specify data sets, instrument hosts, or time ranges. The user view output consist of the selected values for the input parameters as well as information about sampling parameters, data coverage, data quality, contamination, and browse capabilities.

Technical Description:

Joins are performed between the following tables: dsinfo and dshost, dshost and fpbrowseavl, dsinfo and fpdatacvg, fpdatacvg and fpbrowseavl, dsinfo and dsparminfo. DISTINCT is needed to remove duplicates caused by the join with dsparminfo and dsinfo because part of dsparminfo's key (dsparmname) is not included in the target list. Note some of the target elements are being converted to CHAR due to UI.

The comparison between the fpdatacvg.evtstrthour and the input evtstrttime and evtstoptime is based on F&P hourly data and is why the SUBSTRING function is used. In addition, the comparisions between the dsinfo and input supplied evtstrttime and evtstoptime (time range) are implemented such that it will cover any possible case of overlapping times:

where I = Input time range
D = Database (dsinfo table time ranges)

1. I is contained in D
2. I and D intersect
3. D is contained in I

```
create nonclustered index on fpdatacvg(evtstrthour)
create nonclustered index on fpdatacvg(evtstrttime)
create nonclustered index on fpbrowseavl(evtstrttime)
```

Select against the 'evtstrthour' attribute rather than against a substring(1,10,evtstrttime) for performance enhancement.

Query :

```
select distinct -
dsi.dsid, -
    fpba.scid, -
fpba.instid, -
fpdc.evtstrttime, -
fpba.browseflag, -
sampparmiv = CHAR(31,dsp.sampparmiv), -
dsp.sampparmunit, -
datacvgpct = CHAR(31,fpdc.datacvgpct), -
contamid = CHAR(6,fpdc.contamid), -
dataqualid = CHAR(6,fpdc.dataqualid) -
from dshost dsh (minlock), -
dsinfo dsi (minlock), -
dsparminfo dsp (minlock), -
fpbrowseavl fpba (minlock), -
fpdatacvg fpdc (minlock) -
where dsh.dsid like &dsid -
and     dsh.instid like &instid -
and     dsh.insthostid like &scid -
and     dsi.dsid = dsh.dsid -
and     dsi.evtstrttime <= &evtstrttime -
and     dsi.evtstoptime >= &evtstrttime -
and     dsi.dsid = dsp.dsid -
and     fpdc.dsid = dsi.dsid -
and     fpdc.evtstrthour between -
        SUBSTRING(1,10,&evtstrttime) and -
SUBSTRING(1,10,&evtstoptime) -
and     fpdc.evtstrttime = fpba.evtstrttime -
and     fpba.scid = dsh.insthostid -
and     fpba.instid = dsh.instid -
order by dsh.dsid, -
         fpdc.evtstrttime -
```

7.3 fdataqualsch - Data Set Related Data Quality Scheme

Query Name: fdataqualsch
User View: Data Set Related Data Quality Scheme
User Description:

The Data Set Related Data Quality Scheme user view allows the input of parameters that identify data sets or data quality levels. The user view output consists of the selected values for the input parameters as well as the data quality descriptions.

Technical Description:

A data quality description is associated with a dataqualid, instid, and scid. Since dsid is an input parameter then a join is performed between dshost and fpdataquald on instid and insthostid (in order to link the dsid with the appropriate instrument and instrument host).

Query :

```
select dsh.dsid, -
fpdqd.dataqualid, -
fpdqd.dataquald -
from dshost dsh (minlock), -
fpdataquald fpdqd (minlock) -
where dsh.dsid like &dsid -
and dsh.insthostid = fpdqd.scid -
and dsh.instid = fpdqd.instid -
and fpdqd.dataqualid like &dataqualid -
order by dsh.dsid, -
 fpdqd.dataqualid, -
 fpdqd.tupseqnum -
```

7.4 fdefaultpos - Default Position Information

Query Name: fdefaultpos
User View: General Position Information
User Description:

The General Position Information user view allows the input of a parameter that identifies targets. The user view output consists of the selected target names, as well as coordinate system information.

Technical Description:

This query provides the default coordinate system that is used for a given target. This query is used in preparation for the Position Related Data Quality (fposqual) user view. It is executed and its results are used as input parameter headers on the parameter screen for the fposqual stored command.

Query :

```
select    fpcd.targname, -
          fpcd.crdsysid, -
          fpcd.vectcompid1, -
          fpcd.vectcompid2, -
          fpcd.vectcompid3 -
from      fpcrddefault fpcd (minlock) -
where     fpcd.targname like &targname -
order by  fpcd.targname, -
          fpcd.crdsysid -
```

7.5 fdsinfo - General Data Set Information

Query Name: fdsinfo
User View: General Data Set Information
User Description:

The General Data Set Information user view allows the input of a parameters that identify data sets. The user view output consists of the selected data set identifiers as well as related targets, instruments, instrument hosts, time ranges, sampling parameter information and data producers.

Technical Description:

Because one of the joins in this query is to the dsparminfo table, which contains a row for each dataset parameter (dsparmname) in the dataset, this query will return duplicate rows if a distinct is not used. Other joins are performed between dstarg, dshost and dsinfo.

Query :

```
select DISTINCT dsh.dsid, -
dst.targname, -
dsh.insthostid, -
   dsh.instid, -
        dsi.evtstrttime, -
        dsi.evtstoptime, -
sampparmiv = CHAR(31,dsp.sampparmiv), -
dsp.sampparmunit, -
        dsi.prodfullname -
from dshost dsh (minlock), -
dstarg dst (minlock), -
dsinfo dsi (minlock), -
dsparminfo dsp (minlock) -
where dsh.dsid like &dsid -
and     dsh.insthostid like &scid -
and     dsh.instid like &instid -
and     dst.dsid = dsh.dsid -
and     dst.targname like &targname -
and     dsi.dsid = dsh.dsid -
and     dsp.dsid = dsh.dsid -
order by dsh.dsid -
```

7.6 fevtqual - Event Related Data Quality

Query Name: fevtqual
User View: Event Related Data Quality
User Description:
The Event Related Data Quality user view allows the input of parameters that specify events, instrument hosts, targets, or time ranges. The user view output consist of the selected values for the input parameters as well as information about sampling parameters, data coverage, data quality, contamination, and browse capabilities.

Technical Description:
Joins are performed between the following tables: dstarg and dshost, evtinfo and dshost, evtinfo and dstarg, evtinfo and dsinfo, evtinfo and fpdatacvg, dsinfo and dshost, dshost and fpbrowseavl, fpdatacvg and fpbrowseavl, dsinfo and dsparminfo.
DISTINCT is needed to remove duplicates caused by the join with dsparminfo and dsinfo because part of dsparminfo's key (dsparmname) is not included in the target list. Note some of the target elements are being converted to CHAR due to UI.

The comparision between the fpdatacvg.evtstrthour and the input evtstrttime and evtstoptime is based on F&P hourly data and is why the SUBSTRING function is used. In addition, the comparisions between the evtinfo evtstrttime and evtstoptime (time range) and input supplied evtstrttime and evtstoptime (time range); and the comparisons between the dsinfo time range and evtinfo time range are implemented such that it will cover any possible case of overlapping times:
where A = a time range
B = another time range

1. A is contained in B
2. A and B intersect
3. B is contained in A

Basically, what is occuring with the evtinfo, dsinfo and input time ranges is the following:
Given an input time range, select the events that overlap that range. Then given this set of events, select the datasets that overlap the time ranges of the events. Then given this set of datasets, based upon their F&P detailed hourly data, select the datasets

that are WITHIN the time ranges (hourly) of the set of events.

```
create nonclustered index on fpdatacvg(evtstrthour)
create nonclustered index on fpdatacvg(evtstrttime)
create nonclustered index on fpbrowseavl(evtstrttime)
create nonclustered index on dsinfo(evtstrttime)
create nonclustered index on dsinfo(evtstoptime)
```

Query :

```
select distinct -
        ei.evttype, -
ei.evtname, -
fpba.scid, -
fpba.instid, -
ei.targname, -
        ei.evtstrttime, -
ei.evtstoptime, -
        dsi.dsid, -
fpdc.evtstrttime, -
fpba.browseflag, -
sampparmiv = CHAR(31,dsp.sampparmiv), -
dsp.sampparmunit, -
datacvgpct = CHAR(31,fpdc.datacvgpct), -
contamid = CHAR(6,fpdc.contamid), -
dataqualid = CHAR(6,fpdc.dataqualid) -
from evtinfo ei (minlock), -
        dshost dsh (minlock), -
dsinfo dsi (minlock), -
        dstarg dst (minlock), -
dsparminfo dsp (minlock), -
fpbrowseavl fpba (minlock), -
fpdatacvg fpdc (minlock) -
where ei.evttype like &evttype -
and     ei.evtname like &evtname -
and     ei.insthostid like &scid -
and     ei.targname like &targname -
and     ei.evtstrttime <= &evtstoptime -
and     ei.evtstoptime >= &evtstrttime -
and     dsh.insthostid = ei.insthostid -
and     dsh.instid like &instid -
and     dst.targname = ei.targname -
and     dsh.dsid = dst.dsid -
and     dsi.dsid = dsh.dsid -
and     dsi.evtstrttime <= ei.evtstoptime -
and     dsi.evtstoptime >= ei.evtstrttime -
and     dsi.dsid = dsp.dsid -
and     fpdc.dsid = dsi.dsid -
and     fpdc.evtstrthour between -
        SUBSTRING(1,10,ei.evtstrttime) and -
SUBSTRING(1,10,ei.evtstoptime) -
and     fpdc.evtstrttime = fpba.evtstrttime -
and     fpba.scid = dsh.insthostid -
and     fpba.instid = dsh.instid -
order by ei.evttype,-
        dsh.instid,-
```

?pdc.evtstrttime -

7.7 finstinfo - General Instrument Information

Query Name: finstinfo
User View: General Instrument Information
User Description:

The General Instrument Information user view allows the inputs of parameters that identify instruments or instrument hosts. The user view output consist of the selected values for the input parameters as well as the principal investigators and related information about instrument modes and parameters.

Technical Description:

Joins are performed on instmodesect, persinfo and instsectparm to provide general information about a particular F&P instrument.

Query :

```
select distinct -
ims.insthostid, -
  ims.instid, -
pi.fullname, -
ims.instmodeid, -
ims.sectid, -
isp.instparmname, -
isp.instparmunit -
from instmodesect ims (minlock), -
persinfo pi (minlock), -
instsectparm isp (minlock) -
where ims.instid like &instid -
and ims.insthostid like &scid -
and ims.insthostid = instinfo.insthostid -
and     ims.instid = instinfo.instid -
and     instinfo.pipdsuserid = pi.pdsuserid -
and ims.insthostid = isp.insthostid -
and ims.instid = isp.instid -
and ims.sectid = isp.sectid -
order by ims.insthostid, -
 ims.instid, -
 ims.instmodeid, -
 ims.sectid -
```

7.8 flcchnlinfo - LECP Channel Information

Query Name: flcchnlinfo
User View: LECP Channel Information
User Description:

The LECP Channel Information user view allows the input of parameters which characterize channels and the parameters they measure. The user view output consists of the selected values for the input parameters as well as information about the channel's geometric factors and the ranges and units of parameters measured by the channels.

Technical Description:

Only two tables are joined in this stored command, fplecpchnlz and fplecpenergy. The first 9 elements of the user view are from the fplecpchnlz table and the remaining 5 elements are selected from fplecpenergy. Joins are performed on the scid, instid, chnlgrpname and chnlid elements.

Query :

```
select fplcchz.scid, -
fplcchz.instid, -
  fplcchz.chnlgrpname, -
fplcchz.chnlid, -
chnlgeomfact=CHAR(S1,fplcchz.chnlgeomfact), -
fplcchz.instparmname, -
mininstparm=CHAR(S1,fplcchz.mininstparm), -
maxinstparm=CHAR(S1,fplcchz.maxinstparm), -
fplcchz.instparmunit, -
fplce.partspecanm, -
fplce.instparmname, -
mininstparm=CHAR(S1,fplce.mininstparm), -
maxinstparm=CHAR(S1,fplce.maxinstparm), -
fplce.instparmunit -
from fplecpchnlz fplcchz, -
fplecpenergy fplce -
where   fplcchz.scid like &scid -
and fplcchz.chnlgrpname like &chnlgrpname -
and fplcchz.chnlid like &chnlid -
and fplcchz.instparmname like &instparmname -
and fplce.partspecanm like &partspecanm -
and fplcchz.scid = fplce.scid -
and fplcchz.instid = fplce.instid -
and fplcchz.chnlgrpname = fplce.chnlgrpname -
and fplcchz.chnlid = fplce.chnlid -
order by fplcchz.scid, -
 fplcchz.instid, -
 fplcchz.chnlgrpname, -
 fplcchz.chnlid -
```

7.9 flcinstinfo - LECP Instrument Information

Query Name: flcinstinfo
User View: LECP General Instrument Information
User Description:

The LECP General Instrument Information user view allows the inputs of parameters that identify instrument hosts. The user view output consist of the selected values for the input parameters as well as the principal investigators and related information about the LECP instrument modes and parameters.

Technical Description:

Joins are performed between fplecpmode and instmodesect, and fplecpchnlz to provide general information about the LECP's mode and parameters. Additionally, a join is performed between instmodesect, instinfo and persinfo to select the section id and principal investigator's name. Distinct is needed since the query doesn't utilize all the key elements in the fplecpchnlz table.

Query :

```
select distinct -
fplcm.scid, -
  fplcm.instid, -
pi.fullname, -
fplcm.instmodeid, -
ims.sectid, -
fplcm.instparmname, -
isp.instparmunit -
from fplecpmode fplcm (minlock), -
instsectparm isp (minlock), -
instmodesect ims (minlock), -
instinfo ii (minlock), -
persinfo pi (minlock) -
where fplcm.instid = "LECP" -
and fplcm.scid like &scid -
and ims.insthostid = fplcm.scid -
and ims.instid = fplcm.instid -
and ims.instmodeid = fplcm.instmodeid -
and ims.insthostid = ii.insthostid -
and     ims.instid = ii.instid -
and     ii.pipdsuserid = pi.pdsuserid -
and isp.insthostid = ims.insthostid -
and isp.instid = ims.instid -
and isp.sectid = ims.sectid -
and isp.instparmname = fplcm.instparmname -
order by fplcm.scid, -
 fplcm.instid, -
 fplcm.instmodeid, -
 ims.sectid -
```

7.10 flcmodeinfo - LECP Mode Information

Query Name: flcmodeinfo
User View: LECP Mode Information
User Description:
The LECP Mode Information user view allows the input of parameters which identify an instrument mode. The user view output consists of the selected values for the input parameters as well as information about participating channels, the instrument parameters measured during the mode, and the sampling interval.

Technical Description:
This stored command only involves one F&P detailed level table, fplecpmode. The attribute sampparmiv is converted to CHAR prior to results being returned to the User Interface.

Query :

```
select  fplcm.scid, -
fplcm.instid, -
fplcm.instmodeid, -
fplcm.chnlgrpname, -
fplcm.instparmname, -
sampparmiv = CHAR(31,fplcm.sampparmiv), -
fplcm.chnls -
from fplecpmode fplcm (minlock) -
where   fplcm.scid like &scid -
and  fplcm.instid like "LECP" -
and fplcm.instmodeid like &instmodeid -
order by fplcm.scid, -
         fplcm.instid, -
         fplcm.instmodeid, -
         fplcm.chnlgrpname -
```

7.11 fmaginstinfo - MAG Instrument Information

Query Name: fmaginstinfo
User View: MAG General Instrument Information
User Description:

The MAG General Instrument Information user view allows the inputs of parameters that identify instrument hosts. The user view output consist of the selected values for the input parameters as well as the principal investigators and related information about the MAG instrument modes and parameters.

Technical Description:

Joins are performed between fpmagmodedet and fpmagdetrng to provide general information about the MAG instrument. Joins between instmodesect, instinfo, persinfo are needed to select the sectid and principal investigator. Distinct is needed since the query doesn't utilize all the keys in the fpmagdetrng table.

Query :

```
select distinct -
fpmagmd.scid, -
  fpmagmd.instid, -
pi.fullname, -
fpmagmd.instmodeid, -
ims.sectid, -
fpmagdr.instparmname, -
fpmagdr.instparmunit -
from fpmagmodedet fpmagmd (minlock), -
fpmagdetrng fpmagdr (minlock), -
instmodesect ims (minlock), -
instinfo ii (minlock), -
persinfo pi (minlock) -
where fpmagmd.scid like &scid -
and fpmagmd.instid = "MAG" -
and ims.insthostid = fpmagmd.scid -
and ims.instid = fpmagmd.instid -
and ims.instmodeid = fpmagmd.instmodeid -
and ims.insthostid = ii.insthostid -
and     ims.instid = ii.instid -
and     ii.pipdsuserid = pi.pdsuserid -
and     fpmagmd.detid = fpmagdr.detid -
and fpmagmd.instid = fpmagdr.instid -
and fpmagmd.scid = fpmagdr.scid -
order by fpmagmd.scid, -
 fpmagmd.instid, -
 fpmagmd.instmodeid, -
 ims.sectid -
```

7.12 fmagmodeinfo - MAG Mode Information

Query Name: fmagmodeinfo
User View: MAG Mode Information
User Description:

The MAG Mode Information user view allows the input of parameters which specify a particular instrument mode or detector. The user view output consists of the selected values for the input parameters as well as information about the range of parameters measured by the detectors.

Technical Description:

This stored command involves only two detailed F&P tables, fpmagmodedet and fpmagdetrng, where a join is performed between them on scid, instid, and detid. Mininstparm and maxinstparm are converted to CHAR before results are returned to User Interface.

Query :

```
select fpmagmd.scid, -
fpmagmd.instid, -
fpmagmd.instmodeid, -
fpmagmd.detid, -
fpmagdr.instparmname, -
mininstparm = CHAR(31,fpmagdr.mininstparm), -
maxinstparm = CHAR(31,fpmagdr.maxinstparm), -
fpmagdr.instparmunit -
from fpmagmodedet fpmagmd (minlock), -
fpmagdetrng  fpmagdr (minlock) -
where fpmagmd.scid like &scid -
and fpmagmd.instid like "MAG" -
and     fpmagmd.instmodeid like &instmodeid -
and fpmagmd.detid like &detid -
and fpmagmd.scid = fpmagdr.scid -
and fpmagmd.instid = fpmagdr.instid -
and fpmagmd.detid = fpmagdr.detid -
order by fpmagmd.scid, -
 fpmagmd.instid, -
 fpmagmd.instmodeid, -
 fpmagmd.detid -
```

7.13 fmagsampinfo - MAG Sampling Information

Query Name: fmagsampinfo
User View: MAG Sampling Information
User Description:

The MAG Sampling Information user view allows the inputs of parameters which specify a particular instrument's detectors or sampling parameter. The user view output consist of the selected values for the input parameters as well as the additional information about the data sampling.

Technical Description:

There is only one table utilized in this query, fpmagdetinfo. Note the element sampparmiv (data type of BCDFLT) is converted to CHAR for the benefit of the user interface.

Query :

```
select  distinct -
fpmagdi.scid, -
  fpmagdi.instid, -
fpmagdi.detid, -
fpmagdi.sampparmname, -
sampparmiv = CHAR(31,fpmagdi.sampparmiv), -
fpmagdi.sampparmunit -
from fpmagdetinfo fpmagdi (nolock) -
where fpmagdi.scid like &scid -
and fpmagdi.instid = "MAG" -
and fpmagdi.detid like &detid -
and fpmagdi.sampparmname like &sampparmname -
order by fpmagdi.scid, -
 fpmagdi.instid, -
 fpmagdi.detid -
```

7.14 fparmavail - Parameter Availability (Location and Data Sets)

Query Name: fparmavail
User View: Parameter Availability (Location and Data Sets)
User Description:

The Parameter Availability (Location and Data Sets) user view allows the input of parameters that identify instrument hosts, targets, data set parameters, or instrument parameters. The user view output consists of the selected values for the input parameters as well as associated data sets and instruments.

Technical Description:

Three tables are involved in this stored command, and a join is performed between dsinstparm and dshost on insthostid to select the instid and dsid. Additionally, a join is performed between dstarg and dshost on targname to futher constrain the selection of dsid. Note, that the F&P instid (LECP,MAG,PLS,PWS & POS (for position data)) are explicitly or'ed, since this is a detailed-level query for F&P discipline, but utilized high-level tables, it needs this code to constrain it to only F&P instruments

Query :

```
select dip.dsparmname, -
dip.instparmname, -
impinstparms = CHAR(6,dip.impinstparms), -
dsh.instid, -
dip.insthostid, -
dsh.dsid, -
dst.targname -
from dsinstparm dip (minlock), -
dshost dsh (minlock), -
dstarg dst (minlock) -
where dip.insthostid like &scid -
and dip.dsparmname like &dsparmname -
and dip.instparmname like &instparmname -
and dst.targname like &targname -
and dip.insthostid = dsh.insthostid -
and dst.dsid = dsh.dsid -
and     (dsh.instid = "LECP" or -
         dsh.instid = "MAG" or -
         dsh.instid = "PLS" or -
         dsh.instid = "PWS" or -
   dsh.instid = "POS") -
order by dip.dsparmname, -
 dip.instparmname, -
 dsh.instid, -
         dip.insthostid -
```

7.15 fparms - Data Set and Instrument Parameters

Query Name: fparms
User View: Data Set and Instrument Parameters
User Description:

The Data Set and Instrument Parameters user view allows input of parameters taht identify instrument hosts, data set parameters or instrument parameters. The user view output consists of the selected values for the input parameters as well as the number of instrument parameters used to derive the data set parameters.

Technical Description:

This stored command only uses one high-level catalog table, dsinstparm.

Note: The F&P instids are explicitly or'ed since this is a detailed-level query for the F&P discipline, but utilizes high-level tables. Therefore it needs this code to constrain it to only F&P data.

Query :

```
select dsip.insthostid, -
dsip.dsparmname, -
dsip.instparmname, -
CHAR(6,dsip.impinstparms) -
from dsinstparm dsip (minlock), -
        dshost dsh (minlock) -
where   dsip.insthostid like &scid -
and dsip.dsparmname like &dsparmname -
and  dsip.instparmname like &instparmname -
and     dsip.insthostid = dsh.insthostid -
and     (dsh.instid = "LECP" or -
         dsh.instid = "MAG"  or -
         dsh.instid = "PLS"  or -
         dsh.instid = "PWS"  or -
         dsh.instid = "POS") -
order by dsparmname, -
 instparmname -
```

7.16 fplsinstinfo - PLS Instrument Information

Query Name: fplsinstinfo
User View: PLS General Instrument Information
User Description:

The PLS General Instrument Information user view allows the inputs of parameters that identify instrument hosts. The user view output consist of the selected values for the input parameters as well as the principal investigators and related information about the PLS instrument modes and parameters.

Technical Description:

Joins are performed between fpplsmodeprm and instmodesect, instsectparm to provide general information about the PLS instrument. Additionaly joins to instinfo, persinfo are needed to select the principal investigator. Distinct is needed since the query doesn't utilize all the keys in the instsectparm table.

Query :

```
select distinct -
fpplsmp.scid, -
  fpplsmp.instid, -
pi.fullname, -
fpplsmp.instmodeid, -
ims.sectid, -
fpplsmp.instparmname, -
isp.instparmunit -
from fpplsmodeprm fpplsmp (minlock), -
instmodesect ims (minlock), -
instsectparm isp (minlock), -
instinfo ii (minlock), -
persinfo pi (minlock) -
where fpplsmp.scid like &scid -
and fpplsmp.instid = "PLS" -
and ims.insthostid = fpplsmp.scid -
and ims.instid = fpplsmp.instid -
and ims.instmodeid = fpplsmp.instmodeid -
and ims.insthostid = ii.insthostid -
and     ims.instid = ii.instid -
and     ii.pipdsuserid = pi.pdsuserid -
and isp.insthostid = fpplsmp.scid -
and isp.instid = fpplsmp.instid -
and isp.sectid = ims.sectid -
and isp.instparmname = fpplsmp.instparmname -
order by fpplsmp.scid, -
 fpplsmp.instid, -
 fpplsmp.instmodeid, -
 ims.sectid -
```

7.17 fplsmoded - PLS Mode Description

Query Name: fplsmoded
User View: PLS Mode Description
User Description:

The PLS Mode Description user view allows the input of parameters which specify a particular instrument mode. The user view output consists of the selected values for the input parameters as well as a text description of the mode

Technical Description:

This stored command only utilizes one high level table which contains all mode descriptions: instmoded.

Query :

```
select imd.insthostid, -
imd.instid, -
imd.instmodeid, -
imd.instmoded -
from instmoded imd (minlock) -
where imd.insthostid like &scid -
and imd.instid like "PLS" -
and imd.instmodeid like &instmodeid -
order by imd.insthostid, -
 imd.instid, -
         imd.instmodeid, -
         imd.tupseqnum -
```

7.18 fplsmodeinfo - PLS Detailed Mode Information

Query Name: fplsmodeinfo
User View: PLS Detailed Mode Information
User Description:

The PLS Detailed Mode Information user view allows the input of parameters which may be associated with an instrument mode. These include values that specify energy resolution, a range of instrument parameters, and the name of a particle species of interest. The user view output consists of the selected values for the input parameters as well as information about the detectors and channels participating in the particular mode to the instrument.

Technical Description:

Joins are performed between the three F&P detailed level tables, fpplsmodeinf, fpplsmodedet, and fpplschnl. There are conversions of input parameters lnomenergyre,unomenergyre,maxsampparm,minsampparm from character (as they are passed from the UI) to BCDFLT so they can be used in a comparision with the associated database values.
NOTE: The nomenergyres is denoted by (range) in the above documentation of inputs. This means that the user supplies a lowerbound(l) and an upperbound(u) value for this element. The input parameters names are prefixed with (l) and (u). If this causes the name to exceed the 12 character limit, then the name is truncated from the right as needed (e.g. lnomenergyre) (This is also supported by the UI).

Query :

```
select fpplsmi.scid, -
fpplsmi.instid, -
fpplsmi.instmodeid, -
nomenergyres = CHAR(31,fpplsmi.nomenergyres), -
fpplsmi.sampparmname, -
minsampparm = CHAR(31,fpplsmi.minsampparm), -
maxsampparm = CHAR(31,fpplsmi.maxsampparm), -
        fpplsmi.sampparmunit, -
fpplsmi.partspecsnm, -
modeintgdur = CHAR(31,fpplsmi.modeintgdur), -
dets = CHAR(6,fpplsmi.dets), -
fpplsmd.detid, -
chnls = CHAR(6,fpplsmi.chnls), -
fpplsc.chnlid, -
fpplsmp.instparmname -
from fpplsmodeinf fpplsmi (minlock), -
fpplsmodedet fpplsmd (minlock), -
fpplschnl fpplsc (minlock), -
fpplsmodeprm fpplsmp (minlock) -
where fpplsmi.scid like &scid -
and fpplsmi.instid like "PLS" -
and fpplsmi.instmodeid like &instmodeid -
and fpplsmi.nomenergyres between BCDFLT(31,&lnomenergyre) -
                                 and BCDFLT(31,&unomenergyre) -
and fpplsmi.sampparmname like &sampparmname -
and fpplsmi.minsampparm <= BCDFLT(31,&maxsampparm) -
and fpplsmi.maxsampparm >= BCDFLT(31,&minsampparm) -
and  fpplsmi.partspecsnm like &partspecsnm -
and   fpplsmi.scid = fpplsmp.scid -
and fpplsmi.instid = fpplsmp.instid -
and fpplsmi.instmodeid = fpplsmp.instmodeid -
and fpplsmp.instparmname like &instparmname -
and   fpplsmi.scid = fpplsmd.scid -
and fpplsmi.instid = fpplsmd.instid -
and fpplsmi.instmodeid = fpplsmd.instmodeid -
and   fpplsmi.scid = fpplsc.scid -
and fpplsmi.instid = fpplsc.instid -
and fpplsmi.instmodeid = fpplsc.instmodeid -
order by fpplsmi.scid, -
 fpplsmi.instid, -
 fpplsmi.instmodeid -
```

7.19 fposqual - Position Related Data Quality

Query Name: fposqual
User View: Position Related Data Quality
User Description:

The Position Related Data Quality user view allows the input of parameters that are associated with an instrument or its position when data was collected. These include values that specify instrument hosts, instruments, targets, coordinated systems, or location. The user view output consists of the selected values for the input parameters as well as related data sets and information about sampling parameters, data coverage, data quality, contamination and browse capabilities.

Technical Description:

Joins are performed between the following tables:
dshost and dsinfo, dstarg and dsinfo,
dshost and fpbrowseavl, dsinfo and fpdatacvg,
fpdatacvg and fpposition, fpbrowseavl and fpposition,
dstarg and dsparminfo.
DISTINCT is needed to remove duplicates caused by the join with dsparminfo and dstarg because part of dsparminfo's key (dsparmname) is not included in the target list. Note some of the target elements are being converted to CHAR and some conversions take place in the qualifications, this is due to the UI sending character values and expecting character values as results.

Note that some of the input values (floating points) are denoted by (range). This means that the user supplies a lowerbound(l) and an upperbound(u). The input parameter names are prefixed with (l) and (u).

```
create nonclustered index on fpposition(crdsysid)
create nonclustered index on fpposition(vectcomp1)
create nonclustered index on fpposition(vectcomp2)
create nonclustered index on fpposition(vectcomp3)
create nonclustered index on fpposition(vectcompid1)
create nonclustered index on fpposition(vectcompid2)
create nonclustered index on fpposition(vectcompid3)
```

Query :

```
select distinct -
        fpba.scid,-
        fppos.crdsysid, -
        fppos.vectcompid1, -
        vectcomp1 = CHAR(31,fppos.vectcomp1), -
        fppos.vectcompid2, -
        vectcomp2 = CHAR(31,fppos.vectcomp2), -
        fppos.vectcompid3, -
        vectcomp3 = CHAR(31,fppos.vectcomp3), -
        fpba.instid, -
        dst.targname, -
        fpdc.evtstrttime, -
        dsi.dsid, -
        fpba.browseflag, -
        sampparmiv = CHAR(31,dpi.sampparmiv), -
        dpi.sampparmunit, -
        datacvgpct = CHAR(13,fpdc.datacvgpct), -
        contamid = CHAR(6,fpdc.contamid), -
        dataqualid = CHAR(6,fpdc.dataqualid) -
from    dshost dsh (minlock), -
        dsinfo dsi (minlock), -
        dsparminfo dpi (minlock), -
        dstarg dst (minlock), -
        fpdatacvg fpdc (minlock), -
        fpposition fppos (minlock), -
        fpbrowseavl fpba (minlock) -
where   fpba.scid like &scid -
and     fppos.crdsysid like &crdsysid -
and     fppos.vectcomp1 between (BCDFLT(31,&lvectcomp1)) and -
                        (BCDFLT(31,&uvectcomp1)) -
and     fppos.vectcompid1 like &vectcompid1 -
and     fppos.vectcomp2 between (BCDFLT(31,&lvectcomp2)) and -
                        (BCDFLT(31,&uvectcomp2)) -
and     fppos.vectcompid2 like &vectcompid2 -
and     fppos.vectcomp3 between (BCDFLT(31,&lvectcomp3)) and -
                        (BCDFLT(31,&uvectcomp3)) -
and     fppos.vectcompid3 like &vectcompid3 -
and     fpba.instid like &instid -
and     dsh.instid = fpba.instid -
and     dsh.insthostid = fpba.scid -
and     dst.targname like &targname -
and     dpi.dsid = dst.dsid -
and     dsi.dsid = dst.dsid -
and     dsi.dsid = dsh.dsid -
and     fppos.evtstrttime BETWEEN -
        dsi.evtstrttime and dsi.evtstoptime -
```

```
and      fpdc.dsid = dsi.dsid -
and      fpdc.evtstrttime = fppos.evtstrttime -
and      fpba.evtstrttime = fppos.evtstrttime -
order by fpba.scid, -
         fpba.instid, -
         fpdc.evtstrttime -
```

7.20 fpwsinstinfo - PWS Instrument Information

Query Name: fpwsinstinfo
User View: PWS General Instrument Information
User Description:
The PWS General Instrument Information user view allows the inputs of parameters that identify instrument hosts. The user view output consist of the selected values for the input parameters as well as the principal investigators and related information about the PWS instrument modes and parameters.

Technical Description:
Joins are performed between fppwsmode and instsectparm, to provide general information about the PWS instrument. Additionaly joins to instinfo, persinfo are needed to select the principal investigator. Distinct is needed since the query doesn't utilize all the key elements in the instsectparm table.

Query :

```
select distinct -
fppwsm.scid, -
  fppwsm.instid, -
pi.fullname, -
fppwsm.instmodeid, -
fppwsm.sectid, -
fppwsm.instparmname, -
isp.instparmunit -
from fppwsmode fppwsm (minlock), -
instsectparm isp (minlock), -
instinfo ii (minlock), -
persinfo pi (minlock) -
where fppwsm.scid like &scid -
and fppwsm.instid = "PWS" -
and fppwsm.scid = ii.insthostid -
and     fppwsm.instid = ii.instid -
and     ii.pipdsuserid = pi.pdsuserid -
and fppwsm.scid = isp.insthostid -
and fppwsm.instid = isp.instid -
and fppwsm.sectid = isp.sectid -
and fppwsm.instparmname = isp.instparmname -
order by fppwsm.scid, -
 fppwsm.instid, -
 fppwsm.instmodeid, -
 fppwsm.sectid -
```

7.21 fpwsmodeinfo - PWS Mode Information

Query Name: fpwsmodeinfo
User View: PWS Mode Information
User Description:

The PWS Mode Information user view allows the inputs of parameters which specify a particular instrument mode, section, or parameter measured by the instrument. The user view output consists of the selected values for the input parameters as well as the ranges of parameters measured in the instrument mode, the number of channels and gain modes applicable to the specified mode, and a text description of the mode.

Technical Description:

Since instmoded is a repeating text field, it is necessary to perform an outer-join on the instmoded table so that if no mode description exist, the user will still be presented with results from the rest of the elements in the target list.

A join is performed between fppwsmode and instsectparm. Note also that several attributes are being converted to CHAR in the target list (requirement by the User Interface).

Query :

```
select fppwsm.scid, -
fppwsm.instid, -
fppwsm.instmodeid, -
fppwsm.sectid, -
fppwsm.instparmname, -
mininstparm = CHAR(31,isp.mininstparm), -
maxinstparm = CHAR(31,isp.maxinstparm), -
isp.instparmunit, -
chnls = CHAR(6,fppwsm.chnls), -
gainmodes = CHAR(6,fppwsm.gainmodes), -
imd.instmoded -
from fppwsmode fppwsm (minlock), -
instsectparm isp (minlock), -
instmoded imd (minlock) -
where fppwsm.scid like &scid -
and fppwsm.instid like "PWS" -
and  fppwsm.instmodeid like &instmodeid -
and fppwsm.sectid like &sectid -
and fppwsm.instparmname like &instparmname -
and fppwsm.scid = isp.insthostid -
and fppwsm.instid = isp.instid -
and fppwsm.sectid = isp.sectid -
and  fppwsm.instparmname = isp.instparmname -
and fppwsm.scid *= imd.insthostid -
and fppwsm.instid *= imd.instid -
and fppwsm.instmodeid *= imd.instmodeid -
order by fppwsm.scid, -
 fppwsm.instid, -
 fppwsm.instmodeid, -
        fppwsm.sectid, -
        imd.tupseqnum -
```

7.22 fpwssampsch - PWS Sampling Scheme

Query Name: fpwssampsch
User View: PWS Sampling Scheme
User Description:

The PWS Sampling Scheme user view allows the inputs of parameters which specify a particular instrument mode, section, parameter measured by the instrument, or channel. The user view output consists of the selected values for the input parameters as well as parameters which provide specific information about how data are sampled in both time and frequency, and a text description of the sampling scheme used.

Technical Description:

Fppwsmode table is joined with instsectparm on insthostid (scid), instid, sectid and instparmname to select the instrument sampling parameter information. Additionally, fppwsmode is joined with fppwschnl on instid, instmodeid, scid, and sectid to select the channel sampling parameter information. There is an outer-join performed between fppwsmode and fppwssampd to select a sampling scheme description, if one exist. The attributes in the target list that are of a BCDFLT data type are converted to CHAR for the User Interface.

Query :

```
select fppwsm.scid, -
fppwsm.instid, -
fppwsm.instmodeid, -
fppwsm.sectid, -
fppwsm.instparmname, -
isp.sampparmname, -
sampparmres = CHAR(31,isp.sampparmres), -
minsampparm = CHAR(31,isp.minsampparm), -
maxsampparm = CHAR(31,isp.maxsampparm), -
sampparmiv = CHAR(31,isp.sampparmiv), -
isp.sampparmunit, -
fppwsc.chnlid, -
fppwsc.sampparmname, -
minsampparm = CHAR(31,fppwsc.minsampparm), -
maxsampparm = CHAR(31,fppwsc.maxsampparm), -
fppwsc.sampparmunit, -
ctrfreq = CHAR(31,fppwsc.ctrfreq), -
bandwidth = CHAR(31,fppwsc.bandwidth), -
fppwssd.sampd -
from fppwsmode fppwsm (minlock), -
fppwschnl fppwsc (minlock), -
instsectparm isp (minlock), -
fppwssampd fppwssd (minlock) -
where fppwsm.scid like &scid -
and fppwsm.instid like "PWS" -
and  fppwsm.instmodeid like &instmodeid -
and fppwsm.sectid like &sectid -
and fppwsm.instparmname like &instparmname -
and fppwsm.scid = isp.insthostid -
and fppwsm.instid = isp.instid -
and fppwsm.sectid = isp.sectid -
and  fppwsm.instparmname = isp.instparmname -
and fppwsm.scid = fppwsc.scid -
and fppwsm.instid = fppwsc.instid -
and fppwsm.sectid = fppwsc.sectid -
and fppwsm.instmodeid = fppwsc.instmodeid -
and fppwsc.chnlid like &chnlid -
and fppwsm.scid *= fppwssd.scid -
and fppwsm.instid *= fppwssd.instid -
and fppwsm.instmodeid *= fppwssd.instmodeid -
and fppwsm.sectid *= fppwssd.sectid -
order by fppwsm.scid, -
 fppwsm.instmodeid, -
         fppwsm.sectid, -
 fppwsm.instparmname, -
 fppwschnl.chnlid, -
```

?ppwssd.tupseqnum -

7.23 ftargqual - Target and Time Related Data Quality

Query Name: ftargqual
User View: Target and Time Related Data Quality
User Description:
The Target and Time Related Data Quality user view allows the input of parameters that specify targets, instrument hosts, instruments or time ranges. The user view output consist of the selected values for the input parameters as well as information about sampling parameters, data coverage, data quality, contamination, and browse capabilities.

Technical Description:
Joins are performed between the following tables: dstarg and dshost, dstarg and dsinfo, dshost and fpbrowseavl, dsinfo and fpdatacvg, fpdatacvg and fpbrowseavl, dsinfo and dsparminfo. DISTINCT is needed to remove duplicates caused by the join with dsparminfo and dsinfo because part of dsparminfo's key (dsparmname) is not included in the target list. Note some of the target elements are being converted to CHAR due to UI.

The comparison between the fpdatacvg.evtstrthour and the input evtstrttime and evtstoptime is based on F&P hourly data and is why the SUBSTRING function is used. In addition, the comparisions between the dsinfo and input supplied evtstrttime and evtstoptime (time ranges) are implemented such that it will cover any possible case of overlapping times:
where I = Input time range
D = Database (dsinfo table time ranges)

1. I is contained in D
2. I and D intersect
3. D is contained in I

```
create nonclustered index on fpdatacvg(evtstrthour)
create nonclustered index on fpdatacvg(evtstrttime)
create nonclustered index on fpbrowseavl(evtstrttime)
create nonclustered index on dsinfo(evtstrttime)
create nonclustered index on dsinfo(evtstoptime)
```

Query :

```
select distinct -
        dst.targname, -
fpba.scid, -
fpba.instid, -
dsi.dsid, -
fpdc.evtstrttime, -
fpba.browseflag, -
sampparmiv = CHAR(31,dsp.sampparmiv), -
dsp.sampparmunit, -
datacvgpct = CHAR(31,fpdc.datacvgpct), -
contamid = CHAR(6,fpdc.contamid), -
dataqualid = CHAR(6,fpdc.dataqualid) -
from dstarg dst (minlock), -
dshost dsh (minlock), -
dsinfo dsi (minlock), -
dsparminfo dsp (minlock), -
fpbrowseavl fpba (minlock), -
fpdatacvg fpdc (minlock) -
where dst.targname like &targname -
and     dst.dsid = dsh.dsid -
and     dsh.instid like &instid -
and     dsh.insthostid like &scid -
and     dsi.dsid = dsh.dsid -
and     dsi.evtstrttime <= &evtstoptime -
and     dsi.evtstoptime >= &evtstrttime -
and     dsi.dsid = dsp.dsid -
and     fpdc.dsid = dsi.dsid -
and     fpdc.evtstrthour between -
        SUBSTRING(1,10,&evtstrttime) and -
SUBSTRING(1,10,&evtstoptime) -
and     fpdc.evtstrttime = fpba.evtstrttime -
and     fpba.scid = dsh.insthostid -
and     fpba.instid = dsh.instid -
order by dst.targname, -
 fpba.instid, -
         fpdc.evtstrttime, -
 dsp.sampparmiv -
```

7.24 ftargsctime - Target Related Spacecraft and Time

Query Name: ftargsctime
User View: Target Related Spacecraft and Time
User Description:

The Target Related Spacecraft and Time user view allows the input of parameters that identify targets, instrument hosts, or instruments. The user view output consists of the selected input values for the input parameters as well as time ranges.

Technical Description:

Joins are performed between dstarg, dshost and dsinfo tables on the dsid element. Use of the aggregates, min and max, on the elements evtstrttime and evtstoptime respectively yield the minimum evtstrttime and maximum evtstoptime for each distinct combination of targname, insthostid, and instid.

Note: The F&P instids are explicitly or'ed since this is a detailed-level query for the F&P discipline, but utilizes high-level tables. Therefore, it needs this code to constrain it to only F&P discipline data.

Query :

```
select distinct -
        dst.targname, -
dsh.insthostid, -
dsh.instid, -
evtstrttime = min(dsi.evtstrttime), -
evtstoptime = max(dsi.evtstoptime) -
from dstarg dst (minlock), -
dshost dsh (minlock), -
dsinfo dsi (minlock) -
where   dst.targname like &targname -
and dst.dsid = dsh.dsid -
and dsh.insthostid like &scid -
and dsh.instid like &instid -
and dsh.dsid = dsi.dsid -
and     (dsh.instid = "LECP" or -
         dsh.instid = "MAG"  or -
         dsh.instid = "PLS"  or -
         dsh.instid = "PWS"  or -
         dsh.instid = "POS") -
order by dst.targname, -
 dsh.insthostid, -
 dsh.instid -
```

7.25 hconflvlnt - Confidence Level Note

Query Name: hconflvlnt
User View: Confidence Level Note
User Description:

The Confidence Level Note user view allows the input of a data set id or a data set name. The user view output consists of the confidence level note associated with the data set. The confidence level note characterizes the reliability of the data within the data set.

Technical Description:

The hconflvlnt stored command performs a join between the dsinfo and dsconf tables. Dsid and dsname in the dsinfo table are both searched using the single input parameter dsidname.

Query :

```
select dsi.dsid, -
dsi.dsname, -
dsc.conflvlnote -
from dsinfo dsi (minlock), -
dsconf dsc (minlock) -
where (dsi.dsid like &dsidname -
or dsi.dsname like &dsidname) -
and dsi.dsid = dsc.dsid -
order by dsi.dsid, dsc.tupseqnum -
```

7.26 hdiscd - Discipline Description

Query Name: hdiscd
User View: Discipline Description
User Description:

The Discipline Description user view allows the input of parameters that identifies disciplines. The output of the user view consists of the selected disciplines and their description.

Technical Description:

This stored command only utilizes one table, discd which contains the descriptions for all disciplines.

Query :

```
select dd.discname, -
        dd.discd -
from discd dd (minlock) -
where dd.discname like &discname -
order by dd.discname, -
 dd.tupseqnum -
```

7.27 hdrvparm - Derived Parameters

Query Name: hdrvparm
User View: Derived Parameters
User Description:

The Derived Parameter user view allows the input of parameters which specify data set or instrument parameters, spacecraft, or targets. This user view is useful in determining the number of and which instrument parameters are needed to produce a given data set parameter. Alternatively, it can be used to determine which data set parameters are produced by a given instrument parameter.

The user view output consists of the selected values for the input parameters as well as associated instruments, data sets, and sampling parameters.

Technical Description:

Joins are performed between hostinfo, dstarg, and dshost to provide the targname, dsid, instid and insthostid/insthostname. Additionally, a join is performed between dsinstparm, hostinfo, and dsparminfo to select the correct dsparmnames, instparmnames and sampling information.

Note that there are conversions in the target list for impinstparms, and sampparmiv because these have smallint and bcdfloat data types respectively and need to be converted to CHAR for the User Interface.

Query :

```
select DISTINCT -
  dip.dsparmname, -
dip.instparmname, -
impinstparms = CHAR(6,dip.impinstparms), -
     hi.insthostid, -
hi.insthostname, -
dsh.instid, -
         ii.instname, -
dst.targname, -
dsh.dsid, -
dspi.sampparmname, -
         sampparmiv = CHAR(31,dspi.sampparmiv), -
         dspi.sampparmunit -
from     dsinstparm dip (minlock), -
         hostinfo hi (minlock), -
         dstarg dst (minlock), -
    dshost dsh (minlock), -
dsparminfo dspi (minlock), -
         instinfo ii (minlock) -
where (dip.dsparmname like &dsinstparmnm or -
 dip.instparmname like &dsinstparmnm) -
and (hi.insthostid like &insthostidnm or -
   hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname or -
          ii.instname like &instidname) -
and      dsh.instid = ii.instid -
and      dst.targname like &targname -
and dst.dsid = dsh.dsid -
and hi.insthostid = dsh.insthostid -
and hi.insthostid = dip.insthostid -
and dspi.dsid = dsh.dsid -
and dspi.dsparmname = dip.dsparmname -
order by  dip.dsparmname, -
          dip.instparmname, -
          hi.insthostid, -
          dsh.instid, -
          dst.targname -
```

7.28 hdsd - Data Set Description

Query Name: hdsd
User View: Data Set Description
User Description:

The Data Set Description user view allows the input of a data set id or a data set name. The output of the user view consists of the data set description. This description describes the content and type of a data set and provides information required to use the data.

Technical Description:

There is one join on dsid performed between dsinfo and dsd.

Query :

```
select dsi.dsid, -
dsi.dsname, -
  dsd.dsd -
from dsinfo dsi (minlock), -
dsd (minlock) -
where (dsi.dsid like &dsidname or -
 dsi.dsname like &dsidname) -
and dsi.dsid = dsd.dsid -
order by dsi.dsid, -
         dsd.tupseqnum -
```

7.29 hdsdstninfo - Data Set Distribution Information

Query Name: hdsdstninfo
User View: Data Set Distribution Information
User Description:

The Data Set Distribution Information user view allows the input of parameters which specify a data set. The user view output consists of the selected values for the input parameters as well as information about the principal investigator, the data distributor, and the data producer.

Technical Description:

Joins are performed between dshost and dsinfo, which then lends to a join between dshost and instinfo to select up the principal_investigator pdsuserid. To select the node_manager, joins are performed between ivnnodemedia, dsinfo and nodeinfo. All pdsuserids (from instinfo and nodeinfo) are join with the persinfo table, however, this required declaring a second logical table for persinfo (pi2).

Since not using all keys in ivnnodemedia, need distinct.

Query :

```
select  DISTINCT -
        dsi.dsid, -
dsi.dsname, -
pi1.fullname, -
ivnm.nodeid, -
pi2.fullname, -
        dsh.insthostid, -
dsh.instid, -
dsi.prodfullname, -
dsi.prodinstnnm -
from dsinfo dsi (minlock), -
dshost dsh (minlock), -
        instinfo ii (minlock), -
        nodeinfo ni (minlock), -
persinfo pi1 (minlock), -
        persinfo pi2 (minlock), -
invnodemedia ivnm (minlock)-
where (dsi.dsid like &dsidname or -
 dsi.dsname like &dsidname) -
and dsh.dsid = dsi.dsid -
and     dsh.insthostid = ii.insthostid -
and dsh.instid = ii.instid -
and pi1.pdsuserid = ii.pipdsuserid -
and ivnm.dsid = dsi.dsid -
and ni.nodeid = ivnm.nodeid -
and pi2.pdsuserid = ni.mgrpdsuserid -
order by dsi.dsid -
```

7.30 hdsinfo - General Data Set Information

Query Name: hdsinfo
User View: General Data Set Information
User Description:

The General Data Set Information user view allows the input of parameters that characterize a data set.These include values that identify data sets, instrument hosts, instruments, targets, or data parameters. The user view output consists of the selected values for the input parameters as well as flags signifying whether detailed information or software exists for the data set.

Technical Description:

A join is performed using dsinfo, dshost, hostinfo, instinfo, dstarg, dsparminfo, and invnodemedia. The target list includes most attributes from the dsinfo table as well some attributes from the instinfo, dstarg, dshost, and dsparminfo tables. The comparison of start time being less than stop time and stop time being greater than start time allows for the selection of data sets that have any part of their time span in the input time span. The invnodemedia table handles the relation between data set and node and is updated after the peer review. This table requires the use of distinct since a data set may be on more than one media at a given node.

Query :

```
select distinct -
di.dsid, -
di.dsname, -
dh.insthostid, -
hi.insthostname, -
dh.instid, -
ii.instname, -
ii.insttype, -
dt.targname, -
di.evtstrttime, -
di.evtstoptime, -
di.nativestrttm, -
di.nativestoptm, -
di.dataobjtype, -
dp.sampparmname, -
CHAR (31, dp.sampparmiv), -
dp.sampparmunit, -
inm.nodeid, -
di.prodfullname, -
dp.dsparmname, -
di.proclvlid, -
di.procstrttime, -
di.procstoptime, -
di.dsreleasedt, -
di.swflag, -
di.detailcatflg -
from dsinfo di (minlock), -
dshost dh (minlock), -
hostinfo hi (minlock), -
instinfo ii (minlock), -
dstarg dt (minlock), -
dsparminfo dp (minlock), -
invnodemedia inm (minlock) -
where dh.dsid = di.dsid -
and (di.dsid LIKE &dsidname or di.dsname LIKE &dsidname) -
and dh.insthostid = hi.insthostid -
and (hi.insthostid LIKE &insthostidnm or hi.insthostname LIKE &insthostidnm) -
and dh.insthostid = ii.insthostid -
and dh.instid = ii.instid -
and (ii.instid LIKE &instidname or ii.instname LIKE &instidname) -
and ii.insttype LIKE &insttype -
and dt.targname LIKE  &targname -
and dt.dsid = di.dsid -
and di.evtstrttime <= &evtstoptime and di.evtstoptime >= &evtstrttime -
and di.nativestrttm <= &nativestoptm and di.nativestoptm >= &nativestrttm -
and di.dataobjtype LIKE &dataobjtype -
```

```
and di.prodfullname LIKE &prodfullname -
and di.proclvlid LIKE &proclvlid -
and dp.sampparmname LIKE &sampparmname -
and dp.sampparmiv -
between BCDFLT(31,&lsampparmiv) and BCDFLT(31,&usampparmiv) -
and dp.dsparmname LIKE &dsparmname -
and dp.dsid = di.dsid -
and inm.nodeid LIKE &nodeid -
and inm.dsid = di.dsid -
order by di.dsid, dh.insthostid, dh.instid, inm.nodeid -
```

7.31 hdsmeasatmd - Measurement Atmosphere Description

Query Name: hdsmeasatmd
User View: Measurement Atmosphere Description
User Description:

The Measurement Atmosphere Description user view allows the input of a data set id or a data set name. The output of the user view consists of the measurement atmosphere description. This description describes the atmospheric conditions through which ground data were taken.

Technical Description:

A join is performed between the dsinfo and dsebmeasatmd tables. The instinfo and hostinfo tables are required for instname and insthostname.

Query :

```
select dsi.dsid, -
dsi.dsname, -
hi.insthostid, -
hi.insthostname, -
ii.instid, -
ii.instname, -
at.measatmd -
from dsinfo dsi (minlock), -
hostinfo hi (minlock), -
instinfo ii (minlock), -
dsebmeasatmd at (minlock) -
where (dsi.dsid like &dsidname -
or dsi.dsname like &dsidname) -
and at.insthostid = hi.insthostid -
and (hi.insthostid LIKE &insthostidnm -
or hi.insthostname LIKE &insthostidnm) -
and at.insthostid = ii.insthostid -
and at.instid = ii.instid -
and (ii.instid LIKE &instidname -
or ii.instname LIKE &instidname) -
and dsi.dsid = at.dsid -
order by dsi.dsid, hi.insthostid, ii.instid, at.tupseqnum -
```

7.32 hdsmeassrcd - Measurement Source Description

Query Name: hdsmeassrcd
User View: Measurement Source Description
User Description:

The Measurement Source Description user view allows the input of a data set id or a data set name. The output of the user view consists of the measurement source description. This description describes the source of a laboratory or observatory generated data set.

Technical Description:

A join is performed between the dsinfo and dsebmeassrcd tables. The instinfo and hostinfo tables are required for instname and insthostname.

Query :

```
select dsi.dsid, -
dsi.dsname, -
hi.insthostid, -
hi.insthostname, -
ii.instid, -
ii.instname, -
sd.meassourced -
from dsinfo dsi (minlock), -
hostinfo hi (minlock), -
instinfo ii (minlock), -
dsebmeassrcd sd (minlock) -
where (dsi.dsid like &dsidname -
or dsi.dsname like &dsidname) -
and sd.insthostid = hi.insthostid -
and (hi.insthostid LIKE &insthostidnm -
or hi.insthostname LIKE &insthostidnm) -
and sd.insthostid = ii.insthostid -
and sd.instid = ii.instid -
and (ii.instid LIKE &instidname -
or ii.instname LIKE &instidname) -
and dsi.dsid = sd.dsid -
order by dsi.dsid, hi.insthostid, ii.instid, sd.tupseqnum -
```

7.33 hdsmeasstdd - Measurement Standard Description

Query Name: hdsmeasstdd
User View: Measurement Standard Description
User Description:

The Measurement Standard Description user view allows the input of a data set id or a data set name. The output of the user view consists of the measurement standard description. This description identifies the standard object on which observations are performed in order to calibrate an instrument.

Technical Description:

A join is performed between the dsinfo and dsebmeasstdd tables. The instinfo and hostinfo tables are required for instname and insthostname.

Query :

```
select dsi.dsid, -
dsi.dsname, -
hi.insthostid, -
hi.insthostname, -
ii.instid, -
ii.instname, -
sd.measstdd -
from dsinfo dsi (minlock), -
hostinfo hi (minlock), -
instinfo ii (minlock), -
dsebmeasstdd sd (minlock) -
where (dsi.dsid like &dsidname -
or dsi.dsname like &dsidname) -
and sd.insthostid = hi.insthostid -
and (hi.insthostid LIKE &insthostidnm -
or hi.insthostname LIKE &insthostidnm) -
and sd.insthostid = ii.insthostid -
and sd.instid = ii.instid -
and (ii.instid LIKE &instidname -
or ii.instname LIKE &instidname) -
and dsi.dsid = sd.dsid -
order by dsi.dsid, hi.insthostid, ii.instid, sd.tupseqnum -
```

7.34 hdsprmbinfo - Data Set Parameters Brief Information

Query Name: hdsprmbinfo
User View: Data Set Parameters Brief Information
User Description:
The Data Set Parameters Brief Information user view allows the input of parameters which specify a data set, its data set parameter or its sampling parameter. The user view output consists of the selected values for the input parameters as well as a text description of the data set parameter.

Technical Description:
The hdsprmbinfo stored command performs a join between the dsinfo and dsparminfo tables and an outer join between the dsparminfo and dsinstparmd tables. The results of the query are a portion of the attributes of the dsparminfo table.

Query :

```
select dsi.dsid, -
dsi.dsname, -
dsp.dsparmname, -
dsp.sampparmname, -
dspd.dsinstparmd -
from dsinfo dsi (minlock), -
dsparminfo dsp (minlock), -
dsinstparmd dspd (minlock) -
where (dsi.dsid like &dsidname -
or dsi.dsname like &dsidname) -
and dsp.dsparmname like &dsparmname -
and dsp.sampparmname like &sampparmname -
and dsi.dsid = dsp.dsid -
and dsp.dsparmname *= dspd.dsinstparmna -
order by dsi.dsid, dsp.dsparmname, dspd.tupseqnum -
```

7.35 hdsprmfinfo - Data Set Parameters Full Information

Query Name: hdsprmfinfo
User View: Data Set Parameters Full Information
User Description:

The Data Set Parameters Full Information user view allows the input of parameters which specify a data set, its data set parameter, sampling parameter, minimum sampling parameter, or maximum sampling parameter. The user view output consists of the selected values for the input parameters as well as data set parameter units of measurement, sampling parameter units of measurement, interval and resolution. A text description of the data set parameter is also returned.

Technical Description:

The hdsprmfinfo stored command performs a join between the dsinfo and dsparminfo tables and an outer join between the dsparminfo and dsinstparmd tables. The results of the query are mainly the attributes of the dsparminfo table.

Query :

```
select dsi.dsid, -
dsi.dsname, -
dsp.dsparmname, -
noiselevel = CHAR(31,dsp.noiselevel), -
dsp.dsparmunit, -
dsp.sampparmname, -
minsampparm = CHAR(31,dsp.minsampparm), -
maxsampparm = CHAR(31,dsp.maxsampparm), -
sampparmiv = CHAR(31,dsp.sampparmiv), -
sampparmres = CHAR(31,dsp.sampparmres), -
minavlsampiv = CHAR(31,dsp.minavlsampiv), -
dsp.sampparmunit, -
dspd.dsinstparmd -
from dsinfo dsi (minlock), -
dsparminfo dsp (minlock), -
dsinstparmd dspd (minlock) -
where (dsi.dsid like &dsidname -
or dsi.dsname like &dsidname) -
and dsp.dsparmname like &dsparmname -
and dsp.sampparmname like &sampparmname -
and dsp.minsampparm -
between BCDFLT(31,&lminsampparm) -
and BCDFLT(31,&uminsampparm) -
and dsp.maxsampparm -
between BCDFLT(31,&lmaxsampparm) -
 and BCDFLT(31,&umaxsampparm)  -
and dsi.dsid = dsp.dsid -
and dsp.dsparmname *= dspd.dsinstparmna -
order by dsi.dsid, dsp.dsparmname, dspd.tupseqnum -
```

7.36 hdsproclvld - Processing Level Description

Query Name: hdsproclvld
User View: Processing Level Description
User Description:
The Processing Level Description user view allows the input processing level id. The output of the user view consists of the processing level description. This description defines the processing level of a set of data according to the CODMAC standard.

Technical Description:
There is only one table utilized in this query.
procd.

Query :

```
select procd.proclvlid, -
procd.proclvld -
from procd (minlock) -
where procd.proclvlid like &proclvlid -
order by procd.proclvlid, -
 procd.tupseqnum -
```

7.37 hdsref - References

Query Name: hdsref
User View: References
User Description:
The References user view allows the input of a data set id or a data set name. The output of the user view consists of all references within the PDS that are associated with the data set.

Technical Description:
The hdsref stored command performs a join between the dsinfo and dsdoc tables, and the dsdoc and refd tables. Dsdoc realizes the many-to-many relationship that exists between data sets and reference documents. Dsid and dsname in the dsinfo table are both searched using the single input parameter dsidname.

Query :

```
select dsi.dsid, -
dsi.dsname, -
dsd.refkeyid, -
rd.refd -
from dsinfo dsi (minlock), -
dsdoc dsd (minlock), -
refd rd (minlock) -
where (dsi.dsid like &dsidname -
or dsi.dsname like &dsidname) -
and dsi.dsid = dsd.dsid -
and dsd.refkeyid = rd.refkeyid -
order by dsi.dsid, dsd.refkeyid, rd.tupseqnum -
```

7.38 hdsrelsw - Data Set Related Processing Software

Query Name: hdsrelsw
User View: Data Set Related Processing Software
User Description:

The Data Set Related Processing Software user view allows the input of parameters that are associated with data set processing software. These include values that identify source data sets, product data sets, nodes, or software. The user view output consists of the selected values for the input parameters as well as additional information about the software including its release date, accessibility, and description. The name of a person congnizant with the software is also given.

Technical Description:

The dsproc and swinfo tables are joined on swname. Note there is an outer join from dsproc to the swd table, this will enable the other attributes to still be returned even if no software description exist.

Query :

```
select dsp.sourcedsid, -
dsp.swname, -
dsp.proddsid, -
swi.swtype, -
swi.nodeid, -
swi.swreleasedt, -
swi.cogfullname, -
swi.swaccessd, -
swd.swd -
from dsproc dsp (minlock), -
swinfo swi (minlock), -
        swd (minlock) -
where dsp.sourcedsid like &sourcedsid -
and dsp.swname like &swname -
and dsp.proddsid like &proddsid -
and swi.swtype like &swtype -
and swi.nodeid like &nodeid -
and dsp.swname = swi.swname -
and dsp.swname *= swd.swname -
order by dsp.sourcedsid, -
 dsp.swname, -
 dsp.proddsid, -
 swd.tupseqnum -
```

7.39 hdswvcalibd - Measurement Wavelength Calibration Description

Query Name: hdswvcalibd
User View: Measurement Wavelength Calibration Description
User Description:

The Measurement Wavelength Calibration Description user view allows the input of a data set id or a data set name. The output of the user view consists of the measurement wavelength calibration description. This description identifies the technique and procedures used to calibrate wavelength.

Technical Description:

A join is performed between the dsinfo and dsebmeaswvd tables. The instinfo and hostinfo tables are required for instname and insthostname.

Query :

```
select dsi.dsid, -
dsi.dsname, -
hi.insthostid, -
hi.insthostname, -
ii.instid, -
ii.instname, -
wvd.measwvcalibd -
from dsinfo dsi (minlock), -
hostinfo hi (minlock), -
instinfo ii (minlock), -
dsebmeaswvd wvd (minlock) -
where (dsi.dsid like &dsidname -
or dsi.dsname like &dsidname) -
and wvd.insthostid = hi.insthostid -
and (hi.insthostid LIKE &insthostidnm -
or hi.insthostname LIKE &insthostidnm) -
and wvd.insthostid = ii.insthostid -
and wvd.instid = ii.instid -
and (ii.instid LIKE &instidname -
or ii.instname LIKE &instidname) -
and dsi.dsid = wvd.dsid -
order by dsi.dsid, hi.insthostid, ii.instid, wvd.tupseqnum -
```

7.40 hevtd - Observed Event Description

Query Name: hevtd
User View: Observed Event Description
User Description:
The Observed Event Description user view allows the input of a parameter which identifies event types. The user view output consists of the selected event types and their descriptions.

Technical Description:
There is only one table used in this stored command, evtd which contains the descriptions of the events.

Query :

```
select evtd.evttype, -
  evtd.evttyped -
from evtd (minlock) -
where evtd.evttype like &evttype -
order by evtd.evttype, -
        evtd.tupseqnum -
```

7.41 hevtinfo - General Observed Event Information

Query Name: hevtinfo
User View: General Observed Event Information
User Description:
The General Observed Event Information user view allows the input of parameters that are associated with events. These include values that specify events, instrument hosts, targets, or event time ranges. The user view output consists of the selected values for the input parameters as well as event locations and instruments which produced data sets which can be used to study that event.

Technical Description:
The join between the evtposition (evtstrttime) and evtinfo table (evtstrttime and evtstoptime) is based on hourly data (F&P supplied) and is why the SUBSTRING function is used. In addition, the comparisions between the evtinfo and input supplied evtstrttime and evtstoptime are implemented such that it will cover any possible case of overlapping times:
(where I = Input event time ranges
D = Database (evtinfo table) event time ranges)

1. I is contained in D
2. I and D intersect
3. D is contained in I

Query :

```
select   ei.evttype, -
         ei.evtname, -
         ei.targname, -
         ei.insthostid, -
         hi.insthostname, -
         ei.evtstrttime, -
         ei.evtstoptime, -
         ei.instid, -
         ep.crdsysid, -
         ep.vectcompid1, -
         vectcomp1 = CHAR(31,ep.vectcomp1), -
         ep.vectcompid2, -
         vectcomp2 = CHAR(31,ep.vectcomp2), -
         ep.vectcompid3, -
         vectcomp3 = CHAR(31,ep.vectcomp3), -
         localhourang = CHAR(31,ep.localhourang), -
         ep.positiontime -
from     evtinfo ei (minlock),-
         evtposition ep (minlock),-
         hostinfo hi (minlock) -
where    ei.evttype like &evttype -
and      ep.evttype = ei.evttype -
and      ei.evtname like &evtname -
and      ei.targname like &targname -
and      ei.insthostid = hi.insthostid -
and      (hi.insthostid like &insthostidnm or -
          hi.insthostname like &insthostidnm) -
and      ei.evtstrttime <= &evtstoptime -
and      ei.evtstoptime >= &evtstrttime -
and      SUBSTRING(1,10,ep.positiontime) between -
         SUBSTRING(1,10,ei.evtstrttime) and -
         SUBSTRING(1,10,ei.evtstoptime) -
order by ei.evttype, -
         ei.evtstrttime -
```

7.42 hevtspatial - Spatial Extent of Event on Target

Query Name: hevtspatial
User View: Spatial Extent of Event on Target
User Description:

The Spatial Extent of Event on Target user view allows the input of parameters that are associated with events. These include values that specify events, targets, instrument hosts, time ranges, or regions by latitude-longitude pairs. The user view output consist of the selected values for the input parameters, and the retrieved values for those parameters which were not specified.

Technical Description:

This query provides the capability of a latitude/longitude search on remotely sensored events. The location of this type of an event is stored in the table evtspatial with minimun and maximum latitudes/longitudes which form a rectilinear box. In order to provide an efficient and thorough search (one that encapulates any overlap with the rectilinear box), the qualification of the query dealing with the latitudes and longitudes needs to satisfy ALL of the following:

1. maxlon >= &minlon
2. minlon <= &maxlon
3. maxlat >= &minlat
4. minlat <= &maxlat

Note: All data being returned in the target list must be of character data type (this is what the user interface is expecting). In addition, all input parameter values being sent by the user interface to the stored command will be character, so conversions may be necessary in the qualifications.

Joins are performed between evtspatial and evtinfo, and between evtinfo and hostinfo.

Query :

```
select   ei.evttype, -
         ei.evtname, -
         ei.targname, -
         ei.insthostid, -
         hi.insthostname, -
         ei.evtstrttime, -
         ei.evtstoptime, -
         minlat = CHAR(31,es.minlat), -
         maxlat = CHAR(31,es.maxlat), -
         minlon = CHAR(31,es.minlon), -
         maxlon = CHAR(31,es.maxlon), -
         es.positiontime -
from     evtinfo ei (minlock), -
         evtspatial es (minlock), -
         hostinfo hi (minlock) -
where    ei.evttype like &evttype -
and      es.evttype = ei.evttype -
and      ei.evtname like &evtname -
and      ei.targname like &targname -
and      ei.insthostid = hi.insthostid -
and      (hi.insthostid like &insthostidnm or -
          hi.insthostname like &insthostidnm) -
and      ei.evtstrttime <= &evtstoptime -
and      ei.evtstoptime >= &evtstrttime -
and      es.evtstrttime = ei.evtstrttime -
and      (es.maxlon >= BCDFLT(31,&minlon) and -
         es.minlon <= BCDFLT(31,&maxlon) and -
         es.maxlat >= BCDFLT(31,&minlat) and -
         es.minlat <= BCDFLT(31,&maxlat)) -
order by ei.evttype, -
         ei.evtstrttime -
```

7.43 hinstcalibd - Instrument Calibration Description

Query Name: hinstcalibd
User View: Instrument Calibration Description
User Description:
The Instrument Calibration Description user view allows the input of parameters that identify an instrument. The output of the user view consists of the Instrument calibration description. This decription explains the method of calibrating an instrument and identifies reference documents which explain in detail the calibration of the instrument.

Technical Description:
Joins are performed between hostinfo, instinfo and instcalibd.

Query :

```
select hi.insthostid, -
        hi.insthostname, -
        ii.instid, -
        ii.instname, -
        icd.instcalibd -
from hostinfo hi (minlock), -
instinfo ii (minlock), -
        instcalibd icd (minlock) -
where (hi.insthostid like &insthostidnm or -
 hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname or -
         ii.instname like &instidname) -
and hi.insthostid = ii.insthostid -
and ii.insthostid = icd.insthostid -
and ii.instid = icd.instid -
order by hi.insthostid, -
         ii.instid, -
         icd.tupseqnum -
```

7.44 hinstd - Instrument Description

Query Name: hinstd
User View: Instrument Description
User Description:
The Instrument Description user view allows the input parameters that identify an instrument. The output of the user view consists of the Instrument description.

Technical Description:
Joins are performed between hostinfo, instinfo and instd.

Query :

```
select hi.insthostid, -
        hi.insthostname, -
        ii.instid, -
        ii.instname, -
        id.instd -
from hostinfo hi (minlock), -
instinfo ii (minlock), -
        instd id (minlock) -
where (hi.insthostid like &insthostidnm or -
 hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname or -
         ii.instname like &instidname) -
and hi.insthostid = ii.insthostid -
and ii.insthostid = id.insthostid -
and ii.instid = id.instid -
order by hi.insthostid, -
         ii.instid, -
         id.tupseqnum -
```

7.45 hinstdet - Detector Characteristics

Query Name: hinstdet
User View: Detector Characteristics
User Description:

The Detector Characteristics user view allows the input of parameters that are associated with instrument detectors. These include values that specify instruments, instrument hosts, and detectors. The user view output consists of the selected values for the input parameters as well as further information about the detectors.

Technical Description:

Hostinfo and Instinfo are utilized to allow the input of names or ids for instrument hosts and instruments. They are then joined with the focal table, instsectdet. Instsectdet is joined with instdet on insthostid, instid, and detid to be able to select other associated values about the detectors. The attributes in the target list that are of a BCDFLT need conversion to CHAR for the User Interface, additionally attributes that are input parameters to this stored command and are of a BCDFLT data type in the data base need conversion to BCDFLT.

NOTE - the wavelengths are implemented under the rule (J - see walkthrough notes) governing the evtstrttime and evtstoptime.

Query :

```
select isd.insthostid, -
hi.insthostname, -
   isd.instid, -
ii.instname, -
ii.insttype, -
        isd.sectid, -
id.dettype, -
isd.detid, -
minwave = CHAR(S1,id.minwave), -
        maxwave = CHAR(S1,id.maxwave), -
detaspectrto = CHAR(S1,id.detaspectrto), -
        nomopertemp = CHAR(S1,id.nomopertemp) -
from hostinfo hi (minlock), -
instinfo ii (minlock), -
instdet id (minlock), -
        instsectdet isd (minlock) -
where (hi.insthostid like &insthostidnm or -
 hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname or -
 ii.instname like &instidname) -
and ii.insttype like &insttype -
and hi.insthostid = ii.insthostid -
and isd.insthostid = hi.insthostid -
and isd.instid = ii.instid -
and id.dettype like &dettype -
and isd.detid like &detid -
and isd.detid = id.detid -
and isd.insthostid = id.insthostid -
and isd.instid = id.instid -
and id.minwave <= BCDFLT(S1,&maxwave) -
and id.maxwave >= BCDFLT(S1,&minwave) -
order by isd.insthostid, -
 isd.instid, -
 isd.sectid, -
        isd.detid -
```

7.46 hinstdetd - Detector Description

Query Name: hinstdetd
User View: Detector Description
User Description:
The Detector Description user view allows the input of parameters that identify a detector. The output of the user view describes an instrument's detector.

Technical Description:

Hostinfo and instinfo tables are utilized to allow the input of ids or names of instrument hosts and instruments. They are joined with the instdetd table which provides the decription of the detector.

Query :

```
select idd.insthostid, -
hi.insthostname, -
   idd.instid, -
ii.instname, -
idd.detid, -
idd.detd -
from hostinfo hi (minlock), -
instinfo ii (minlock), -
instdetd idd (minlock) -
where (hi.insthostid like &insthostidnm or -
 hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname or -
 ii.instname like &instidname) -
and hi.insthostid = ii.insthostid -
and idd.insthostid = hi.insthostid -
and idd.instid = ii.instid -
and idd.detid like &detid -
order by idd.insthostid, -
 idd.instid, -
         idd.detid, -
   idd.tupseqnum -
```

7.47 hinstds - Instrument Associated Data Sets

Query Name: hinstds
User View: Instrument Associated Data Sets
User Description:
The Instrument Associated Data Sets user view allows the input of parameters that relate to data sets. These include values that specify instruments, instrument hosts, targets, parameters, and data sets. The user view output consist of the selected values for the input parameters, and the retrieved values for those parameters which were not specified.

Technical Description:

Joins are performed between hostinfo,instinfo, dshost and instsectparm to select the instrument parameter information. Additionally, joins are performed between dshost, dstarg, dsinfo and dsparminfo to select the data set parameter information.

DISTINCT is used since not all keys are being utilized in the dsparminfo and instsectparm tables.

Query :

```
select DISTINCT -
        hi.insthostid, -
hi.insthostname, -
ii.instid,-
ii.instname, -
ii.insttype, -
dst.targname, -
isp.instparmname, -
isp.instparmunit, -
dspi.dsparmname, -
dspi.dsparmunit, -
dsi.dsid, -
dsi.dsname -
from hostinfo hi (minlock), -
instinfo ii (minlock), -
instsectparm isp (minlock), -
dshost dsh (minlock), -
dstarg dst (minlock), -
dsinfo dsi (minlock), -
dsparminfo dspi (minlock) -
where   (hi.insthostid like &insthostidnm or -
         hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname or -
 ii.instname like &instidname) -
and ii.insttype like &insttype -
and  dst.targname like &targname -
and isp.instparmname like &instparmname -
and dspi.dsparmname like &dsparmname -
and (dsi.dsid like &dsidname or -
 dsi.dsname like &dsidname) -
and hi.insthostid = ii.insthostid -
and isp.insthostid = ii.insthostid -
and isp.instid = ii.instid -
and dsh.insthostid = ii.insthostid -
and dsh.instid = ii.instid -
and dsh.dsid = dst.dsid -
and dst.dsid = dsi.dsid -
and dsi.dsid = dspi.dsid -
order by hi.insthostid, -
 ii.instid, -
 dst.targname, -
        dsi.dsid  -
```

7.48 hinstelecd - Electronics Description

Query Name: hinstelecd
User View: Electronics Description
User Description:
The electronics Description user view allows the input of parameters that identify an instrument. The output of the user view describes the electronics associated with a given instrument.

Technical Description:

Joins are performed between hostinfo and instelecd, instinfo and instelecd. Both on insthostid and instid. The hostinfo and instinfo tables are utilized since the user has a choice of entering either the id or name of the instrument host and either the id or name of the instrument.

Query :

```
select hi.insthostid, -
        hi.insthostname, -
        ii.instid, -
        ii.instname, -
        ied.elecsid, -
        ied.elecsd -
from hostinfo hi (minlock), -
instinfo ii (minlock), -
instelecd ied (minlock) -
where (hi.insthostid like &insthostidnm or -
 hi.insthostname like &insthostidnm) -
and     (ii.instid like &instidname or -
 ii.instname like &instidname) -
and     hi.insthostid = ii.insthostid -
and hi.insthostid = ied.insthostid -
and ii.instid = ied.instid -
order by hi.insthostid, -
        ii.instid, -
        ied.elecsid, -
 ied.tupseqnum -
```

7.49 hinstfilt - Filter Information

Query Name: hinstfilt
User View: Filter Information
User Description:

The Filter Information user view allows the input of parameters that are associated with filters. These include values that specify instruments, instrument hosts, unique filters, and wavelength ranges. The user view output consists of the selected values for the input parameters as well as further information about the wavelengths including calibration descriptions.

Technical Description:

Hostinfo and Instinfo are utilized to allow the input of names or ids for instrument hosts and instruments. They are then joined with the focal table, instsectfilt. Instsectfilt is joined with instfilt on insthostid, instid, and filtnum to be able to select other associated values about the filters. Additionally, instsectfilt is joined with instmswvcd in order to select the measwvcalibd.

The attributes in the target list that are of a BCDFLT need conversion to CHAR for the User Interface, additionally attributes that are input parameters to this stored command and are of a BCDFLT data type in the data base need conversion to BCDFLT.

Since this user view provides a description in addition to other filter information, an outer joined is performed to the tables involved in order to select the measwvcalibd. So if a description doesn't exist, the other filter information will still be selected.

NOTE - the wavelengths are implemented under the rule (J - see walkthrough notes) governing the evtstrttime and evtstoptime.

Query :

```
select  isf.insthostid, -
hi.insthostname, -
   isf.instid, -
ii.instname, -
ii.insttype, -
        isf.sectid, -
if.filtname, -
if.filttype, -
isf.filtnum, -
minwave = CHAR(31,if.minwave), -
        maxwave = CHAR(31,if.maxwave), -
ctrfiltwave = CHAR(31,if.ctrfiltwave), -
instmwcd.measwvcalibd -
from hostinfo hi (minlock), -
instinfo ii (minlock), -
instfilt if (minlock), -
        instsectfilt isf (minlock), -
instmswvcd instmwcd (minlock) -
where (hi.insthostid like &insthostidnm or -
 hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname or -
 ii.instname like &instidname) -
and ii.insttype like &insttype -
and hi.insthostid = ii.insthostid -
and isf.insthostid = hi.insthostid -
and isf.instid = ii.instid -
and if.filtname like &filtname -
and if.filttype like &filttype -
and isf.filtnum like &filtnum -
and isf.filtnum = if.filtnum -
and isf.insthostid = if.insthostid -
and isf.instid = if.instid -
and if.minwave <= BCDFLT(31,&maxwave) -
and if.maxwave >= BCDFLT(31,&minwave) -
and isf.insthostid *= instmwcd.insthostid -
and isf.instid *= instmwcd.instid -
and isf.filtnum *= instmwcd.filtnum -
order by isf.insthostid, -
 isf.instid, -
 isf.sectid, -
        isf.filtnum, -
 instmwcd.tupseqnum -
```

7.50 hinstinfo - General Instrument Information

Query Name: hinstinfo
User View: General Instrument Information
User Description:
The General Instrument Information user view allows the input of parameters that are associated with instruments. These include values that specify instruments, instrument hosts, targets, and parameters. The user view output consists of the selected values for the input parameters as well as principal investigators and associated institutions.

Technical Description:

Joins are performed between hostinfo, instinfo, dshost, instsectparm and dstarg to select the instrument related information. Additional joins are performed between instinfo, persinfo and persinstn to select the principal investigator information.

DISTINCT is used since not all keys are being utilized in the instsectparm table.

Query :

```
select DISTINCT -
        hi.insthostid, -
hi.insthostname, -
ii.instid,-
ii.instname, -
ii.insttype, -
dst.targname, -
isp.instparmname, -
        pif.fullname, -
        pinstn.persinstnma -
from hostinfo hi (minlock), -
instinfo ii (minlock), -
instsectparm isp (minlock), -
dshost dsh (minlock), -
dstarg dst (minlock), -
        persinfo pif (minlock), -
        persinstn pinstn (minlock) -
where   (hi.insthostid like &insthostidnm or -
         hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname or -
 ii.instname like &instidname) -
and ii.insttype like &insttype -
and  dst.targname like &targname -
and isp.instparmname like &instparmname -
and hi.insthostid = ii.insthostid -
and dsh.insthostid = ii.insthostid -
and dsh.instid = ii.instid -
and dsh.dsid = dst.dsid -
and ii.insthostid = isp.insthostid -
and ii.instid = isp.instid -
and ii.pipdsuserid = pif.pdsuserid -
and pinstn.pdsuserid = pif.pdsuserid -
order by hi.insthostid, -
 ii.instid, -
 dst.targname -
```

7.51 hinstmdchar - Instrument Mode Characteristics

Query Name: hinstmdchar
User View: Instrument Mode Characteristics
User Description:

The Instrument Mode Characteristics user view allows inputs of parameters that identify instrument modes. These include values that specify instruments, instrument hosts, and instrument modes. The user view output consists of the selected values for the input parameters as well as information about fields of view, data paths, detectors and filters.

Technical Description:

This stored command involves 10 tables. Hostinfo is utilized to select the insthostid or insthostname. Instinfo is used in a similar manner, additionally it is needed for insttype. Instmodeinfo is used for the selection of the instmodeid and associated attributes and is joined on insthostid and instid with the hostinfo and instinfo tables. Instmodesect table is a central table to this stored command, it provides the sectid and is joined with instmodeinfo on insthostid, instid, and instmodeid.

Five of the remaining six tables are each joined with instmodesect on insthostid, instid, and sectid in order to select attributes associated with sections (instsectinfo), fovs (instsectfovs), and to select which detectors (instsectdet), telescopes (instsectoptc), and filters (instsectfilt) are associated with a sectid. The sixth table, instfilt, provides the filtname associated with the filtnum and is joined with instsectfilt on filtnum, insthostid, instid and sectid.

Query :

```
select ims.insthostid, -
hi.insthostname, -
ims.instid, -
ii.instname, -
ii.insttype, -
imi.instmodeid, -
imi.datapathtype, -
imi.gainmodeid, -
instpwrcnsmp = CHAR(31,imi.instpwrcnsmp), -
ims.sectid, -
totfovs = CHAR(6,isi.totfovs), -
datarate = CHAR(31,isi.datarate), -
isi.scanmodeid, -
sampbits = CHAR(11,isi.sampbits), -
isfv.fovshapename, -
fovs = CHAR(6,isfv.fovs), -
horzpixfov = CHAR(31,isfv.horzpixfov), -
vertpixfov = CHAR(31,isfv.vertpixfov), -
horzfov = CHAR(31,isfv.horzfov), -
vertfov = CHAR(31,isfv.vertfov), -
isd.detid, -
if.filtname, -
iso.tlscpid -
from hostinfo hi (minlock), -
        instinfo ii (minlock), -
instmodeinfo imi (minlock), -
     instmodesect ims (minlock), -
instsectinfo isi (minlock), -
instsectfovs isfv (minlock), -
instsectdet isd (minlock), -
instsectfilt isf (minlock), -
instfilt if (minlock), -
instsectoptc iso (minlock) -
where (hi.insthostid like &insthostidnm or -
          hi.insthostname like &insthostidnm) -
and      (ii.instid like &instidname or -
          ii.instname like &instidname) -
and ii.insttype like &insttype -
and imi.instmodeid like &instmodeid -
and ims.sectid like &sectid -
and hi.insthostid = ii.insthostid -
and hi.insthostid = imi.insthostid -
and ii.instid = imi.instid -
and imi.insthostid = ims.insthostid -
and imi.instid = ims.instid -
and imi.instmodeid = ims.instmodeid -
```

```
and isi.insthostid = ims.insthostid -
and isi.instid = ims.instid -
and isi.sectid = ims.sectid -
and ims.insthostid = isfv.insthostid -
and ims.instid = isfv.instid -
and  ims.sectid = isfv.sectid -
and ims.insthostid = isd.insthostid -
and ims.instid = isd.instid -
and ims.sectid = isd.sectid -
and ims.insthostid = isf.insthostid -
and ims.instid = isf.instid -
and ims.sectid = isf.sectid -
and isf.filtnum = if.filtnum -
and ims.insthostid = if.insthostid -
and ims.instid = if.instid -
and ims.insthostid = iso.insthostid -
and ims.instid = iso.instid -
and ims.sectid = iso.sectid -
order by ims.insthostid, -
 ims.instid, -
         imi.instmodeid, -
 ims.sectid -
```

7.52 hinstmdprm - Mode Dependent Measurement Parameters

Query Name: hinstmdprm
User View: Mode Dependent Measurement Parameters
User Description:

The Mode Dependent Measurement Parameters user view allows the input of parameters that identify instrument parameters that are mode dependent. These include values that specify instruments, instrument hosts, instrument modes, and instrument parameters. The user view output consists of the selected values of the input parameters as well as information about the sampling parameters and instrument parameters.

Technical Description:

Joins are performed between instinfo, hostinfo, and instmodesect. Additionally, instsectparm is joined with instmodesect. Notice that some elements in the target list are being converted to CHAR before the results are returned (their data type in the database is of integer or BCDFLT), this is required by the User Interface.

Query :

```
select ims.insthostid, -
       hi.insthostname, -
       ims.instid, -
       ii.instname, -
       ii.insttype, -
       ims.instmodeid, -
       ims.sectid, -
       isp.instparmname, -
       mininstparm = CHAR(31,isp.mininstparm), -
       maxinstparm = CHAR(31,isp.maxinstparm), -
       isp.instparmunit, -
       isp.sampparmname, -
       sampparmres = CHAR(31,isp.sampparmres), -
       minsampparm = CHAR(31,isp.minsampparm), -
       maxsampparm = CHAR(31,isp.maxsampparm), -
       sampparmiv = CHAR(31,isp.sampparmiv), -
       isp.sampparmunit -
from   instinfo ii (minlock) ,-
       hostinfo hi (minlock),-
       instmodesect ims (minlock),-
       instsectparm isp (minlock) -
where  ii.insttype like &insttype -
and    ims.instid = ii.instid -
and    (ii.instid like &instidname or -
        ii.instname like &instidname) -
and    ims.insthostid = hi.insthostid -
and    (hi.insthostid like &insthostidnm or -
        hi.insthostname like &insthostidnm) -
and    ims.insthostid = ii.insthostid -
and    ims.instmodeid like &instmodeid -
and    ims.sectid like &sectid -
and    isp.instparmname like &instparmname -
and    isp.sampparmname like &sampparmname -
and    isp.insthostid = ims.insthostid -
and    isp.instid = ims.instid -
and    isp.sectid = ims.sectid -
order by ims.insthostid, -
         ims.instid, -
         ii.insttype, -
         ims.instmodeid, -
         ims.sectid, -
         isp.instparmname -
```

7.53 hinstmoded - Instrument Mode Description

Query Name: hinstmoded
User View: Instrument Mode Description
User Description:

The Instrument Mode Description user view allows inputs of parameters which identify a particular operating mode of an instrument. The user view output consists of the selected values for the input parameters as well as the text descriptions for the given instrument modes.

Technical Description:

As in all high-level catalog user views where the user is given the choice of providing a name or an id for certain elements (e.g. dsidname, instidname) this one allows the input parameters, &instidname and &insthostidnm, to do so. Therefore, each of these parameters are compared to their respective separate attributes designating the name or the id. Natural joins are performed between instmoded, hostinfo and instinfo on instid and insthostid.

Query :

```
select   imd.insthostid, -
         hi.insthostname, -
         imd.instid, -
         ii.instname, -
         imd.instmodeid, -
         imd.instmoded -
from     instmoded imd (minlock), -
         hostinfo hi (minlock), -
         instinfo ii (minlock) -
where    imd.instid = ii.instid -
and      (ii.instid like &instidname or -
          ii.instname like &instidname) -
and      imd.insthostid = hi.insthostid -
and      (hi.insthostid like &insthostidnm or -
          hi.insthostname like &insthostidnm) -
and      imd.insthostid = ii.insthostid -
and      imd.instmodeid like &instmodeid -
order by imd.insthostid, -
         imd.instid, -
         imd.instmodeid, -
         imd.tupseqnum -
```

7.54 hinstoperd - Operational Considerations Description

Query Name: hinstoperd
User View: Operational Considerations Description
User Description:
The Operational considerations Description user view allows the input of parameters that identify an instrument. The output of the user view consists of the operational considerations description. This description briefly describes the operational characteristics which affect the measurments made by an instrument.

Technical Description:

Joins are performed between hostinfo and instoperd, instinfo and instoperd. Both on insthostid and instid. The hostinfo and instinfo tables are utilized since the user has a choice of entering either the id or name of the instrument host and either the id or name of the instrument.

Query :

```
select hi.insthostid, -
        hi.insthostname, -
        ii.instid, -
        ii.instname, -
        iod.operconsidd -
from hostinfo hi (minlock), -
instinfo ii (minlock), -
instoperd iod (minlock) -
where (hi.insthostid like &insthostidnm or -
 hi.insthostname like &insthostidnm) -
and     (ii.instid like &instidname or -
 ii.instname like &instidname) -
and     hi.insthostid = ii.insthostid -
and hi.insthostid = iod.insthostid -
and ii.instid = iod.instid -
order by hi.insthostid, -
         ii.instid, -
 iod.tupseqnum -
```

7.55 hinstoptics - Optical Parameters

Query Name: hinstoptics
User View: Optical Parameters
User Description:

The Optical Parameters user view allows the input of parameters that are associated with the optics of instruments. These include values that specify instruments, instrument hosts, and optics. The user view output consists of the selected values for the input parameters as well as further information about the optics including a text description of the instrument optics.

Technical Description:

Instsectoptc is joined with instoptics on insthostid, instid, and tlscpid to be able to select other associated values about the optics. The attributes in the target list that are of a BCDFLT need conversion to CHAR for the User Interface, additionally attributes that are input parameters to this stored command and are of a BCDFLT data type in the data base need conversion to BCDFLT. Note there is an outer join from instsectoptc to instopticsd to allow the other attributes to be returned even if an optics description does not exist.

Query :

```
select  iso.insthostid, -
hi.insthostname, -
iso.instid, -
ii.instname, -
ii.insttype, -
iso.sectid, -
iso.tlscpid, -
tlscpres = CHAR(31,io.tlscpres), -
tlscpdiam = CHAR(31,io.tlscpdiam), -
tlscpfnum = CHAR(31,io.tlscpfnum), -
tlscpfoclen = CHAR(31,io.tlscpfoclen), -
io.tlscpserlnum, -
tlscptnum = CHAR(31,io.tlscptnum), -
tlscptnumerr = CHAR(31,io.tlscptnumerr), -
tlscpxmit = CHAR(31,io.tlscpxmit), -
iod.opticsd -
from hostinfo hi (minlock), -
instinfo ii (minlock), -
instsectoptc iso (minlock), -
instoptics io (minlock), -
instopticsd iod (minlock) -
where (hi.insthostid like &insthostidnm or -
 hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname or -
 ii.instname like &instidname) -
and ii.insttype like &insttype -
and hi.insthostid = ii.insthostid -
and iso.insthostid = hi.insthostid -
and iso.instid = ii.instid -
and iso.tlscpid like &tlscpid -
and iso.tlscpid = io.tlscpid -
and iso.insthostid = io.insthostid -
and iso.instid = io.instid -
and io.tlscpres BETWEEN BCDFLT(31,&ltlscpres) and -
    BCDFLT(31,&utlscpres) -
and iso.insthostid *= iod.insthostid -
and iso.instid *= iod.instid -
and iso.tlscpid *= iod.tlscpid -
order by iso.insthostid, -
 iso.instid, -
 iso.sectid, -
         iso.tlscpid, -
 iod.tupseqnum -
```

7.56 hinstparmd - Instrument Parameter Description

Query Name: hinstparmd
User View: Instrument Parameter Description
User Description:

The Instrument Parameter Description user view allows inputs which identify a particular instrument parameter name (the actual data measured by an instrument). The user view output consist of the selected values for the input parameter and a text description of the instrument parameters.

Technical Description:

There is only one table accessed by this stored command, dsinstparmd. This table contains the descriptions for all instrument or dataset parameter names.

Query :

```
select   dsipd.dsinstparmnm, -
         dsipd.dsinstparmd -
from     dsinstparmd dsipd (minlock) -
where    dsipd.dsinstparmnm like &instparmname -
order by dsipd.dsinstparmnm, -
          dsipd.tupseqnum -
```

7.57 hinstref - Instrument Information References

Query Name: hinstref
User View: Instrument Information References
User Description:

The Instrument Information References user view allows input of parameters that identify instruments or document topics. The user view output consist of the selected values for the input parameters as well as associated reference information. If no reference information exist, this user view will return still return data for all the output elements except reference_citation.

Technical Description:

Joins are performed between instinfo and hostinfo on insthostid, also between instdoc, refinfo and refd on refkeyid. This query allows the input of either an id or name for instrument hosts and instruments. An outer join is performed between hostinfo,instinfo and instdoc so that if there is no reference data (in instdoc, refinfo, refd), it will still return data, in particular the naifdsid (which provides the pointing information for spacecraft instruments).

Query :

```
select hi.insthostid, -
hi.insthostname, -
ii.instid, -
ii.instname, -
ii.insttype, -
ri.doctopictype, -
ii.naifdsid, -
        id.refkeyid, -
refd.refd -
from hostinfo hi (minlock), -
        instdoc id (minlock), -
instinfo ii (minlock), -
refinfo ri (minlock), -
refd (minlock) -
where (hi.insthostid like &insthostidnm or -
 hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname or -
 ii.instname like &instidname) -
and ii.insttype like &insttype -
and ri.doctopictype like &doctopictype -
and hi.insthostid = ii.insthostid -
and ii.insthostid *= id.insthostid -
and ii.instid *= id.instid -
and     id.refkeyid = ri.refkeyid -
and ri.refkeyid = refd.refkeyid -
order by hi.insthostid, -
 ii.instid, -
         ri.doctopictype, -
         ri.refkeyid, -
         refd.tupseqnum -
```

7.58 hinstsciobj - Scientific Objectives Summary

Query Name: hinstsciobj
User View: Scientific Objectives Summary
User Description:

The Scientific Objectives Summary user view allows the input of parameters that identify an instrument. The output of the user view consists of the scientific objective summary associated with the instrument. This summary explains the science gathering purposes for a particular type of observation, for a particular observation sequence, or for which an instrument was designed.

Technical Description:

The hinstsciobj stored command performs a join between the hostinfo and instinfo tables and the instinfo and instsciobjd tables.

Query :

```
select hi.insthostid, -
hi.insthostname, -
ii.instid, -
ii.instname, -
isod.sciobjsmy -
from  hostinfo hi (minlock), -
instinfo ii (minlock), -
instsciobjd isod (minlock) -
where (hi.insthostid like &insthostidnm -
or hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname -
or ii.instname like &instidname) -
and hi.insthostid = ii.insthostid -
and ii.insthostid = isod.insthostid -
and ii.instid = isod.instid -
order by hi.insthostid, ii.instid, isod.tupseqnum -
```

7.59 hinstsensd - Sensitivity Description

Query Name: hinstsensd
User View: Sensitivity Description
User Description:

The Sensitivity Description user view allows the input of parameters that identify a detector. The output of the user view consists of the sensitivity description. This description describes the response threshold of the detector.

Technical Description:

Hostinfo and instinfo tables are utilized to allow the input of ids or names of instrument hosts and instruments. They are joined with the instsensd table which provides the decription of the sensitivity (minimum threshold of detector).

Query :

```
select isd.insthostid, -
hi.insthostname, -
   isd.instid, -
ii.instname, -
isd.detid, -
isd.sensd -
from hostinfo hi (minlock), -
instinfo ii (minlock), -
instsensd isd (minlock) -
where (hi.insthostid like &insthostidnm or -
 hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname or -
 ii.instname like &instidname) -
and hi.insthostid = ii.insthostid -
and isd.insthostid = hi.insthostid -
and isd.instid = ii.instid -
and isd.detid like &detid -
order by isd.insthostid, -
 isd.instid, -
        isd.detid, -
   isd.tupseqnum -
```

7.60 hmsnd - Mission Description

Query Name: hmsnd
User View: Mission Description
User Description:

The Mission Description user view allows the input of parameters that identify a mission. The output of the user view consists of the mission description. This description summarizes major aspects of a planetary mission or project, including the number and type of spacecraft, the target body or bodies and major accomplishments.

Technical Description:

A join is performed between msninfo and msnd on msnname. The msninfo table is utilized since the user has a choice of entering either the mission name or the alias name for a mission. The target list includes both the mission name (msnname) and the mission alias name (msnaliasname).

Query :

```
select mi.msnname, -
mi.msnaliasname, -
        md.msnd -
from msninfo mi (minlock), -
msnd md (minlock) -
where (mi.msnname like &msnnamealias or -
         mi.msnaliasname like &msnnamealias) -
and mi.msnname = md.msnname -
order by mi.msnname, -
 md.tupseqnum -
```

7.61 hmsnobjsmy - Mission Objectives Summary

Query Name: hmsnobjsmy
User View: Mission Objective Summary
User Description:
The Mission Objective Summary user view allows the input of parameters that identify a mission. The output of the user view consists of the mission objectives summary. This description describes the major scientific objectives of a planetary mission or project.

Technical Description:

A join is performed between msninfo and msnobjsmy on msnname. The msninfo table is utilized since the user has a choice of entering either the mission name or the alias name for a mission. The target list includes both the mission name (msnname) and the mission alias name (msnaliasname).

Query :

```
select mi.msnname, -
mi.msnaliasname, -
        mos.msnobjsmy -
from msninfo mi (minlock), -
msnobjsmy mos (minlock) -
where (mi.msnname like &msnnamealias or -
         mi.msnaliasname like &msnnamealias) -
and mi.msnname = mos.msnname -
order by mi.msnname, -
 mos.tupseqnum -
```

7.62 hmsnphsinfo - Mission Phase Information

Query Name: hmsnphsinfo
User View: Mission Phase Information
User Description:

The Mission Phase Information user view allows the input of parameters that identify mission phases. These include values that identify missions, mission phases, spacecraft, or targets. The user view output consist of the selected values for the input parameters as well as launch dates and mission phase descriptions.

Technical Description:

A join is performed between the msninfo, msnphsinfo, hostinfo, and scinfo tables. An outer join to the msnphsd table picks up the description.

Query :

```
select mi.msnname, -
mi.msnaliasname, -
mpi.scid, -
hi.insthostname, -
mpi.msnphstype, -
mpi.msnphsstrttm, -
mpi.msnphsstoptm, -
mpi.targname, -
si.launchdate, -
md.msnphsd -
from hostinfo hi (minlock), -
msninfo mi (minlock), -
msnphsinfo mpi (minlock), -
scinfo si (minlock), -
msnphsd md (minlock) -
where (mi.msnname like &msnnamealias or -
mi.msnaliasname like &msnnamealias) -
and (hi.insthostid like &scidname or -
hi.insthostname like &scidname) -
and mpi.msnphstype like &msnphstype -
and mpi.targname like &targname -
and mi.msnname = mpi.msnname -
and hi.insthostid = mpi.scid -
and si.scid = mpi.scid -
and mpi.msnphsstrttm <= &msnphsstoptm -
and mpi.msnphsstoptm >= &msnphsstrttm -
and mpi.msnphstype *= md.msnphstype -
and mpi.scid *= md.scid -
and mpi.targname *= md.targname -
order by mpi.msnname, mpi.scid, mpi.msnphstype, -
mpi.targname, md.tupseqnum -
```

7.63 hmsnscds - Mission and Spacecraft Associated Data Sets

Query Name: hmsnscds
User View: Mission and Spacecraft Associated Data Sets
User Description:

The Mission and Spacecraft Associated Data Sets user view allows the input of parameters that identify data sets. These include values that specify spacecraft, missions, instruments, targets, data set parameters, instrument parameters or data sets. The user view output consists of the selected values for the input parameters, and the retrieved values for those parameters which were not specified.

Technical Description:

The dshost table is used in a join with the dsinfo, dstarg, dsparminfo, hostinfo, scinfo, msnphsinfo, instinfo, and instsectparm tables. A join is also performed between the msninfo and the msnphsinfo. The distinct qualification remove duplicates caused by this latter join. The primary key for msnphsinfo includes mission_phase_type. This attribute is not supplied, resulting in duplicate rows.

Query :

```
select distinct -
si.scid, -
hi.insthostname, -
mpi.msnname, -
mi.msnaliasname, -
ii.instid, -
ii.instname, -
dst.targname, -
dspi.dsparmname, -
isp.instparmname, -
dsi.dsid, -
dsi.dsname -
from dshost dsh (minlock), -
hostinfo hi (minlock), -
scinfo si (minlock), -
dsinfo dsi (minlock), -
instinfo ii (minlock), -
msninfo mi (minlock), -
msnphsinfo mpi (minlock), -
dsparminfo dspi (minlock), -
instsectparm isp (minlock), -
dstarg dst (minlock) -
where (hi.insthostid like &scidname or -
hi.insthostname like &scidname) -
and (mi.msnname like &msnnamealias or -
mi.msnaliasname like &msnnamealias) -
and (ii.instid like &instidname or -
ii.instname like &instidname) -
and dst.targname like &targname -
and dspi.dsparmname like &dsparmname -
and isp.instparmname like &instparmname -
and (dsi.dsid like &dsidname or -
dsi.dsname like &dsidname) -
and mi.msnname = mpi.msnname -
and dst.targname = mpi.targname -
and dsh.dsid = dst.dsid -
and dsh.dsid = dsi.dsid -
and dsh.dsid = dspi.dsid -
and dsh.insthostid = hi.insthostid -
and dsh.insthostid = si.scid -
and dsh.insthostid = mpi.scid -
and dsh.insthostid = ii.insthostid -
and dsh.instid = ii.instid -
and dsh.insthostid = isp.insthostid -
and dsh.instid = isp.instid -
order by si.scid, dsi.dsid -
```

7.64 hmsnscinfo - General Mission and Spacecraft Information

Query Name: hmsnscinfo
User View: General Mission and Spacecraft Information
User Description:

The General Mission and Spacecraft Information user view allows the input of parameters that characterize missions or spacecraft. These include values that identify missions, spacecraft, launch dates, or targets. The user view output consist of the selected values for the input parameters as well as mission phase, spacecraft operations type, and platform or mounting information.

Technical Description:

A join is performed between the hostinfo, scinfo, msninfo, msnphsinfo, and scinstoff tables. The msnphsinfo table is central to the join process since it realizes the ternary relation between target, spacecraft, and mission. Hostinfo is required to handle the spacecraft id or name input within a single field. The mission name or mission alias are also allowed as input within a single field. The distinct is required since instrument_id is part of the primary key of the scinstoff table and is not used in the target list.

Query :

```
select distinct -
si.scid, -
hi.insthostname, -
si.launchdate, -
mpi.msnname, -
mi.msnaliasname, -
mi.msnstrtdate, -
mi.msnstopdate, -
mpi.targname, -
mpi.msnphstype, -
mpi.scopertype, -
mpi.msnphsstrttm, -
mpi.msnphsstoptm, -
sio.platmountnm -
from hostinfo hi (minlock), -
scinfo si (minlock), -
msninfo mi (minlock), -
msnphsinfo mpi (minlock), -
scinstoff sio (minlock) -
where (hi.insthostid like &scidname or -
hi.insthostname like &scidname) -
and (mi.msnname like &msnnamealias or -
mi.msnaliasname like &msnnamealias)  -
and mpi.targname like &targname -
and si.launchdate like &launchdate -
and mi.msnname = mpi.msnname -
and hi.insthostid = mpi.scid -
and si.scid = mpi.scid -
and sio.scid = mpi.scid -
order by mpi.msnname, mpi.scid, mpi.msnphstype, mpi.targname -
```

7.65 hmsnscref - Mission and Spacecraft Information References

Query Name: hmsnscref
User View: Mission and Spacecraft Information References
User Description:

The Mission and Spacecraft Information References user view allows the input of parameters that identify missions or spacecraft. These include values that specify missions, spacecraft, mission phases, or targets. The user view output consists of the selected values for the input parameters as well as the reference information.

Technical Description:

Joins are performed between the msnphsinfo, msninfo, msndoc refd, hostinfo, and scinfo tables. The msninfo and hostinfo tables are required to pick up mission alias and spacecraft name respectively. The scinfo table is used to return scid instead of insthostid. The distinct is required since multiple phases may be returned from msnphsinfo. (Evtstrttime is a key but not used in the query)

Query :

```
select distinct -
si.scid, -
hi.insthostname, -
mpi.msnname, -
mi.msnaliasname, -
mpi.msnphstype, -
mpi.targname, -
rd.refkeyid, -
rd.refd -
from hostinfo hi (minlock), -
scinfo si (minlock), -
msninfo mi (minlock), -
msnphsinfo mpi (minlock), -
msndoc md (minlock), -
refd rd (minlock) -
where (hi.insthostid like &scidname or -
hi.insthostname like &scidname) -
and (mi.msnname like &msnnamealias or -
mi.msnaliasname like &msnnamealias)  -
and mpi.msnphstype like &msnphstype -
and mpi.targname like &targname -
and hi.insthostid = si.scid -
and hi.insthostid = mpi.scid -
and mi.msnname = mpi.msnname -
and md.msnname = mpi.msnname -
and md.refkeyid = rd.refkeyid -
order by si.scid, mi.msnname, mpi.msnphstype, -
mpi.targname, rd.refkeyid, rd.tupseqnum -
```

7.66 hndctcinfo - Node Operations Contact Information

Query Name: hndctcinfo
User View: Node Operations Contact Information
User Description:

The Node Operations Contact Information user view allows the input of parameters that help identify nodes. These include node identifications, affiliated personnel, associated disciplines or institutions. The user view output consists of the selected values for the inputs as well as the name of the operations contact person, their telephone number, electronic mail information, and mailing address.

Technical Description:

The fullname input parameter requires the use of the persinfo table in two joins with two distinct keys. Therefore the use of two table identifiers for persinfo. The input fullname selects a pdsuserid from persinfo. This is used in a join with the persnode table. The nodeid in persnode is then used in a join with nodeinfo. The contacts pdsuserid in nodeinfo is then used in several joins to collect target attributes from persinfo, perselecmail and persmailaddr.

Query :

```
select ni.nodeid, -
ni.ndinstnname, -
ni.nodename, -
ni.discname, -
pi2.fullname, -
pi2.telephonenum, -
pem.elecmailtype, -
pem.elecmailid, -
pem.preferenceid, -
pma.mailaddrline, -
pi1.fullname -
from nodeinfo ni (minlock), -
persnode pn (minlock), -
persinfo pi1 (minlock), -
persinfo pi2 (minlock), -
perselecmail pem (minlock), -
persmailaddr pma (minlock) -
where pi1.fullname like &fullname -
and pi1.pdsuserid = pn.pdsuserid -
and pn.nodeid = ni.nodeid -
and ni.opspdsuserid = pi2.pdsuserid -
and ni.ndinstnname like &ndinstnname -
and ni.nodename like &nodename -
and ni.nodeid like &nodeid -
and ni.discname like &discname -
and ni.opspdsuserid = pem.pdsuserid -
and ni.opspdsuserid *= pma.pdsuserid -
order by ni.nodeid, pi1.fullname, pem.preferenceid, pma.tupseqnum -
```

7.67 hnddainfo - Node Data Administration Contact Information

Query Name: hnddainfo
User View: Node Data Administration Contact Information
User Description:

The Node Data Administration Contact Information user view allows the input of parameters that help identify nodes. These include node identifications, affiliated personnel, associated disciplines or institutions. The user view output consists of the selected values for the input parameters as well as the name of the Node Data Administration Contact, their telephone number, electronic mail information, and mailing address.

Technical Description:

The fullname input parameter requires the use of the persinfo table in two joins with two distinct keys. Therefore the use of two table identifiers for persinfo. The input fullname selects a pdsuserid from persinfo. This is used in a join with the persnode table. The nodeid in persnode is then used in a join with nodeinfo. The da contact pdsuserid in nodeinfo is then used in two joins to collect attributes from persinfo and perselecmail and in an outer join with persmailaddr.

Query :

```
select ni.nodeid, -
ni.ndinstnname, -
ni.nodename, -
ni.discname, -
pi2.fullname, -
pi2.telephonenum, -
pem.elecmailtype, -
pem.elecmailid, -
preferenceid = char (6, pem.preferenceid), -
pma.mailaddrline, -
pi1.fullname -
from nodeinfo ni (minlock), -
persnode pn (minlock), -
persinfo pi1 (minlock), -
persinfo pi2 (minlock), -
perselecmail pem (minlock), -
persmailaddr pma (minlock) -
where pi1.fullname like &fullname -
and pi1.pdsuserid = pn.pdsuserid -
and pn.nodeid = ni.nodeid -
and ni.dapdsuserid = pi2.pdsuserid -
and ni.ndinstnname like &ndinstnname -
and ni.nodename like &nodename -
and ni.nodeid like &nodeid -
and ni.discname like &discname -
and ni.dapdsuserid = pem.pdsuserid -
and ni.dapdsuserid *= pma.pdsuserid -
order by ni.nodeid, pi1.fullname, pem.preferenceid, pma.tupseqnum -
```

7.68 hndmgrinfo - Node Manager Information

Query Name: hndmgrinfo
User View: Node Manager Information
User Description:
The Node Manager Information user view allows the input of parameters that help identify nodes. These include node identifications, affiliated personnel, associated disciplines or institutions. The user view output consists of the selected values for the input parameters as well as the name of the node manager, their telephone number, electronic mail information, and mailing address.

Technical Description:
The fullname input parameter requires the use of the persinfo table in two joins with two distinct keys. Therefore the use of two table identifiers for persinfo. The input fullname selects a pdsuserid from persinfo. This is used in a join with the persnode table. The nodeid in persnode is then used in a join with nodeinfo. The managers pdsuserid in nodeinfo is then used in two joins to collect attributes from persinfo and perselecmail and in an outer join with persmailaddr.

Query :

```
select ni.nodeid, -
ni.ndinstnname, -
ni.nodename, -
ni.discname, -
pi2.fullname, -
pi2.telephonenum, -
pem.elecmailtype, -
pem.elecmailid, -
pem.preferenceid, -
pma.mailaddrline, -
pi1.fullname -
from nodeinfo ni (minlock), -
persnode pn (minlock), -
persinfo pi1 (minlock), -
persinfo pi2 (minlock), -
perselecmail pem (minlock), -
persmailaddr pma (minlock) -
where pi1.fullname like &fullname -
and pi1.pdsuserid = pn.pdsuserid -
and pn.nodeid = ni.nodeid -
and ni.mgrpdsuserid = pi2.pdsuserid -
and ni.ndinstnname like &ndinstnname -
and ni.nodename like &nodename -
and ni.nodeid like &nodeid -
and ni.discname like &discname -
and ni.mgrpdsuserid = pem.pdsuserid -
and ni.mgrpdsuserid *= pma.pdsuserid -
order by ni.nodeid, pi1.fullname, pem.preferenceid, pma.tupseqnum -
```

7.69 hnodeds - Node Associated Data Sets

Query Name: hnodeds
User View: Node Associated Data Sets
User Description:

The Node Associated Data Sets user view allows the input of parameters that identify data sets or nodes. These include values that identify nodes by id, name, or discipline. The user view output consists of the selected values for the input parameters as well as the associated spacecraft, instruments, and targets.

Technical Description:

The hnodeds stored command performs a join between the nodeinfo, dsinfo, dshost, dstarg, and invnodemedia tables. The distinct is required since medium is an element of the primary key for invnodemedia but is not constrained or used as output.

Query :

```
select distinct -
ni.nodename, -
ni.nodeid, -
ni.discname, -
dsi.dsid, -
dsi.dsname, -
dsh.insthostid, -
dsh.instid, -
dst.targname -
from nodeinfo ni (minlock), -
dsinfo dsi (minlock), -
dshost dsh (minlock), -
dstarg dst (minlock), -
invnodemedia inm (minlock) -
where ni.nodeid like &nodeid -
and ni.nodename like &nodename -
and ni.discname like &discname -
and (dsi.dsid like &dsidname -
or dsi.dsname like &dsidname) -
and ni.nodeid = inm.nodeid -
and dsi.dsid = inm.dsid -
and dsi.dsid = dsh.dsid -
and dsi.dsid = dst.dsid -
order by ni.nodeid, dsi.dsid -
```

7.70 hnodeinfo - General Node Information

Query Name: hnodeinfo
User View: General Node Information
User Description:

The General Node Information user views allows the input of parameters that are associated with a node. These include values that identify a node or an institution or that specify a discipline. The user view output consists of the selected values for the input parameters as well as the names of the node manager, operations contact, and data administration contact. A brief node description is also supplied.

Technical Description:

The hnodeinfo stored command performs a join between the nodeinfo, persinfo, and noded tables. The persinfo table is joined three times in order to obtain the fullnames of the node manager, operations contact, and da contact. An outer join is performed using the node description table.

Query :

```
select ni.nodeid, -
ni.ndinstnname, -
ni.nodename, -
ni.discname, -
pi1.fullname, -
pi2.fullname, -
pi3.fullname, -
nd.noded -
from nodeinfo ni (minlock), -
persinfo pi1 (minlock), -
persinfo pi2 (minlock), -
persinfo pi3 (minlock) , -
noded nd (minlock) -
where ni.nodeid like &nodeid -
and ni.ndinstnname like &ndinstnname -
and ni.nodename like &nodename -
and ni.discname like &discname -
and ni.mgrpdsuserid = pi1.pdsuserid -
and ni.opspdsuserid = pi2.pdsuserid -
and ni.dapdsuserid = pi3.pdsuserid -
and ni.nodeid *= nd.nodeid -
order by ni.nodeid, nd.tupseqnum -
```

7.71 hpersaffil - Personnel Affiliations

Query Name: hpersaffil
User View: Personnel Affiliations
User Description:

The Personnel Affiliations user view allows the input of parameters that are asociated with persons registered with the PDS. These include values that specify nodes, institutions, missions, spacecraft, instruments or tasks with which a person may have been involved. The user view output consists of the selected values for the input parameters as well as names for all selected people.

Technical Description:

Joins are performed between the persinfo, nodeinfo, persnode, persinstn, persmsn, perstask, hostinfo, instinfo, and msninfo tables. The hostinfo, instinfo, and msninfo tables are required for name or id (name or alias) input. The use of 'N/A' and 'UNK' entities in the RI tables allow the use of equi-joins instead of outerjoins to tables containing optional information. For example not all personnel need to be associated with a mission.

Query :

```
select pin.persinstnnm, -
ni.nodename, -
ni.nodeid, -
mi.msnname, -
mi.msnaliasname, -
pm.scid, -
hi.insthostname, -
pm.instid, -
ii.instname, -
pt.taskname, -
pm.exprtareatyp, -
pt.exprtareatyp, -
pi.fullname -
from persinfo pi (minlock), -
nodeinfo ni (minlock), -
persnode pn (minlock), -
persinstn pin (minlock), -
persmsn pm (minlock), -
perstask pt (minlock), -
hostinfo hi (minlock), -
instinfo ii (minlock), -
msninfo mi (minlock) -
where pin.persinstnnm like &persinstnnm -
and ni.nodename like &nodename -
and ni.nodeid like &nodeid -
and (mi.msnname like &msnnamealias -
or mi.msnaliasname like &msnnamealias) -
and (hi.insthostid like &scidname -
or hi.insthostname like &scidname) -
and (ii.instid like &instidname -
or ii.instname like &instidname) -
and pt.taskname like &taskname -
and (pm.exprtareatyp like &exprtareatyp -
or pt.exprtareatyp like &exprtareatyp) -
and pi.pdsuserid = pin.pdsuserid -
and pn.nodeid = ni.nodeid -
and pi.pdsuserid = pn.pdsuserid -
and pi.pdsuserid = pm.pdsuserid -
and pm.msnname = mi.msnname -
and pm.scid = hi.insthostid -
and hi.insthostid = ii.insthostid -
and pm.instid = ii.instid -
and pi.pdsuserid = pt.pdsuserid -
order by pi.lastname, pn.nodeid, pm.msnname, pm.scid, -
pm.instid, pt.taskname -
```

7.72 hpersinfo - Personnel Information

Query Name: hpersinfo
User View: Personnel Information
User Description:

The Personnel Information user view allows the input of parameters that identify persons associated with PDS. These include values that identify persons, nodes, or institutions. The user view output consists of the selected values for the input parameters as well as contact information and all involvement with missions, tasks, and nodes.

Technical Description:

A join is performed between the persinfo table and the perselecmail tables. All other information displayed does not necessarily have to exist for each individual. Therefore outer joins are performed to get the mission, task, mailing address, and personnel shipping carrier names.
The node and institution can not be input constraints and have the associated tables joined with an outer join. Therefore these table are involved in normal joins with the persinfo table. This implies that persons without a node and institution association will not be selected in this user view or else there is a requirement for N/A nodes and institutions.

Query :

```
select pi.fullname, -
pin.persinstnnm, -
ni.nodeid, -
ni.nodename, -
pma.mailaddrline, -
pi.telephonenum, -
pi.ftsnum, -
pem.elecmailtype, -
pem.elecmailid, -
pem.preferenceid, -
pm.msnname, -
pm.scid, -
pm.instid, -
pm.exprtareatyp, -
pm.spcld, -
pm.roled, -
pt.taskname, -
pt.exprtareatyp, -
pt.spcld, -
pt.roled, -
po.persshpcarr -
from persinfo pi (minlock), -
nodeinfo ni (minlock), -
persnode pn (minlock), -
persinstn pin (minlock), -
perselecmail pem (minlock), -
persmailaddr pma (minlock), -
persmsn pm (minlock), -
perstask pt (minlock), -
persorder po (minlock) -
where pi.fullname like &fullname -
and pin.persinstnnm like &persinstnnm -
and ni.nodename like &nodename -
and ni.nodeid like &nodeid -
and pi.pdsuserid = pn.pdsuserid -
and pn.nodeid = ni.nodeid -
and pi.pdsuserid = pin.pdsuserid -
and pi.pdsuserid *= pm.pdsuserid -
and pi.pdsuserid *= pt.pdsuserid -
and pi.pdsuserid *= po.pdsuserid -
and pi.pdsuserid = pem.pdsuserid -
and pi.pdsuserid *= pma.pdsuserid -
order by pi.fullname, pem.preferenceid, pma.tupseqnum -
```

7.73 hplatmountd - Platform or Mounting Description

Query Name: hplatmountd
User View: Platform or Mounting Description
User Description:
The Platform or Mounting Description user view allows the input of parameters that identify a spacecraft, laboratory, observatory, platform, or mounting. The output of the user view consists of the platform or mounting description. This description describes the spacecraft platform or laboratory mounting frame on which an instrument is mounted.

Technical Description:
A join is performed between the hostinfo and platd tables. The hostinfo table is required to handle the input of either the host id or name.

Query :

```
select hi.insthostid, -
hi.insthostname, -
pd.platmountnm, -
pd.platmountd -
from  hostinfo hi (minlock), -
platd pd (minlock) -
where (hi.insthostid like &insthostidnm -
or hi.insthostname like &insthostidnm) -
and pd.platmountnm like &platmountnm -
and hi.insthostid = pd.insthostid -
order by hi.insthostid, pd.platmountnm, pd.tupseqnum -
```

7.74 hscd - Spacecraft Description

Query Name: hscd
User View: Spacecraft Description
User Description:

The Spacecraft Description user view allows the input of parameters that identify a spacecraft. The output of the user view conists of the spacecraft description. This discription 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.

Technical Description:

A join is performed between the hostinfo, scinfo, and scd tables. The hostinfo table is required for the spacecraft id or name input parameter. The scinfo table is used to pick up scid instead of insthostid.

Query :

```
select si.scid, -
hi.insthostname, -
sd.scd -
from hostinfo hi (minlock), -
scinfo si (minlock), -
scd sd (minlock) -
where (hi.insthostid like &scidname or -
hi.insthostname like &scidname) -
and si.scid = hi.insthostid -
and si.scid = sd.scid -
order by si.scid, tupseqnum -
```

7.75 hscinstd - Spacecraft Instrument Description

Query Name: hscinstd
User View: Spacecraft Instrument Description
User Description:

The Spacecraft Instrument Description user view allows the input of parameters that identify a spacecraft instrument. The output of the user view consists of the instrument's description.

Technical Description:

A join is performed between the hostinfo, instinfo, and instd tables. The hostinfo is required to handle the input of either the instrument host name or id.

Query :

```
select hi.insthostid, -
hi.insthostname, -
ii.instid, -
ii.instname, -
id.instd -
from  hostinfo hi (minlock), -
instinfo ii (minlock), -
instd id (minlock) -
where (hi.insthostid like &insthostidnm -
or hi.insthostname like &insthostidnm) -
and (ii.instid like &instidname -
or ii.instname like &instidname) -
and hi.insthostid = ii.insthostid -
and ii.insthostid = id.insthostid -
and ii.instid = id.instid -
order by hi.insthostid, ii.instid, id.tupseqnum -
```

7.76 hscinstmnt - Spacecraft and Instrument Mountings

Query Name: hscinstmnt
User View: Spacecraft and Instrument Mountings
User Description:

The Spacecraft and Instrument Mountings user view allows the input of parameters that identify spacecraft, missions, instruments, platforms, or mountings. The user view output consist of the selected values for the input parameters.

Technical Description:

A join is performed between the hostinfo, instinfo, msninfo, msnphsinfo, and scinstoff tables. Distinct is required since not all primary keys of msnphsinfo are returned.

Query :

```
select distinct -
mpi.scid, -
hi.insthostname, -
ii.instid, -
ii.instname, -
ii.insttype, -
mpi.msnname, -
mi.msnaliasname, -
sio.platmountnm -
from hostinfo hi (minlock), -
instinfo ii (minlock), -
msninfo mi (minlock), -
msnphsinfo mpi (minlock), -
scinstoff sio (minlock) -
where (hi.insthostid like &scidname or -
hi.insthostname like &scidname) -
and (ii.instid like &instidname or -
ii.instname like &instidname) -
and ii.insttype like &insttype -
and (mi.msnname like &msnnamealias or -
mi.msnaliasname like &msnnamealias)  -
and sio.platmountnm like &platmountnm -
and mi.msnname = mpi.msnname -
and hi.insthostid = mpi.scid -
and hi.insthostid = ii.insthostid -
and sio.scid = ii.insthostid -
and sio.instid = ii.instid -
order by ii.insthostid, ii.instid, mi.msnname -
```

7.77 htargds - Target Associated Data Sets

Query Name: htargds
User View: Target Associated Data Sets
User Description:

The Target Associated Data Sets user view allows the input of parameters that identify targets or data sets. The output of the user view consists of the selected values for the input parameters. These include target name, target type, and data set id.

Technical Description:

The htargds stored command performs a join between the dsinfo, dstarg, and targphysinfo tables.

Query :

```
select tpi.targname, -
tpi.targtype, -
dsi.dsid, -
dsi.dsname -
from dsinfo dsi (minlock), -
dstarg dst (minlock), -
targphysinfo tpi (minlock) -
where tpi.targname like &targname -
and tpi.targtype like &targtype -
and (dsi.dsid like &dsidname -
or dsi.dsname like &dsidname) -
and dst.dsid = dsi.dsid -
and tpi.targname = dst.targname -
order by tpi.targname, dsi.dsid -
```

7.78 htargdyn - Target Dynamic Parameters

Query Name: htargdyn

User Description:

The Target Dynamic Parameters user view allows the input of parameters that identify targets or their dynamic parameters. These include target names, types, or orbit parameters. The output of the user view consists of the selected values for the input parameters and the retrieved values for those parameters which were not specified. The source of the target parameter values may be obtained through the Target Parameter Information user view.

Technical Description:

The target list for this query is simply the attributes in the targorbinfo table plus targtype and flattening from the targphysinfo table. These tables contain the bulk of the information carried about target bodies. All floating point attributes may be specified as constraints using ranges.

Query :

```
select tpi.targname, -
tpi.targtype, -
toi.orbdirtype, -
toi.rotdirtype, -
flattening = CHAR(31,tpi.flattening), -
magmoment = CHAR(31,tpi.magmoment), -
revper = CHAR(31,toi.revper), -
obliquity = CHAR(31,toi.obliquity), -
polera = CHAR(31,toi.polera), -
poledecl = CHAR(31,toi.poledecl), -
meansolarday = CHAR(31,toi.meansolarday), -
sidrotper = CHAR(31,toi.sidrotper), -
orbsemimajax = CHAR(31,toi.orbsemimajax), -
orbecc = CHAR(31,toi.orbecc), -
orbincln = CHAR(31,toi.orbincln), -
ascnodelon = CHAR(31,toi.ascnodelon), -
periargang = CHAR(31,toi.periargang) -
from targphysinfo tpi (minlock), -
targorbinfo toi  (minlock) -
where tpi.targname = toi.targname -
and tpi.targname LIKE &targname -
and tpi.targtype LIKE &targtype -
and toi.orbdirtype like &orbdirtype -
and toi.rotdirtype like &rotdirtype -
and tpi.flattening -
between BCDFLT(31,&lflattening) -
and BCDFLT(31,&uflattening) -
and tpi.magmoment -
between BCDFLT(31,&lmagmoment) -
and BCDFLT(31,&umagmoment) -
and toi.revper -
between BCDFLT(31,&lrevper) -
and BCDFLT(31,&urevper) -
and toi.obliquity -
between BCDFLT(31,&lobliquity) -
and BCDFLT(31,&uobliquity) -
and toi.polera -
between BCDFLT(31,&lpolera) -
and BCDFLT(31,&upolera) -
and toi.poledecl -
between BCDFLT(31,&lpoledecl) -
and BCDFLT(31,&upoledecl) -
and toi.meansolarday -
between BCDFLT(31,&lmeansolarda) -
and BCDFLT(31,&umeansolarda) -
and toi.sidrotper -
```

```
between BCDFLT(31,&lsidrotper) -
and BCDFLT(31,&usidrotper) -
and toi.orbsemimajax -
between BCDFLT(31,&lorbsemimaja) -
and BCDFLT(31,&uorbsemimaja) -
and toi.orbecc -
between BCDFLT(31,&lorbecc) -
and BCDFLT(31,&uorbecc) -
and toi.orbincln -
between BCDFLT(31,&lorbincln) -
and BCDFLT(31,&uorbincln) -
and toi.ascnodelon -
between BCDFLT(31,&lascnodelon) -
and BCDFLT(31,&uascnodelon) -
and toi.periargang -
between BCDFLT(31,&lperiargang) -
and BCDFLT(31,&uperiargang) -
order by tpi.targname -
```

7.79 htarginfo - General Target Information

Query Name: htarginfo

User Description:

The General Target Information user view allows the input of parameters that identify targets or primary bodies. The output of the user view consists of the selected values for the input parameters as well as radius, mass, pressure, temperature, and orbital parameters.

Technical Description:

A join is performed between the targphyinfo and targorbinfo tables. The target list is a 'useful' subset of the attributes associated with a target.

Query :

```
select tpi.targname, -
tpi.targtype, -
tpi.primbodyname, -
meanradius = CHAR(S1,tpi.meanradius), -
equatradius = CHAR(S1,tpi.equatradius), -
massdensity = CHAR(S1,tpi.massdensity), -
meansurfpres = CHAR(S1,tpi.meansurfpres), -
meansurftemp = CHAR(S1,tpi.meansurftemp), -
surfgrav = CHAR(S1,tpi.surfgrav), -
revper = CHAR(S1,toi.revper), -
obliquity = CHAR(S1,toi.obliquity), -
orbsemimajax = CHAR(S1,toi.orbsemimajax) -
from targphysinfo tpi (minlock), -
targorbinfo toi  (minlock) -
where tpi.targname LIKE &targname -
and tpi.targtype LIKE &targtype -
and tpi.primbodyname like &primbodyname -
and tpi.targname = toi.targname -
order by tpi.targname -
```

7.80 htargmsnsc - Associated Missions and Spacecraft

Query Name: htargmsnsc
User View: Associated Missions and Spacecraft
User Description:
The Associated Missions and Spacecraft user view allows the input of parameters that identify targets or spacecraft. The user view output consists of the selected values for the input parameters as well as associated missions.

Technical Description:
A join is performed between hostinfo, scinfo, targphysinfo, and msnphsinfo. A distinct is required since msnphstype in the msnphsinfo table is not used in the query.

Query :

```
select distinct -
tpi.targname, -
tpi.targtype, -
mpi.msnname, -
si.scid, -
hi.insthostname -
from hostinfo hi (minlock), -
scinfo si (minlock), -
targphysinfo tpi (minlock), -
msnphsinfo mpi (minlock) -
where (hi.insthostid like &scidname or -
hi.insthostname like &scidname) -
and tpi.targname like &targname -
and tpi.targtype like &targtype -
and tpi.targname = mpi.targname -
and hi.insthostid = mpi.scid -
and hi.insthostid = si.scid -
order by tpi.targname, mpi.msnname, si.scid -
```

7.81 htargparm - Target Parameter Information

Query Name: htargparm
User Description:

The Target Parameter Information user view may be used to retrieve validity information about target parameter constants which have been obtained from information user views such as the Target Dynamic Information user view. The Target Parameter Information user view allows the input of parameters that identify targets or their physical or dynamic parameters. The output of the user view consists of the selected targets and target parameters as well as the uncertainties, epochs, and sources of the target parameter values.

Technical Description:

A join is performed between the targphysinfo and targparminfo tables. An outer join is performed between the targparminfo and dssourceinfo tables.

Query :

```
select tpi.targname, -
tppi.targparmname, -
tppi.targparmunct, -
tppi.targprmepoch, -
dsi.datasourced -
from  targphysinfo tpi, -
targparminfo tppi, -
dssourceinfo dsi -
where tpi.targname = tppi.targname -
and tpi.targname LIKE &targname -
and tppi.targparmname LIKE &targparmname -
and tppi.datasourceid *= dsi.datasourceid -
order by tpi.targname, tppi.targparmname, dsi.tupseqnum -
```

7.82 htargphydyn - Target Physical and Dynamic Parameters

Query Name: htargphydyn

User Description:

The Target Physical and Dynamic Parameters user view allows the input of parameters that identify targets.

The output of the user view consists of the selected values for the input parameters and all attributes associated with a target.

The source of the target parameter values may be obtained through the Target Parameter Information user view.

Technical Description:

The target list for this query is simply the union of the attributes in the targphysinfo and targorbinfo tables. These tables contain the bulk the information carried about target bodies. A natural join is performed using target_name.

Query :

```
select tpi.targname, -
tpi.targtype, -
meanradius = CHAR(31,tpi.meanradius), -
equatradius = CHAR(31,tpi.equatradius), -
aaxisradius = CHAR(31,tpi.aaxisradius), -
baxisradius = CHAR(31,tpi.baxisradius), -
caxisradius = CHAR(31,tpi.caxisradius), -
flattening = CHAR(31,tpi.flattening), -
mass = CHAR(31,tpi.mass), -
massdensity = CHAR(31,tpi.massdensity), -
meansurfpres = CHAR(31,tpi.meansurfpres), -
minsurfpres = CHAR(31,tpi.minsurfpres), -
maxsurfpres = CHAR(31,tpi.maxsurfpres), -
meansurftemp = CHAR(31,tpi.meansurftemp), -
minsurftemp = CHAR(31,tpi.minsurftemp), -
maxsurftemp = CHAR(31,tpi.maxsurftemp), -
surfgrav = CHAR(31,tpi.surfgrav), -
bondalb = CHAR(31,tpi.bondalb), -
magmoment = CHAR(31,tpi.magmoment) -
from targphysinfo tpi (minlock) -
where tpi.targname LIKE &targname -
and tpi.targtype LIKE &targtype -
and tpi.meanradius -
between BCDFLT(31,&lmeanradius) -
and  BCDFLT(31,&umeanradius) -
and tpi.equatradius -
between BCDFLT(31,&lequatradius) -
and  BCDFLT(31,&uequatradius) -
and tpi.aaxisradius -
between BCDFLT(31,&laaxisradius) -
and BCDFLT(31,&uaaxisradius) -
and tpi.baxisradius -
between BCDFLT(31,&lbaxisradius) -
and BCDFLT(31,&ubaxisradius) -
and tpi.caxisradius -
between BCDFLT(31,&lcaxisradius) -
and BCDFLT(31,&ucaxisradius) -
and tpi.flattening -
between BCDFLT(31,&lflattening) -
and BCDFLT(31,&uflattening) -
and tpi.mass -
between BCDFLT(31,&lmass) -
and BCDFLT(31,&umass) -
and tpi.massdensity -
between BCDFLT(31,&lmassdensity) -
and BCDFLT(31,&umassdensity) -
```

```
and tpi.meansurfpres -
between BCDFLT(S1,&lmeansurfpre) -
and BCDFLT(S1,&umeansurfpre) -
and tpi.minsurfpres -
between BCDFLT(S1,&lminsurfpres) -
and BCDFLT(S1,&uminsurfpres) -
and tpi.maxsurfpres -
between BCDFLT(S1,&lmaxsurfpres) -
and BCDFLT(S1,&umaxsurfpres) -
and tpi.meansurftemp -
between BCDFLT(S1,&lmeansurftem) -
and BCDFLT(S1,&umeansurftem) -
and tpi.minsurftemp -
between BCDFLT(S1,&lminsurftemp) -
and BCDFLT(S1,&uminsurftemp) -
and tpi.maxsurftemp -
between BCDFLT(S1,&lmaxsurftemp) -
and BCDFLT(S1,&umaxsurftemp) -
and tpi.surfgrav -
between BCDFLT(S1,&lsurfgrav) -
and BCDFLT(S1,&usurfgrav) -
and tpi.bondalb -
between BCDFLT(S1,&lbondalb) -
and BCDFLT(S1,&ubondalb) -
and tpi.magmoment -
between BCDFLT(S1,&lmagmoment) -
and BCDFLT(S1,&umagmoment) -
order by tpi.targname -
```

7.84 ictrpoint - Center Point Information

Query Name: ictrpoint
User View: Center Point Information
User Description:

The Center Point Information user view allows the input of spacecraft_id and image_key_id. These two input parameters uniquely identify an image within the PDS. The output of the user view consists of all center point information. Image_key_id is a required input parameter for this user view.

Technical Description:

The target list for this query includes attributes from the imimageinfo table that are associated with the center point of an image. The constraints are spacecraft_id and image_key_id.

Query :

```
select  imi.scid, -
imi.imagekeyid, -
imi.instid, -
lat = CHAR(31,imi.lat), -
lon = CHAR(31,imi.lon), -
az = CHAR(31,imi.az), -
elevation = CHAR(31,imi.elevation), -
ra = CHAR(31,imi.ra), -
declination = CHAR(31,imi.declination), -
coneang = CHAR(31,imi.coneang), -
crsconeang = CHAR(31,imi.crsconeang), -
slantdist = CHAR(31,imi.slantdist), -
emissang = CHAR(31,imi.emissang), -
incidang = CHAR(31,imi.incidang), -
phsang = CHAR(31,imi.phsang), -
scalepixht = CHAR(31,imi.scalepixht), -
scalepixwd = CHAR(31,imi.scalepixwd) -
from imimageinfo imi (minlock) -
where   imi.scid like &scid -
and imi.imagekeyid like &imagekeyid -
order by imi.imagekeyid, imi.scid -
```

7.85 iimagechar - Image Characteristics

Query Name: iimagechar
User View: Image Characteristics
User Description:

The Image Characteristics user view allows the input of spacecraft_id and image_key_id. These input parameters uniquely identify an image within the PDS. The user view output consists of all image information except for the center point information. Center point information may be obtained via the Center Point Information user view. Image_key_id is a required input parameter for this user view.

Technical Description:

The target list for this query includes all attributes in the iaimageinfo table not associated with the center point. Search constraints are image_key_id and spacecraft_id.

Query :

```
select  imi.scid, -
imi.imagekeyid, -
imi.instid, -
imi.filtnum, -
imi.targname, -
imi.imageobstype, -
imi.instmodeid, -
imi.orbnum, -
exposdur = CHAR(31,imi.exposdur), -
imi.filtname, -
surfclarpct = CHAR(31,imi.surfclarpct), -
datacvgpct = CHAR(31,imi.datacvgpct), -
imi.imagenum, -
imi.imagetime, -
imi.imageid, -
imi.sclkstrtcnt, -
imi.earthrcvdtm, -
imi.shutmodeid, -
imi.editmodeid, -
subsolaz = CHAR(31,imi.subsolaz), -
subsollat = CHAR(31,imi.subsollat), -
subsollon = CHAR(31,imi.subsollon), -
subscaz = CHAR(31,imi.subscaz), -
subsclat = CHAR(31,imi.subsclat), -
subsclon = CHAR(31,imi.subsclon), -
trueanomang = CHAR(31,imi.trueanomang), -
sollon = CHAR(31,imi.sollon), -
northaz = CHAR(31,imi.northaz), -
localtime = CHAR(31,imi.localtime), -
scalt = CHAR(31,imi.scalt), -
timeclsapr = CHAR(31,imi.timeclsapr), -
planetdaynum = CHAR(31,imi.planetdaynum), -
targctrdist = CHAR(31,imi.targctrdist), -
scaleimageht = CHAR(31,imi.scaleimageht), -
scaleimagewd = CHAR(31,imi.scaleimagewd) -
from imimageinfo imi (minlock) -
where   imi.scid like &scid -
and imi.imagekeyid like &imagekeyid -
order by imi.imagekeyid, imi.scid -
```

7.86 iimageinfo - General Image Information

Query Name: iimageinfo
User View: General Image Information
User Description:

The General Image Information User view allows the input of parameters that are associated with images. These include identifiers for images, targets, spacecraft, data sets, instruments, and filters and image characteristics such as position, scaling information, and light condition measurements. The user view output consists of all images that have attributes that fall within the specified constraints together with all the selected values for the input parameters.

Due to the complexity of this user view, the search easily degrades into several minute scan of all existing images. It is suggested that at least an image_key_id, latitude, or image_observation_type be used for constraining the search.

Technical Description:

The target list for this query includes attributes from the iimageinfo, imdsimage, and targphysinfo tables. Natural joins are performed between these three tables. All floating point attributes and several time-oriented attributes may be specified as constraints using ranges. All other attributes may be constrained using specific values or pattern matching characters.

Optimization of this query has so far proved difficult. The existence of several floating point attributes as constraints in the where clause seem to preclude the use of more than one index for those attributes. The query optimizer always defaults to the first floating point index created (given that all character attributes with indices have been defaulted to '%').

The following nonclustered indices are currently created:

```
create nonclustered index on imimageinfo (imageobstype)
create nonclustered index on imimageinfo (lat)
create nonclustered index on imdsimage (dsid)
```

Query :

```
select imi.targname, -
imi.scid, -
imi.instid, -
imi.imagekeyid, -
imi.imageid, -
imi.imagenum, -
imi.sclkstrtcnt, -
imi.imagetime, -
imi.imageobstype, -
planetdaynum = CHAR(31,imi.planetdaynum), -
lat = CHAR(31,imi.lat), -
lon = CHAR(31,imi.lon), -
dim.dsid, -
scalepixht = CHAR(31,imi.scalepixht), -
scalepixwd = CHAR(31,imi.scalepixwd), -
phsang = CHAR(31,imi.phsang), -
incidang = CHAR(31,imi.incidang), -
emissang = CHAR(31,imi.emissang), -
imi.filtnum -
from imimageinfo imi (minlock), -
imdsimage dim (minlock) -
where   imi.scid like &scid -
and imi.instid like &instid -
and imi.targname like &targname -
and dim.dsid like &dsid -
and dim.imagekeyid = imi.imagekeyid -
and dim.scid = imi.scid -
and imi.imagekeyid like &imagekeyid -
and imi.imageid like &imageid -
and imi.imageobstype like &imageobstype -
and imi.imagenum -
between &limagenum and &uimagenum -
and imi.sclkstrtcnt -
between &lsclkstrtcnt and &usclkstrtcnt -
and imi.imagetime -
between &limagetime and &uimagetime -
and imi.planetdaynum -
between BCDFLT(31,&lplanetdaynu) -
and BCDFLT(31,&uplanetdaynu) -
and imi.lat -
between BCDFLT(31,&llat) and BCDFLT(31,&ulat) -
and imi.lon -
between BCDFLT(31,&llon) and BCDFLT(31,&ulon) -
and imi.scalepixht -
between BCDFLT(31,&lscalepixht) -
and BCDFLT(31,&uscalepixht) -
```

```
and imi.scalepixwd -
between BCDFLT(31,&lscalepixwd) -
and BCDFLT(31,&uscalepixwd) -
and imi.phsang -
between BCDFLT(31,&lphsang) -
and BCDFLT(31,&uphsang) -
and imi.incidang -
between BCDFLT(31,&lincidang) -
and BCDFLT(31,&uincidang) -
and imi.emissang -
between BCDFLT(31,&lemissang) -
and BCDFLT(31,&uemissang) -
and imi.filtnum like &filtnum -
order by imi.imagekeyid, imi.scid -
```

7.87 iinstinfo - Imaging Instrument Information

Query Name: iinstinfo
User View: Imaging Instrument Information
User Description:

The Imaging Instrument Information user view allows the input of spacecraft_id, instrument_id, and instrument_mode_id. These three attributes uniquely identify the mode an instrument was operating in when an image was taken. Detector_id may also be entered to identify the temperature_translation_desc associated the active detector. The output of the user view consists of the selected instrument_mode_id and several associated attribute values including gain, offset, and light flood information and the temperature translation description.

Technical Description:

A natural join is performed between the imimageinst, instmodeinfo, instmodesect, instsectdet and iminsttempd tables. The target list includes gain_mode_id from instmodeinfo, all attribute values from imimageinst, and temperature_translation_desc from imiinsttempd. To ensure that the temperature_translation_desc is that of an active detector for a selected mode, the joins using instmodesect and instsectdet are required. Tupseqnum is returned to allow the user interface to separate multiple descriptions.

Query :

```
select  distinct -
imii.scid, -
imii.instid, -
imii.instmodeid, -
isd.detid, -
imdi.gainmodeid, -
exposoffnum = CHAR(31,imii.exposoffnum), -
imii.exposoffflg, -
imii.litefldstflg, -
minexposdur = CHAR(31,imii.minexposdur), -
maxexposdur = CHAR(31,imii.maxexposdur), -
imit.temptransd -
from imimageinst imii (minlock), -
instmodeinfo imdi (minlock), -
instmodesect imds (minlock), -
instsectdet isd (minlock), -
iminsttempd imit (minlock) -
where   imii.scid like &scid -
and imii.instid like &instid -
and imii.instmodeid like &instmodeid -
and imii.scid = imdi.insthostid -
and imii.instid = imdi.instid -
and imii.instmodeid = imdi.instmodeid -
and imdi.insthostid = imds.insthostid -
and imdi.instid = imds.instid -
and imdi.instmodeid = imds.instmodeid -
and imds.insthostid = isd.insthostid -
and imds.instid = isd.instid -
and imds.sectid = isd.sectid -
and isd.detid like &detid -
and isd.insthostid *= imit.insthostid -
and isd.instid *= imit.instid -
and isd.detid *= imit.detid -
order by imii.scid, imii.instid, imii.instmodeid, -
imit.tupseqnum -
```

7.88 iinstmode - Image Instrument Mode

Query Name: iinstmode
User View: Image Instrument Mode
User Description:

The Image Instrument Mode User view allows the input of parameters that are associated with images. These include identifiers for images, targets, spacecraft, data sets, instruments, and filters and image characteristics such as position, scaling information, and light condition measurements. The user view output consists of all images that have attributes that fall within the specified constraints as well as time information, and the instrument mode settings.

Due to the complexity of this user view, the search easily degrades into a several minute scan of all existing images. It is suggested that at least an image_key_id, latitude, or image_observation_type be used for constraining the search.

Technical Description:

The target list for this query includes attributes from the imimageinfo and imdsimage tables. Natural joins are performed between these two tables. All floating point attributes and several time-oriented attributes may be specified as constraints using ranges. All other attributes may be constrained using specific values or pattern matching characters.

Optimization of this query has so far proved difficult. The existence of several floating point attributes as constraints in the where clause seem to preclude the use of more than one index for those attributes. The query optimizer always defaults to the first floating point index created (given that all character attributes with indices have been defaulted to '%').

The following nonclustered indices are currently created:

```
create nonclustered index on imimageinfo (imageobstype)
create nonclustered index on imimageinfo (lat)
create nonclustered index on imdsimage (dsid)
```

Query :

```
select imi.targname, -
imi.scid, -
imi.instid, -
imi.imagekeyid, -
imi.imageid, -
imi.imagenum, -
imi.sclkstrtcnt, -
imi.imagetime, -
imi.imageobstype, -
planetdaynum = CHAR(31,imi.planetdaynum), -
lat = CHAR(31,imi.lat), -
lon = CHAR(31,imi.lon), -
dim.dsid, -
scalepixht = CHAR(31,imi.scalepixht), -
scalepixwd = CHAR(31,imi.scalepixwd), -
phsang = CHAR(31,imi.phsang), -
incidang = CHAR(31,imi.incidang), -
emissang = CHAR(31,imi.emissang), -
imi.filtnum, -
imi.earthrcvdtm, -
northaz = CHAR(31,imi.northaz), -
scalt = CHAR(31,imi.scalt), -
targctrdist = CHAR(31,imi.targctrdist), -
localtime = CHAR(31,imi.localtime), -
sollon = CHAR(31,imi.sollon), -
exposdur = CHAR(31,imi.exposdur), -
imi.filtname, -
imi.instmodeid, -
imi.shutmodeid, -
imi.editmodeid, -
timeclsapr = CHAR(31,imi.timeclsapr) -
from imimageinfo imi (minlock), -
imdsimage dim (minlock) -
where   imi.scid like &scid -
and imi.instid like &instid -
and imi.targname like &targname -
and dim.dsid like &dsid -
and dim.imagekeyid = imi.imagekeyid -
and dim.scid = imi.scid -
and imi.imagekeyid like &imagekeyid -
and imi.imageid like &imageid -
and imi.imageobstype like &imageobstype -
and imi.imagenum -
between &limagenum and &uimagenum -
and imi.sclkstrtcnt -
between &lsclkstrtcnt and &usclkstrtcnt -
```

```
and imi.imagetime -
between &limagetime and &uimagetime -
and imi.planetdaynum -
between BCDFLT(S1,&lplanetdaynu) -
and BCDFLT(S1,&uplanetdaynu) -
and imi.lat -
between BCDFLT(S1,&llat) and BCDFLT(S1,&ulat) -
and imi.lon -
between BCDFLT(S1,&llon) and BCDFLT(S1,&ulon) -
and imi.scalepixht -
between BCDFLT(S1,&lscalepixht) -
and BCDFLT(S1,&uscalepixht) -
and imi.scalepixwd -
between BCDFLT(S1,&lscalepixwd) -
and BCDFLT(S1,&uscalepixwd) -
and imi.phsang -
between BCDFLT(S1,&lphsang) -
and BCDFLT(S1,&uphsang) -
and imi.incidang -
between BCDFLT(S1,&lincidang) -
and BCDFLT(S1,&uincidang) -
and imi.emissang -
between BCDFLT(S1,&lemissang) -
and BCDFLT(S1,&uemissang) -
and imi.filtnum like &filtnum -
and imi.scalt -
between BCDFLT(S1,&lscalt) -
and BCDFLT(S1,&uscalt) -
and imi.localtime -
between BCDFLT(S1,&llocaltime) -
and BCDFLT(S1,&ulocaltime) -
and imi.sollon -
between BCDFLT(S1,&lsollon) -
and BCDFLT(S1,&usollon) -
and filtname like &filtname -
order by imi.imagekeyid, imi.scid -
```

7.89 orditmstatuv - Order Status

Query Name: orditmstatuv
User View: Order Status Information
User Description:

The Order Status Information user view retrieves status information for data orders placed at the Central Node. Using the name of the order initiator and an order number as inputs, it returns the most recent status of every item in the requested order. In addition it returns other information about the order, such as the date it was created, the datasets it includes, and the nodes which will be filling the order items.

Additional information about a data order may be obtained with the Order Item Components, Order Shipping Address, Order Item Special Instructions, and Order Item Shipping Instructions views.

Technical Description:

Returns NO return code.

Query :

```
SELECT          distinct od.ordinitr, -
                od.pdsuserid, -
                STRING (0,od.ordnum), -
                od.orddate, -
                STRING (0,oi.orditmnum), -
                oi.dsid, -
                oi.orditmd, -
                STRING (0,oi.orditmqty), -
                oi.distnodeid, -
                oi.medium, -
                oi.dstnmediad, -
                STRING (0,os.orditmshpqty), -
                os.orditmstatus, -
                os.orditmstadt, -
                os.orditmstaff -
FROM            ords od, orditm oi, orditmstatus os -
WHERE           od.ordnum = oi.ordnum -
                and od.ordnum = os.ordnum -
                and oi.orditmnum = os.orditmnum -
                and STRING (0,od.ordnum) like &ordnum -
                and od.ordinitr like &ordinitr -
                and os.orditmstsseq = (SELECT   max (orditmstsseq) -
                                       FROM     orditmstatus -
                                       WHERE    ordnum = od.ordnum -
                                                and orditmnum = oi.orditmnum) -
ORDER BY        oi.ordnum, oi.orditmnum -
END STORE
GRANT start on orditmstatuv to public
```

7.90 ordshpaddruv - Order Shipping Address

Query Name: ordshpaddruv
User View: Order Shipping Address
User Description:

The Order Shipping Address user view retrieves shipping addresses for data orders placed at the Central Node. Using the name of the order initiator and an order number as inputs, it returns the address the data will be shipped to, unless the order is filled electronically.

Technical Description:

Returns NO return code.

Query :

```
SELECT   od.ordinitr, -
         STRING (0, os.ordnum), -
         os.shpaddrline -
FROM     ordshpaddr os, -
         ords od -
WHERE    STRING (0, os.ordnum) like &ordnum -
         and od.ordnum = os.ordnum -
         and od.ordinitr like &ordinitr -
ORDER BY os.ordnum, os.tupseqnum -
END STORE
GRANT start on ordshpaddruv to public
```

7.91 ordshpinstuv - Order Item Shipping Instructions

Query Name: ordshpinstuv
User View: Order Item Shipping Instructions
User Description:

The Order Item Shipping Instructions user view retrieves shipping instructions for data orders placed at the Central Node. Using the name of the order initiator and an order number as inputs, it returns the shipping instructions for each item in the requested data order.

Technical Description:

Returns NO return code.

Query :

```
SELECT      od.ordinitr, -
            STRING (0,os.ordnum), -
            STRING (0,os.orditmnum), -
            oi.dsid, -
            os.orditmshpin -
FROM        ords od, -
            orditm oi, -
            orditmshpins os -
WHERE       od.ordinitr like &ordinitr -
            and oi.ordnum = os.ordnum -
            and oi.orditmnum = os.orditmnum -
            and oi.ordnum = od.ordnum -
            and STRING (0, oi.ordnum) like &ordnum -
ORDER BY    os.ordnum, -
            os.orditmnum, -
            os.tupseqnum -
END STORE
GRANT start on ordshpinstuv to public
```

7.92 ordspcinstuv - Order Item Special Instructions

Query Name: ordspcinstuv
User View: Order Item Special Instructions
User Description:

The Order Item Special Instructions user view retrieves special instructions for data orders placed at the Central Node.
Using the name of the order initiator and an order number as inputs, it returns the special instructions for each item in the requested data orders. The special instructions for an order item are used to request special treatment or processing of data.

Technical Description:

Returns NO return code.

Query :

```
SELECT         od.ordinitr, -
               STRING (0, os.ordnum), -
               STRING (0, os.orditmnum), -
               oi.dsid, -
               os.orditmspcin -
FROM           ords od, -
               orditm oi, -
               orditmspcins os -
WHERE          od.ordinitr like &ordinitr -
               and od.ordnum = oi.ordnum -
               and oi.ordnum = os.ordnum -
               and oi.orditmnum = os.orditmnum -
               and STRING (0, os.ordnum) like &ordnum -
ORDER BY       os.ordnum, -
               os.orditmnum, -
               os.tupseqnum -
END STORE
GRANT start on ordspcinstuv to public
```

7.93 persusrinfo - User Account Information

Query Name: persusrinfo
User View: Account and Order Information
User Description:

The Account and Order Information user view retrieves information about a PDS User from the catalog. Using the name of the user as an input, it returns profile information about the user, such as telephone number, mailing address, electronic mail address. etc. To view information about personnel associated with missions, instruments, or data sets, you may use the Personnel Information view or the User and Personnel Information view.

NOTE: The electronic mail address returned by this view is the one given the highest preference by the user. Other mail addresses for the user may not be obtained with this view.

Technical Description:

Returns NO return code.

Query :

```
SELECT        distinct pi.fullname, -
              pi.pdsuserid, -
              pi.telephonenum, -
              pi.ftanum, -
              po.persshpcarr, -
              po.pershpcaract, -
              pe.elecmailid, -
              pe.elecmailtype, -
              pm.mailaddrline -
FROM          persinfo pi, persorder po, perselecmail pe, persmailaddr pm -
WHERE         pi.fullname like &fullname -
              and pi.pdsuserid *= po.pdsuserid -
              and pi.pdsuserid *= pe.pdsuserid -
              and pi.pdsuserid *= pm.pdsuserid -
              and pe.preferenceid = 1 -
ORDER BY      pi.fullname, pm.tupseqnum -
END STORE
GRANT start on persusrinfo to public
```

Chapter 8

CATALOG LOADER TEMPLATES

This Chapter presents the forms which are used for catalog data ingestion. These forms, or templates, are completed by the supplier of the data set to the PDS. The data supplier provides values for the keywords listed in the templates. These values are then loaded into the catalog database in the appropriate database tables.

At the beginning of each template is a set of comments which describe the following set of templates. The beginning comment fields contain the template name, any specific notes about the template and a hierarchy structure map if needed. Each set of templates has a hierarchical structure of a parent object (template) which is made up of one or more child objects (templates) contained within it. A child object (template) can also be a parent object (template) with its own child objects contained within it. In other words, there can be multiple levels of nesting.

The body of the parent template with its child templates is contained within the bounds of the OBJECT_NAME and END_OBJECT parameters. The OBJECT_NAME parameter indicates the beginning of a new template and should not be modified. The END_OBJECT parameter indicates the end of a single template or a nested set of templates and should not be modified.

Templates are listed alphabetically by the parent template name.

```
/* Template: Coordinate System Template                          Rev: 01/21/89
/* Note:       The following templates form part of a standard
/*             set for the submission of a Coordinate System
/*             to the PDS.
/*
/* Hierarchy:   COORDINATE
/*                 COORDINFO
/*                 VECTOR
/*                    VECTORCOMP
/*                    VECTORD
/*
OBJECT_NAME                   = COORDINATE          <SQL FMT>  <UNITS>  <VALS>

COORDINATE_SYSTEM_ID          =                  /* char(8)    none     STDVAL

/* Template: Coordinate System Information Template              Rev: 01/21/89
/* Note:       This template shall be completed for the
/*             coordinate system id entered in the coordinate
/*             template.
/*
OBJECT_NAME                   = COORDINFO           <SQL FMT>  <UNITS>  <VALS>

COORDINATE_SYSTEM_NAME        =                  /* char(30)   none     STDVAL
COORDINATE_SYSTEM_CENTER_NAME =                  /* char(40)   none     STDVAL
COORDINATE_SYSTEM_REF_EPOCH   =                  /* float(17)  d        RANGE
COORDINATE_SYSTEM_DESC        =                  /* text       none     TEXT

END_OBJECT                    = COORDINFO

/* Template: Vector Template                                     Rev: 01/21/89
/* Note:       This template shall be completed for each
/*             vector component type associated with the
/*             coordinate system id in the coordinate template.
/*
OBJECT_NAME                   = VECTOR              <SQL FMT>  <UNITS>  <VALS>

VECTOR_COMPONENT_TYPE         =                  /* char(12)   none     STDVAL
```

```
/* Template: Vector Component Template                              Rev: 01/21/89
/* Note:        This template shall be completed for each
/*              vector component id associated with the
/*              vector component type in the vector template.
/*
OBJECT_NAME                    = VECTORCOMP          <SQL FMT>  <UNITS>  <VALS>

VECTOR_COMPONENT_ID            =                  /* char(8)    none     STDVAL
REFERENCE_OBJECT_NAME          =                  /* char(60)   none     STDVAL
REFERENCE_TARGET_NAME          =                  /* char(30)   none     STDVAL
VECTOR_COMPONENT_UNIT          =                  /* char(60)   none     STDVAL

END_OBJECT                     = VECTORCOMP


/* Template: Vector Description Template                            Rev: 01/21/89
/* Note:        This template shall be completed for each
/*              vector component type entered in the vector
/*              template.
/*
OBJECT_NAME                    = VECTORD             <SQL FMT>  <UNITS>  <VALS>

VECTOR_COMPONENT_TYPE_DESC     =                  /* text       none     TEXT

END_OBJECT                     = VECTORD
END_OBJECT                     = VECTOR
END_OBJECT                     = COORDINATE
```

```
/* Template: Data Set Template                                    Rev: 01/21/89
/* Note:        The following templates form part of a standard set
/*              for the submission of a single dataset to the PDS.
/*
/* Hierarchy:    DATASET
/*                 DATASETINFO
/*                 DATASETTARG
/*                 DSPARMINFO
/*                 SCDATASET
/*                 DSREFINFO
/*                    REFERENCE
/*                       REFAUTHORS
/*
OBJECT_NAME                  = DATASET            <SQL FMT>  <UNITS>  <VALS>

DATA_SET_ID                  =                 /* char(40)   none     FORM.


/* Template: Data Set Information Template                        Rev: 01/21/89
/* Note:        The template shall be completed for the
/*              dataset id entered in the dataset template.
/*
OBJECT_NAME                  = DATASETINFO        <SQL FMT>  <UNITS>  <VALS>

DATA_SET_NAME                =                 /* char(60)   none     FORM.
EVENT_START_TIME             =                 /* char(18)   none     FORM.
EVENT_STOP_TIME              =                 /* char(18)   none     FORM.
NATIVE_START_TIME            =                 /* char(40)   none     DEFN.
NATIVE_STOP_TIME             =                 /* char(40)   none     DEFN.
DATA_OBJECT_TYPE             =                 /* char(30)   none     STDVAL
DATA_SET_RELEASE_DATE        =                 /* char(8)    none     FORM.
PROCESSING_LEVEL_ID          =                 /* char(1)    none     STDVAL
PRODUCER_FULL_NAME           =                 /* char(60)   none     DEFN.
PRODUCER_INSTITUTION_NAME    =                 /* char(60)   none     STDVAL
SOFTWARE_FLAG                =                 /* char(1)    none     STDVAL
DETAILED_CATALOG_FLAG        =                 /* char(1)    none     STDVAL
PROCESSING_START_TIME        =                 /* char(18)   none     FORM.
PROCESSING_STOP_TIME         =                 /* char(18)   none     FORM.
DATA_SET_DESC                =                 /* text       none     TEXT
CONFIDENCE_LEVEL_NOTE        =                 /* text       none     TEXT

END_OBJECT                   = DATASETINFO
```

```
/* Template: Data Set Target Template                         Rev: 01/21/89
/* Note:       This template shall be repeated for each
/*             target associated with the data set id in
/*             the dataset template.
/*
OBJECT_NAME                    = DATASETTARG          <SQL FMT>  <UNITS>  <VALS>

TARGET_NAME                    =                   /* char(30)  none      STDVAL

END_OBJECT                     = DATASETTARG

/* Template: Data Set Parameter Information Template          Rev: 01/21/89
/* Note:       This template shall be repeated for each
/*             dataset sampling parameter pair utilized
/*             by the dataset id in the dataset template.
/*
OBJECT_NAME                    = DSPARMINFO           <SQL FMT>  <UNITS>  <VALS>

SAMPLING_PARAMETER_NAME        =                   /* char(40)  none      STDVAL
SAMPLING_PARAMETER_RESOLUTION  =                   /* float(17) none      RANGE
MINIMUM_SAMPLING_PARAMETER     =                   /* float(17) none      RANGE
MAXIMUM_SAMPLING_PARAMETER     =                   /* float(17) none      RANGE
SAMPLING_PARAMETER_INTERVAL    =                   /* float(17) none      RANGE
MINIMUM_AVAILABLE_SAMPLING_INT=                    /* float(17) none      RANGE
SAMPLING_PARAMETER_UNIT        =                   /* char(60)  none      STDVAL
DATA_SET_PARAMETER_NAME        =                   /* char(40)  none      STDVAL
NOISE_LEVEL                    =                   /* float(17) none      RANGE
DATA_SET_PARAMETER_UNIT        =                   /* char(60)  none      STDVAL

END_OBJECT                     = DSPARMINFO

/* Template: Spacecraft Data Set Template                     Rev: 01/21/89
/* Note:       This template shall be completed if the
/*             data set in the dataset template is
/*             associated with a spacecraft.
/*
OBJECT_NAME                    = SCDATASET            <SQL FMT>  <UNITS>  <VALS>

INSTRUMENT_HOST_ID             =                   /* char(4)   none      STDVAL
INSTRUMENT_ID                  =                   /* char(4)   none      STDVAL

END_OBJECT                     = SCDATASET
```

```
/* Template: Data Set Reference Information Template          Rev: 01/21/89
/* Note:        The following templates form part of a standard
/*              set for the submission of a publication reference
/*              to the PDS and also may be used to reference an
/*              existing publication reference.
/*
OBJECT_NAME                  = DSREFINFO           <SQL FMT>  <UNITS>  <VALS>

REFERENCE_KEY_ID             =                  /* char(20)   none     DEFN.

/* Template: Reference Template                                 Rev: 01/21/89
/* Note:        This template shall be completed for each
/*              reference document.
/*
OBJECT_NAME                  = REFERENCE           <SQL FMT>  <UNITS>  <VALS>

DOCUMENT_TOPIC_TYPE          =                  /* char(60)   none     STDVAL
JOURNAL_NAME                 =                  /* char(60)   none     STDVAL
PUBLICATION_DATE             =                  /* char(8)    none     FORM.
REFERENCE_DESC               =                  /* text       none     TEXT

/* Template: Reference Authors Template                         Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              author associated with the reference in
/*              the reference template.
/*
OBJECT_NAME                  = REFAUTHORS          <SQL FMT>  <UNITS>  <VALS>

AUTHOR_FULL_NAME             =                  /* char(60)   none     DEFN.

END_OBJECT                   = REFAUTHORS
END_OBJECT                   = REFERENCE
END_OBJECT                   = DSREFINFO
END_OBJECT                   = DATASET
```

```
/* Template: Earth Base Template                                    Rev: 01/21/89
/* Note:        The following templates form part of a standard set
/*              for the submission of an earth base to the PDS.
/*
/* Hierarchy:   EARTHBASE
/*                  EBINFO
/*
OBJECT_NAME                  = EARTHBASE          <SQL FMT>  <UNITS>  <VALS>

EARTH_BASE_ID                =                 /* char(4)    none      STDVAL

/* Template: Earth Base Information Template                        Rev: 01/21/89
/* Note:        This template shall be completed for the
/*              earth base associated with the earth base id
/*              in the earthbase template.
/*
OBJECT_NAME                  = EBINFO             <SQL FMT>  <UNITS>  <VALS>

EARTH_BASE_INSTITUTION_NAME  =                 /* char(60)   none      STDVAL
INSTRUMENT_HOST_NAME         =                 /* char(60)   none      STDVAL
INSTRUMENT_HOST_TYPE         ="EARTHBASE"      /* char(20)   none      STDVAL

END_OBJECT                   = EBINFO
END_OBJECT                   = EARTHBASE

/* Template: Earth Base Imaging Instrument Template                 Rev: 01/21/89
/* Note:        The following templates form part of a standard set
/*              for the submission of an earth base imageing
/*              instrument to the PDS.
/*
/* Hierarchy:   EBIMAGEINST
/*                  IMINSTINFO
/*                  IMINSTTEMPD
/*
OBJECT_NAME                  = EBIMAGEINST        <SQL FMT>  <UNITS>  <VALS>

EARTH_BASE_ID                =                 /* char(4)    none      STDVAL
INSTRUMENT_ID                =                 /* char(4)    none      STDVAL
```

```
/* Template: Imaging Instrument Information Template              Rev: 01/21/89
/* Note:          This template shall be completed for the
/*                instrument id entered in the ebimageinst
/*                or scimageinst template.
/*
OBJECT_NAME                       = IMINSTINFO          <SQL FMT>  <UNITS>  <VALS>

INSTRUMENT_MODE_ID                =                  /* char(20)   none     STDVAL
EXPOSURE_OFFSET_NUMBER            =                  /* float(17)  none     RANGE
EXPOSURE_OFFSET_FLAG              =                  /* char(3)    none     STDVAL
LIGHT_FLOOD_STATE_FLAG            =                  /* char(3)    none     STDVAL
MINIMUM_INSTRUMENT_EXPOSR_DUR     =                  /* float(17)  ms       RANGE
MAXIMUM_INSTRUMENT_EXPOSR_DUR     =                  /* float(17)  ms       RANGE

END_OBJECT                        = IMINSTINFO

/* Template: Imaging Instrument Temperature Description           Rev: 01/21/89
/* Note:          This template shall be repeated for each
/*                detector id associated with the instrument
/*                id entered in the ebimageinst or scimageinst
/*                template.
/*
OBJECT_NAME                       = IMINSTTEMPD         <SQL FMT>  <UNITS>  <VALS>

DETECTOR_ID                       =                  /* char(20)   none     STDVAL
TEMPERATURE_TRANSLATION_DESC      =                  /* text       none     TEXT

END_OBJECT                        = IMINSTTEMPD
END_OBJECT                        = EBIMAGEINST
```

```
/* Template: Earth Based Instrument Template                    Rev: 01/21/89
/* Note:         The following templates form part of a standard
/*               set for the submission of an earth based
/*               instrument to the PDS.
/*
/* Hierarchy:    [redacted]
/*                  INSTINFO
/*                  INSTDETECT                 info
/*                  INSTELEC                   desc
/*                  INSTFILTER
/*                  INSTOPTICS
/*                  EBINSTLOC
/*                  INSTSECTION            M            section
/*                     INSTSECTINFO
/*                        INSTSECTFOVS
/*                     INSTSECTPARM Q                   det
/*                     INSTSECTDET                      ele
/*                     INSTSECTELEC                     filt
/*                     INSTSECTFILT                     opt.
/*                     INSTSECTOPTC
/*                  INSTMODEINFO
/*                     INSTMODESECT          m
/*                  INSTREFINFO
/*                     REFERENCE
/*                        REFAUTHORS
/*
OBJECT_NAME                  = EBINSTRUMENT       <SQL FMT>  <UNITS>  <VALS>

EARTH_BASE_ID                =                 /* char(4)    none     STDVAL
INSTRUMENT_ID                =                 /* char(4)    none     STDVAL
```

```
/* Template: Instrument Information Template                    Rev: 01/21/89
/* Note:        This template shall be completed for the
/*              instrument id entered in the ebinstrument or
/*              scinstrument template.
/*
OBJECT_NAME                        = INSTINFO       <SQL FMT>   <UNITS>  <VALS>

INSTRUMENT_NAME                    =             /* char(40)   none     STDVAL
INSTRUMENT_TYPE                    =             /* char(30)   none     STDVAL
PI_PDS_USER_ID                     =             /* char(60)   none     DEFN.
NAIF_DATA_SET_ID                   =             /* char(40)   none     FORM.
BUILD_DATE                         =             /* char(8)    none     FORM.
INSTRUMENT_MASS                    =             /* float(17)  kg       RANGE
INSTRUMENT_HEIGHT                  =             /* float(17)  m        RANGE
INSTRUMENT_LENGTH                  =             /* float(17)  m        RANGE
INSTRUMENT_WIDTH                   =             /* float(17)  m        RANGE
INSTRUMENT_MANUFACTURER_NAME       =             /* char(60)   none     DEFN.
INSTRUMENT_SERIAL_NUMBER           =             /* char(20)   none     DEFN.
INSTRUMENT_DESC                    =             /* text       none     TEXT
SCIENTIFIC_OBJECTIVES_SUMMARY      =             /* text       none     TEXT
INSTRUMENT_CALIBRATION_DESC        =             /* text       none     TEXT
OPERATIONAL_CONSID_DESC            =             /* text       none     TEXT

END_OBJECT                         = INSTINFO

/* Template: Instrument Detector Template                       Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              detector utilized by an instrument.
/*
OBJECT_NAME                        = INSTDETECT     <SQL FMT>   <UNITS>  <VALS>

DETECTOR_ID                        =             /* char(20)   none     STDVAL
DETECTOR_TYPE                      =             /* char(20)   none     STDVAL
DETECTOR_ASPECT_RATIO              =             /* float(17)  none     RANGE
MINIMUM_WAVELENGTH                 =             /* float(17)  mm       RANGE
MAXIMUM_WAVELENGTH                 =             /* float(17)  mm       RANGE
NOMINAL_OPERATING_TEMPERATURE      =             /* float(17)  K        RANGE
DETECTOR_DESC                      =             /* text       none     TEXT
SENSITIVITY_DESC                   =             /* text       none     TEXT

END_OBJECT                         = INSTDETECT
```

```
/* Template: Instrument Electronics Template                Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              electronics id description utilized by an
/*              instrument.
/*
OBJECT_NAME                    = INSTELEC            <SQL FMT>  <UNITS>  <VALS>

ELECTRONICS_ID                 =                  /* char(20)  none     STDVAL
ELECTRONICS_DESC               =                  /* text      none     TEXT

END_OBJECT                     = INSTELEC

/* Template: Instrument Filter Template                     Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              filter utilized by an instrument.
/*
OBJECT_NAME                    = INSTFILTER          <SQL FMT>  <UNITS>  <VALS>

FILTER_NUMBER                  =                  /* char(4)   none     STDVAL
FILTER_NAME                    =                  /* char(20)  none     STDVAL
FILTER_TYPE                    =                  /* char(30)  none     STDVAL
MINIMUM_WAVELENGTH             =                  /* float(17) mm       RANGE
CENTER_FILTER_WAVELENGTH       =                  /* float(17) mm       RANGE
MAXIMUM_WAVELENGTH             =                  /* float(17) mm       RANGE
MEASUREMENT_WAVE_CALBRT_DESC   =                  /* text      none     TEXT

END_OBJECT                     = INSTFILTER
```

```
/* Template: Instrument Optics Template                        Rev: 01/21/89
/* Note:       This template shall be completed for each
/*             optical instrument.
/*
OBJECT_NAME                      = INSTOPTICS             <SQL FMT>  <UNITS>  <VALS>

TELESCOPE_ID                     =                   /* char(60)   none     STDVAL
TELESCOPE_FOCAL_LENGTH           =                   /* float(17)  m        RANGE
TELESCOPE_DIAMETER               =                   /* float(17)  m        RANGE
TELESCOPE_F_NUMBER               =                   /* float(17)  none     RANGE
TELESCOPE_RESOLUTION             =                   /* float(17)  rad      RANGE
TELESCOPE_TRANSMITTANCE          =                   /* float(17)  none     RANGE
TELESCOPE_T_NUMBER               =                   /* float(17)  none     RANGE
TELESCOPE_T_NUMBER_ERROR         =                   /* float(17)  none     RANGE
TELESCOPE_SERIAL_NUMBER          =                   /* char(20)   none     DEFN.
OPTICS_DESC                      =                   /* text       none     TEXT

END_OBJECT                       = INSTOPTICS

/* Template: Earth Based Instrument Location Template          Rev: 01/21/89
/* Note:       This template shall be completed for the
/*             earth based instrument location.
/*
OBJECT_NAME                      = EBINSTLOC              <SQL FMT>  <UNITS>  <VALS>

PLATFORM_OR_MOUNTING_NAME        =                   /* char(30)   none     STDVAL
LATITUDE                         =                   /* float(17)  deg      RANGE
LONGITUDE                        =                   /* float(17)  deg      RANGE
PLATFORM_OR_MOUNTING_NAME        =                   /* char(30)   none     STDVAL
INSTRUMENT_MOUNTING_DESC         =                   /* text       none     TEXT

END_OBJECT                       = EBINSTLOC

/* Template: Instrument Section Template                       Rev: 01/21/89
/* Note:       This template group shall be repeated for each
/*             instrument section.
/*
OBJECT_NAME                      = INSTSECTION            <SQL FMT>  <UNITS>  <VALS>

SECTION_ID                       =                   /* char(4)    none     STDVAL
```

```
/* Template: Instrument Section Information Template             Rev: 01/21/89
/* Note:       This section shall be completed for each
/*             instrument section id entered in the instsection
/*             template.
/*
OBJECT_NAME                  = INSTSECTINFO        <SQL FMT>  <UNITS>  <VALS>

SCAN_MODE_ID                 =                  /* char(8)     none     STDVAL
DATA_RATE                    =                  /* float(17)   b/s      RANGE
SAMPLE_BITS                  =                  /* integer     none     DEFN.
TOTAL_FOVS                   =                  /* smallint    none     DEFN.

/* Template: Instrument Section Fields Of View Template          Rev: 01/21/89
/* Note:       This template shall be repeated for each
/*             instrument section fields of view.
/*
OBJECT_NAME                  = INSTSECTFOVS        <SQL FMT>  <UNITS>  <VALS>

FOV_SHAPE_NAME               =                  /* char(20)    none     STDVAL
HORIZONTAL_PIXEL_FOV         =                  /* float(17)   deg      RANGE
VERTICAL_PIXEL_FOV           =                  /* float(17)   deg      RANGE
HORIZONTAL_FOV               =                  /* float(17)   deg      RANGE
VERTICAL_FOV                 =                  /* float(17)   deg      RANGE
FOVS                         =                  /* smallint    none     DEFN.

END_OBJECT                   = INSTSECTFOVS
END_OBJECT                   = INSTSECTINFO
```

```
/* Template: Instrument Section Parameter Template              Rev: 01/21/89
/* Note:       This template shall be repeated for each
/*             instrument section parameter.
/*
OBJECT_NAME                    = INSTSECTPARM      <SQL FMT>  <UNITS>  <VALS>

INSTRUMENT_PARAMETER_NAME      =             /* char(40)   none     STDVAL
MINIMUM_INSTRUMENT_PARAMETER   =             /* float(17)  none     RANGE
MAXIMUM_INSTRUMENT_PARAMETER   =             /* float(17)  none     RANGE
NOISE_LEVEL                    =             /* float(17)  none     RANGE
INSTRUMENT_PARAMETER_UNIT      =             /* char(60)   none     STDVAL
SAMPLING_PARAMETER_NAME        =             /* char(40)   none     STDVAL
MINIMUM_SAMPLING_PARAMETER     =             /* float(17)  none     RANGE
MAXIMUM_SAMPLING_PARAMETER     =             /* float(17)  none     RANGE
SAMPLING_PARAMETER_INTERVAL    =             /* float(17)  none     RANGE
SAMPLING_PARAMETER_RESOLUTION  =             /* float(17)  none     RANGE
SAMPLING_PARAMETER_UNIT        =             /* char(60)   none     STDVAL

END_OBJECT                     = INSTSECTPARM

/* Template: Instrument Section Detector Template               Rev: 01/21/89
/* Note:       This template shall be repeated for each
/*             instrument section detector id.
/*
OBJECT_NAME                    = INSTSECTDET       <SQL FMT>  <UNITS>  <VALS>

DETECTOR_ID                    =             /* char(20)   none     STDVAL

END_OBJECT                     = INSTSECTDET

/* Template: Instrument Section Electronics Template            Rev: 01/21/89
/* Note:       This template shall be repeated for each
/*             instrument section electronics component.
/*
OBJECT_NAME                    = INSTSECTELEC      <SQL FMT>  <UNITS>  <VALS>

ELECTRONICS_ID                 =             /* char(20)   none     STDVAL

END_OBJECT                     = INSTSECTELEC
```

```
/* Template: Instrument Section Filter Template                        Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              instrument section filter.
/*
OBJECT_NAME                    = INSTSECTFILT        <SQL FMT>  <UNITS>  <VALS>

FILTER_NUMBER                  =                  /* char(4)    none     STDVAL

END_OBJECT                     = INSTSECTFILT

/* Template: Instrument Section Optics Template                        Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              instrument section telescope.
/*
OBJECT_NAME                    = INSTSECTOPTC        <SQL FMT>  <UNITS>  <VALS>

TELESCOPE_ID                   =                  /* char(60)   none     STDVAL

END_OBJECT                     = INSTSECTOPTC
END_OBJECT                     = INSTSECTION

/* Template: Instrument Mode Information Template                      Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              instrument mode.
/*
OBJECT_NAME                    = INSTMODEINFO        <SQL FMT>  <UNITS>  <VALS>

INSTRUMENT_MODE_ID             =                  /* char(20)   none     STDVAL
GAIN_MODE_ID                   =                  /* char(30)   none     STDVAL
DATA_PATH_TYPE                 =                  /* char(60)   none     STDVAL
INSTRUMENT_POWER_CONSUMPTION   =                  /* float(17)  W        RANGE
INSTRUMENT_MODE_DESC           =                  /* text       none     TEXT

/* Template: Instrument Mode Section Information Template              Rev: 01/21/89
/* Note:        This template shall be repeated for each association of an
/*              instrument mode to an instrument section.
/*
OBJECT_NAME                    = INSTMODESECT        <SQL FMT>  <UNITS>  <VALS>

SECTION_ID                     =                  /* char(4)    none     STDVAL

END_OBJECT                     = INSTMODESECT
END_OBJECT                     = INSTMODEINFO
```

```
/* Template: Instrument Reference Information Template            Rev: 01/21/89
/* Note:        The following template form part of a standard
/*              set for the submission of a publication reference
/*              to the PDS.
/*
OBJECT_NAME                   = INSTREFINFO          <SQL FMT>  <UNITS>  <VALS>

REFERENCE_KEY_ID              =                   /* char(20)   none     DEFN.

/* Template: Reference Template                                   Rev: 01/21/89
/* Note:        This template shall be completed for each
/*              reference document.
/*
OBJECT_NAME                   = REFERENCE            <SQL FMT>  <UNITS>  <VALS>

DOCUMENT_TOPIC_TYPE           =                   /* char(60)   none     STDVAL
JOURNAL_NAME                  =                   /* char(60)   none     STDVAL
PUBLICATION_DATE              =                   /* char(8)    none     FORM.
REFERENCE_DESC                =                   /* text       none     TEXT

/* Template: Reference Authors Template                           Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              author associated with the reference in
/*              the reference template.
/*
OBJECT_NAME                   = REFAUTHORS           <SQL FMT>  <UNITS>  <VALS>

AUTHOR_FULL_NAME              =                   /* char(60)   none     DEFN.

END_OBJECT                    = REFAUTHORS
END_OBJECT                    = REFERENCE
END_OBJECT                    = INSTREFINFO
END_OBJECT                    = EBINSTRUMENT
```

```
/* Template: Event Template                                     Rev: 01/21/89
/* Note:        The following templates form part of a standard set
/*              for the submission of a laboratory or spacecraft
/*              event to the PDS.
/*
/* Hierarchy:   EVENT
/*                 EVENTINFO
/*                    EVTPOSITION
/*                    EVTSPATIAL
/*
OBJECT_NAME                 = EVENT               <SQL FMT>  <UNITS>  <VALS>

EVENT_TYPE                  =                  /* char(30)  none     STDVAL
EVENT_START_TIME            =                  /* char(18)  none     FORM.

/* Template: Event Information Template                         Rev: 01/21/89
/* Note:        This template shall be completed for the
/*              event type entered in the event template.
/*
OBJECT_NAME                 = EVENTINFO           <SQL FMT>  <UNITS>  <VALS>

EVENT_NAME                  =                  /* char(40)  none     STDVAL
INSTRUMENT_ID               =                  /* char(4)   none     STDVAL
INSTRUMENT_HOST_ID          =                  /* char(4)   none     STDVAL
TARGET_NAME                 =                  /* char(30)  none     STDVAL
EVENT_STOP_TIME             =                  /* char(18)  none     FORM.
EVENT_TYPE_DESC             =                  /* text      none     TEXT
```

```
/* Template: Event Positional Template                              Rev: 01/21/89
/* Note:        This template shall be completed to specify
/*              vector information which determines the
/*              position of an object during the event.
/*
OBJECT_NAME                 = EVTPOSITION        <SQL FMT>   <UNITS>  <VALS>

POSITION_TIME               =                 /* char(18)    none     FORM.
COORDINATE_SYSTEM_ID        =                 /* char(8)     none     STDVAL
LOCAL_HOUR_ANGLE            =                 /* float(17)   deg      RANGE
VECTOR_COMPONENT_ID_1       =                 /* char(8)     none     STDVAL
VECTOR_COMPONENT_1          =                 /* float(17)   none     RANGE
VECTOR_COMPONENT_ID_2       =                 /* char(8)     none     STDVAL
VECTOR_COMPONENT_2          =                 /* float(17)   none     RANGE
VECTOR_COMPONENT_ID_3       =                 /* char(8)     none     STDVAL
VECTOR_COMPONENT_3          =                 /* float(17)   none     RANGE

END_OBJECT                  = EVTPOSITION

/* Template: Event Spatial Template                                 Rev: 01/21/89
/* Note:        This template shall be completed to specify
/*              spatial coverage (determined by two lat/lon
/*              pairs) of the event.
/*
OBJECT_NAME                 = EVTSPATIAL         <SQL FMT>   <UNITS>  <VALS>

COORDINATE_SYSTEM_ID        =                 /* char(8)     none     STDVAL
POSITION_TIME               =                 /* char(18)    none     FORM.
MAXIMUM_LATITUDE            =                 /* float(17)   deg      RANGE
MAXIMUM_LONGITUDE           =                 /* float(17)   deg      RANGE
MINIMUM_LATITUDE            =                 /* float(17)   deg      RANGE
MINIMUM_LONGITUDE           =                 /* float(17)   deg      RANGE

END_OBJECT                  = EVTSPATIAL
END_OBJECT                  = EVENTINFO
END_OBJECT                  = EVENT
```

```
/* Template: PDS Data Set Inventory Input                          Rev: 01/21/89
/* Note:        The PDS Data Set Inventory Input template has no inputs, but
/*              hierarchically groups a set of templates which provide
/*              necessary size and cost threshold information about
/*              orderable datasets from the PDS catalog.
/*
/* Hierarchy:   INVENTORY
/*                INVNETHRSHLD
/*                  INVDSINFO
/*                    INVSIZE
/*                    INVSZTHRSHLD
/*                    INVPINSW
/*                    INVNODEMEDIA
/*                  INVCSTHRSHLD
/*
OBJECT_NAME                 = INVENTORY          <SQL FMT>  <UNITS>  <VALS>

/* Template: Inventory Network Threshold                           Rev: 01/21/89
/* Note:        The Inventory Network Threshold template shall be completed
/*              once for each node to control the maximum volume of data
/*              which may be distributed electronically by a PDS node.
/*
OBJECT_NAME                 = INVNETHRSHLD       <SQL FMT>  <UNITS>  <VALS>

NODE_ID                     =                 /* char(10)   none     STDVAL
THRESHOLD_BYTES             =                 /* integer    none     DEFN.

/* Template: Inventory Data Set Information                        Rev: 01/21/89
/* Note:        The Inventory Data Set Information template provides all the
/*              size and threshold information specific to a PDS dataset.
/*              This template and its subtemplates are to be submitted
/*              repetitively for each orderable and cataloged PDS dataset.
/*
OBJECT_NAME                 = INVDSINFO          <SQL FMT>  <UNITS>  <VALS>

DATA_SET_ID                 =                 /* char(40)   none     FORM.
```

```
/* Template: Inventory Data Set Size                                Rev: 01/21/89
/* Note:        The Inventory Data Set Size template provides the id and the
/*              size (in bytes and in granules) for each orderable and
/*              cataloged PDS data set.
/*
OBJECT_NAME                   = INVSIZE              <SQL FMT>  <UNITS>  <VALS>

DATA_SET_BYTES                =                   /* integer    none     DEFN.
TOTAL_DATA_SET_GRANULES       =                   /* integer    none     DEFN.

END_OBJECT                    = INVSIZE

/* Template: Inventory Data Set Size Threshold                      Rev: 01/21/89
/* Note:        The Inventory Data Set Size Threshold template provides
/*              information on the maximum portion of a data set (measured
/*              in granules), that a node will distribute as a subset of a
/*              complete data set.
/*
OBJECT_NAME                   = INVSZTHRSHLD         <SQL FMT>  <UNITS>  <VALS>

DATA_SET_GRANULE_NAME         =                   /* char(20)   none     DEFN.
DATA_SET_THRESHOLD            =                   /* integer    none     DEFN.

END_OBJECT                    = INVSZTHRSHLD

/* Template: Inventory Node Pin Software Availability               Rev: 01/21/89
/* Note:        The Inventory Node Pin Software Availability template
/*              provides information about software applications associated
/*              with cataloged data sets in the PDS.
/*
OBJECT_NAME                   = INVPINSW             <SQL FMT>  <UNITS>  <VALS>

PIN_SOFTWARE_ID               =                   /* char(20)   none     DEFN.

END_OBJECT                    = INVPINSW
```

```
/* Template: Inventory Node Media Information                    Rev: 01/21/89
/* Note:        The Inventory Node Media Information template provides
/*              information about data set distribution media type and cost
/*              for a PDS cataloged data set.
/*
OBJECT_NAME                = INVNODEMEDIA        <SQL FMT>  <UNITS>   <VALS>

MEDIUM                     =                  /* char(30)   none      DEFN.
DATA_SET_COST              =                  /* integer    us dollar DEFN.
MEDIUM_DESC                =                  /* char(60)   none      DEFN.

END_OBJECT                 = INVNODEMEDIA
END_OBJECT                 = INVDSINFO

/* Template: Inventory Node Media Cost Threshold                 Rev: 01/21/89
/* Note:        The Inventory Node Media Cost Threshold template provides
/*              information on the maximum cost a node will incur per
/*              distribution media per order.
/*
OBJECT_NAME                = INVCSTHRSHLD        <SQL FMT>  <UNITS>   <VALS>

MEDIUM                     =                  /* char(30)   none      DEFN.
THRESHOLD_COST             =                  /* integer    us dollar DEFN.

END_OBJECT                 = INVCSTHRSHLD
END_OBJECT                 = INVNETHRSHLD
END_OBJECT                 = INVENTORY

/* Template: Mission Template                                    Rev: 01/21/89
/* Note:        The following templates form part of a standard set
/*              for the submission of a mission to the PDS.
/*
/* Hierarchy:    MISSION
/*                 MSNINFO
/*                   MSNPHSINFO
/*                 MSNREFINFO
/*                   REFERENCE
/*                     REFAUTHORS
/*
OBJECT_NAME                = MISSION             <SQL FMT>  <UNITS>   <VALS>

MISSION_NAME               =                  /* char(30)   none      STDVAL
```

```
/* Template: Mission Information Template                            Rev: 01/21/89
/* Note:        This template shall be completed for the
/*              mission name entered in the mission template
/*
OBJECT_NAME                    = MSNINFO           <SQL FMT>  <UNITS>  <VALS>

MISSION_START_DATE             =                /* char(8)    none     FORM.
MISSION_STOP_DATE              =                /* char(8)    none     FORM.
MISSION_ALIAS_NAME             =                /* char(30)   none     STDVAL
MISSION_DESC                   =                /* text       none     TEXT
MISSION_OBJECTIVES_SUMMARY     =                /* text       none     TEXT

/* Template: Mission Phase Information Template                      Rev: 01/21/89
/* Note:        This template shall be repeated for each phase of
/*              the mission.
/*
OBJECT_NAME                    = MSNPHSINFO        <SQL FMT>  <UNITS>  <VALS>

SPACECRAFT_ID                  =                /* char(4)    none     STDVAL
TARGET_NAME                    =                /* char(30)   none     STDVAL
MISSION_PHASE_TYPE             =                /* char(20)   none     STDVAL
SPACECRAFT_OPERATIONS_TYPE     =                /* char(60)   none     STDVAL
MISSION_PHASE_START_TIME       =                /* char(18)   none     FORM.
MISSION_PHASE_STOP_TIME        =                /* char(18)   none     FORM.
MISSION_PHASE_DESC             =                /* text       none     TEXT

END_OBJECT                     = MSNPHSINFO
END_OBJECT                     = MSNINFO

/* Template: Mission Reference Information Template                  Rev: 01/21/89
/* Note:        The following template form part of a standard
/*              set for the submission of a publication reference
/*              to the PDS.
/*
OBJECT_NAME                    = MSNREFINFO        <SQL FMT>  <UNITS>  <VALS>

REFERENCE_KEY_ID               =                /* char(20)   none     DEFN.
```

```
/* Template: Reference Template                                  Rev: 01/21/89
/* Note:        This template shall be completed for each
/*              reference document.
/*
OBJECT_NAME                    = REFERENCE           <SQL FMT>  <UNITS>  <VALS>

DOCUMENT_TOPIC_TYPE            =                  /* char(60)  none     STDVAL
JOURNAL_NAME                   =                  /* char(60)  none     STDVAL
PUBLICATION_DATE               =                  /* char(8)   none     FORM.
REFERENCE_DESC                 =                  /* text      none     TEXT

/* Template: Reference Authors Template                          Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              author associated with the reference in
/*              the reference template.
/*
OBJECT_NAME                    = REFAUTHORS          <SQL FMT>  <UNITS>  <VALS>

AUTHOR_FULL_NAME               =                  /* char(60)  none     DEFN.

END_OBJECT                     = REFAUTHORS
END_OBJECT                     = REFERENCE
END_OBJECT                     = MSNREFINFO
END_OBJECT                     = MISSION

/* Template: Node Template                                       Rev: 01/21/89
/* Note:        The following template form part of a standard
/*              set for the submission of a node to the PDS.
/*
/* Hierarchy:   NODE
/*                  NODEINFO
/*
OBJECT_NAME                    = NODE                <SQL FMT>  <UNITS>  <VALS>

NODE_ID                        =                  /* char(10)  none     STDVAL
```

```
/* Template: Node Information Template                          Rev: 01/21/89
/* Note:        This template shall be completed for the
/*              node id entered in the node template.
/*
OBJECT_NAME                     = NODEINFO            <SQL FMT>  <UNITS>  <VALS>

DISCIPLINE_NAME                 =                  /* char(30)   none     STDVAL
NODE_MANAGER_PDS_USER_ID        =                  /* char(60)   none     DEFN.
DA_CONTACT_PDS_USER_ID          =                  /* char(60)   none     DEFN.
OPERATIONS_CONTACT_PDS_USER_ID=                    /* char(60)   none     DEFN.
NODE_INSTITUTION_NAME           =                  /* char(60)   none     STDVAL
NODE_NAME                       =                  /* char(60)   none     STDVAL
NODE_DESC                       =                  /* text       none     TEXT

END_OBJECT                      = NODEINFO
END_OBJECT                      = NODE

/* Template: Peer Review General Information                    Rev: 01/21/89
/* Note:        The following templates form part of a standard set which
/*              capture the results of a single peer review.
/*
/* Hierarchy:   PEERREVIEW
/*                  PEERREVWCMTY
/*                  PEERREVWDSET
/*
OBJECT_NAME                     = PEERREVIEW          <SQL FMT>  <UNITS>  <VALS>

PEER_REVIEW_ID                  =                  /* char(40)   none     DEFN.
PEER_REVIEW_START_DATE          =                  /* char(8)    date     FORM.
PEER_REVIEW_STOP_DATE           =                  /* char(8)    date     FORM.
PEER_REVIEW_RESULTS_DESC        =                  /* text       none     TEXT

/* Template: Peer Review Committee Template                     Rev: 01/21/89
/* Note:        The Peer Review Committee Template shall be repeated for
/*              each member of the peer review committee.
/*
OBJECT_NAME                     = PEERREVWCMTY        <SQL FMT>  <UNITS>  <VALS>

COMMITTEE_MEMBER_FULL_NAME      =                  /* char(60)   none     DEFN.
PEER_REVIEW_ROLE                =                  /* char(30    none     DEFN.

END_OBJECT                      = PEERREVWCMTY
```

```
/* Template: Peer Review Data Set Information Template                Rev: 01/21/89
/* Note:         The Peer Review Data Set Information Template shall be
/*               repeated for each dataset which is reviewed during the
/*               peer review.
/*
OBJECT_NAME                    = PEERREVWDSET          <SQL FMT>  <UNITS>  <VALS>

DATA_SET_ID                    =                    /* char(40)  none      FORM.
PEER_REVIEW_DATA_SET_STATUS    =                    /* char(20)  none      DEFN.

END_OBJECT                     = PEERREVWDSET
END_OBJECT                     = PEERREVIEW

/* Template: Personnel Template                                        Rev: 01/21/89
/* Note:         The following templates form part of a standard set
/*               for the submission of a pds user to the PDS.
/*
/* Hierarchy:     PERSON
/*                   PERSINFO
/*                   PERSORDER
/*                   PERSELECMAIL
/*                   PERSINSTN
/*                   PERSNODE
/*                   PERSMSN
/*                   PERSTASK
/*
OBJECT_NAME                    = PERSON                <SQL FMT>  <UNITS>  <VALS>

PDS_USER_ID                    =                    /* char(16)  none      DEFN.

/* Template: Personnel Information Template                            Rev: 01/21/89
/* Note:         This template shall be completed for the
/*               pds user id entered in the person template.
/*
OBJECT_NAME                    = PERSINFO              <SQL FMT>  <UNITS>  <VALS>

FTS_NUMBER                     =                    /* char(7)   none      DEFN.
FULL_NAME                      =                    /* char(60)  none      DEFN.
LAST_NAME                      =                    /* char(30)  none      DEFN.
TELEPHONE_NUMBER               =                    /* char(10)  none      DEFN.
REGISTRATION_DATE              =                    /* char(8)   none      FORM.
MAILING_ADDRESS_LINE           =                    /* text      none      TEXT

END_OBJECT                     = PERSINFO
```

```
/* Template: Personnel Order Template                            Rev: 01/21/89
/* Note:        This template shall be completed for the
/*              pds user id entered in the person template.
/*              This template stores the default values used
/*              when ordering data sets from the PDS.
/*
OBJECT_NAME                     = PERSORDER         <SQL FMT>  <UNITS>  <VALS>

PERSONNEL_SHIPPING_INSTRUCTION=                  /* text       none     TEXT
BILLING_ADDRESS_LINE            =                /* text       none     TEXT
PERSONNEL_SHIPPING_CARRIER_NAM=                  /* char(30)   none     DEFN.
PERSONNEL_SHIPPING_ACCOUNT_NUM=                  /* char(20)   none     DEFN.

END_OBJECT                      = PERSORDER

/* Template: Personnel Electronic Mail Template                  Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              electronic mail address of a pds user.
/*
OBJECT_NAME                     = PERSELECMAIL      <SQL FMT>  <UNITS>  <VALS>

ELECTRONIC_MAIL_ID              =                /* char(60)   none     DEFN.
ELECTRONIC_MAIL_TYPE            =                /* char(20)   none     STDVAL
PREFERENCE_ID                   =                /* smallint   none     STDVAL

END_OBJECT                      = PERSELECMAIL

/* Template: Personnel Institution Template                      Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              institution affiliation of a pds user.
/*
OBJECT_NAME                     = PERSINSTN         <SQL FMT>  <UNITS>  <VALS>

PERSON_INSTITUTION_NAME         =                /* char(60)   none     STDVAL

END_OBJECT                      = PERSINSTN
```

```
/* Template: Personnel Node Template                              Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              node affiliation of a pds user.
/*
OBJECT_NAME                  = PERSNODE             <SQL FMT>  <UNITS>  <VALS>

NODE_ID                      =                   /* char(10)  none     STDVAL

END_OBJECT                   = PERSNODE

/* Template: Personnel Mission Template                           Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              combination of mission, spacecraft and instrument
/*              that a pds user is currently associated with.
/*
OBJECT_NAME                  = PERSMSN              <SQL FMT>  <UNITS>  <VALS>

MISSION_NAME                 =                   /* char(30)  none     STDVAL
SPACECRAFT_ID                =                   /* char(4)   none     STDVAL
INSTRUMENT_ID                =                   /* char(4)   none     STDVAL
EXPERTISE_AREA_TYPE          =                   /* char(20)  none     STDVAL
SPECIALTY_DESC               =                   /* char(60)  none     STDVAL
ROLE_DESC                    =                   /* char(60)  none     STDVAL

END_OBJECT                   = PERSMSN

/* Template: Personnel Task Template                              Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              combination of task, expertise and specialty
/*              that a pds user is currently associated with.
/*
OBJECT_NAME                  = PERSTASK             <SQL FMT>  <UNITS>  <VALS>

TASK_NAME                    =                   /* char(40)  none     STDVAL
EXPERTISE_AREA_TYPE          =                   /* char(20)  none     STDVAL
SPECIALTY_DESC               =                   /* char(60)  none     STDVAL
ROLE_DESC                    =                   /* char(60)  none     STDVAL

END_OBJECT                   = PERSTASK
END_OBJECT                   = PERSON
```

```
/* Template: Spacecraft Imaging Instrument Template                  Rev: 01/21/89
/* Note:        The following templates form part of a standard
/*              set for the submission of a spacecraft imageing
/*              instrument to the PDS.
/*
/* Hierarchy:    SCIMAGEINST
/*                  IMINSTINFO
/*                  IMINSTTEMPD
/*
OBJECT_NAME                     = SCIMAGEINST          <SQL FMT>  <UNITS>  <VALS>

SPACECRAFT_ID                   =                   /* char(4)    none     STDVAL
INSTRUMENT_ID                   =                   /* char(4)    none     STDVAL

/* Template: Imaging Instrument Information Template                 Rev: 01/21/89
/* Note:        This template shall be completed for the
/*              instrument id entered in the ebimageinst
/*              or scimageinst template.
/*
OBJECT_NAME                     = IMINSTINFO           <SQL FMT>  <UNITS>  <VALS>

INSTRUMENT_MODE_ID              =                   /* char(20)   none     STDVAL
EXPOSURE_OFFSET_NUMBER          =                   /* float(17)  none     RANGE
EXPOSURE_OFFSET_FLAG            =                   /* char(3)    none     STDVAL
LIGHT_FLOOD_STATE_FLAG          =                   /* char(3)    none     STDVAL
MINIMUM_INSTRUMENT_EXPOSR_DUR   =                   /* float(17)  ms       RANGE
MAXIMUM_INSTRUMENT_EXPOSR_DUR   =                   /* float(17)  ms       RANGE

END_OBJECT                      = IMINSTINFO

/* Template: Imaging Instrument Temperature Description              Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              detector id associated with the instrument
/*              id entered in the ebimageinst or scimageinst
/*              template.
/*
OBJECT_NAME                     = IMINSTTEMPD          <SQL FMT>  <UNITS>  <VALS>

DETECTOR_ID                     =                   /* char(20)   none     STDVAL
TEMPERATURE_TRANSLATION_DESC    =                   /* text       none     TEXT

END_OBJECT                      = IMINSTTEMPD
END_OBJECT                      = SCIMAGEINST
```

```
/* Template: Spacecraft Instrument Template                          Rev: 01/21/89
/* Note:        The following templates form part of a standard
/*              set for the submission of a spacecraft instrument
/*              to the PDS.
/*
/* Hierarchy:    SCINSTRUMENT
/*                 INSTINFO
/*                 INSTDETECT
/*                 INSTELEC
/*                 INSTFILTER
/*                 INSTOPTICS
/*                 SCINSTOFFSET
/*                 INSTSECTION
/*                    INSTSECTINFO
/*                       INSTSECTFOVS
/*                    INSTSECTPARM
/*                    INSTSECTDET
/*                    INSTSECTELEC
/*                    INSTSECTFILT
/*                    INSTSECTOPTC
/*                 INSTMODEINFO
/*                    INSTMODESECT
/*                 INSTREFINFO
/*                    REFERENCE
/*                       REFAUTHORS
/*
OBJECT_NAME                 = SCINSTRUMENT          <SQL FMT>  <UNITS>  <VALS>

SPACECRAFT_ID               =                    /* char(4)    none     STDVAL
INSTRUMENT_ID               =                    /* char(4)    none     STDVAL
```

```
/* Template: Instrument Information Template                          Rev: 01/21/89
/* Note:       This template shall be completed for the
/*             instrument id entered in the ebinstrument or
/*             scinstrument template.
/*
OBJECT_NAME                       = INSTINFO           <SQL FMT>  <UNITS>  <VALS>

INSTRUMENT_NAME                   =                 /* char(40)   none     STDVAL
INSTRUMENT_TYPE                   =                 /* char(30)   none     STDVAL
PI_PDS_USER_ID                    =                 /* char(60)   none     DEFN.
NAIF_DATA_SET_ID                  =                 /* char(40)   none     FORM.
BUILD_DATE                        =                 /* char(8)    none     FORM.
INSTRUMENT_MASS                   =                 /* float(17)  kg       RANGE
INSTRUMENT_HEIGHT                 =                 /* float(17)  m        RANGE
INSTRUMENT_LENGTH                 =                 /* float(17)  m        RANGE
INSTRUMENT_WIDTH                  =                 /* float(17)  m        RANGE
INSTRUMENT_MANUFACTURER_NAME      =                 /* char(60)   none     DEFN.
INSTRUMENT_SERIAL_NUMBER          =                 /* char(20)   none     DEFN.
INSTRUMENT_DESC                   =                 /* text       none     TEXT
SCIENTIFIC_OBJECTIVES_SUMMARY     =                 /* text       none     TEXT
INSTRUMENT_CALIBRATION_DESC       =                 /* text       none     TEXT
OPERATIONAL_CONSID_DESC           =                 /* text       none     TEXT

END_OBJECT                        = INSTINFO

/* Template: Instrument Detector Template                             Rev: 01/21/89
/* Note:       This template shall be repeated for each
/*             detector utilized by an instrument.
/*
OBJECT_NAME                       = INSTDETECT         <SQL FMT>  <UNITS>  <VALS>

DETECTOR_ID                       =                 /* char(20)   none     STDVAL
DETECTOR_TYPE                     =                 /* char(20)   none     STDVAL
DETECTOR_ASPECT_RATIO             =                 /* float(17)  none     RANGE
MINIMUM_WAVELENGTH                =                 /* float(17)  mm       RANGE
MAXIMUM_WAVELENGTH                =                 /* float(17)  mm       RANGE
NOMINAL_OPERATING_TEMPERATURE     =                 /* float(17)  K        RANGE
DETECTOR_DESC                     =                 /* text       none     TEXT
SENSITIVITY_DESC                  =                 /* text       none     TEXT

END_OBJECT                        = INSTDETECT
```

```
/* Template: Instrument Electronics Template                       Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              electronics id description utilized by an
/*              instrument.
/*
OBJECT_NAME                   = INSTELEC            <SQL FMT>  <UNITS>  <VALS>

ELECTRONICS_ID                =                  /* char(20)  none     STDVAL
ELECTRONICS_DESC              =                  /* text      none     TEXT

END_OBJECT                    = INSTELEC

/* Template: Instrument Filter Template                            Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              filter utilized by an instrument.
/*
OBJECT_NAME                   = INSTFILTER          <SQL FMT>  <UNITS>  <VALS>

FILTER_NUMBER                 =                  /* char(4)   none     STDVAL
FILTER_NAME                   =                  /* char(20)  none     STDVAL
FILTER_TYPE                   =                  /* char(30)  none     STDVAL
MINIMUM_WAVELENGTH            =                  /* float(17) mm       RANGE
CENTER_FILTER_WAVELENGTH      =                  /* float(17) mm       RANGE
MAXIMUM_WAVELENGTH            =                  /* float(17) mm       RANGE
MEASUREMENT_WAVE_CALBRT_DESC  =                  /* text      none     TEXT

END_OBJECT                    = INSTFILTER
```

```
/* Template: Instrument Optics Template                          Rev: 01/21/89
/* Note:        This template shall be completed for each
/*              optical instrument.
/*
OBJECT_NAME                    = INSTOPTICS          <SQL FMT>  <UNITS>  <VALS>

TELESCOPE_ID                   =                  /* char(60)  none      STDVAL
TELESCOPE_FOCAL_LENGTH         =                  /* float(17) m         RANGE
TELESCOPE_DIAMETER             =                  /* float(17) m         RANGE
TELESCOPE_F_NUMBER             =                  /* float(17) none      RANGE
TELESCOPE_RESOLUTION           =                  /* float(17) rad       RANGE
TELESCOPE_TRANSMITTANCE        =                  /* float(17) none      RANGE
TELESCOPE_T_NUMBER             =                  /* float(17) none      RANGE
TELESCOPE_T_NUMBER_ERROR       =                  /* float(17) none      RANGE
TELESCOPE_SERIAL_NUMBER        =                  /* char(20)  none      DEFN.
OPTICS_DESC                    =                  /* text      none      TEXT

END_OBJECT                     = INSTOPTICS

/* Template: Spacecraft Instrument Offset Template               Rev: 01/21/89
/* Note:        This template shall be completed for each
/*              platform used for instrument positioning.
/*
OBJECT_NAME                    = SCINSTOFFSET        <SQL FMT>  <UNITS>  <VALS>

PLATFORM_OR_MOUNTING_NAME      =                  /* char(30)  none      STDVAL
CONE_OFFSET_ANGLE              =                  /* float(17) deg       RANGE
CROSS_CONE_OFFSET_ANGLE        =                  /* float(17) deg       RANGE
TWIST_OFFSET_ANGLE             =                  /* float(17) deg       RANGE
INSTRUMENT_MOUNTING_DESC       =                  /* text      none      TEXT

END_OBJECT                     = SCINSTOFFSET

/* Template: Instrument Section Template                         Rev: 01/21/89
/* Note:        This template group shall be repeated for each
/*              instrument section.
/*
OBJECT_NAME                    = INSTSECTION         <SQL FMT>  <UNITS>  <VALS>

SECTION_ID                     =                  /* char(4)   none      STDVAL
```

```
/* Template: Instrument Section Information Template              Rev: 01/21/89
/* Note:      This section shall be completed for each
/*            instrument section id entered in the instsection
/*            template.
/*
OBJECT_NAME                = INSTSECTINFO          <SQL FMT>  <UNITS>  <VALS>

SCAN_MODE_ID               =                   /* char(8)    none     STDVAL
DATA_RATE                  =                   /* float(17)  b/s      RANGE
SAMPLE_BITS                =                   /* integer    none     DEFN.
TOTAL_FOVS                 =                   /* smallint   none     DEFN.

/* Template: Instrument Section Fields Of View Template           Rev: 01/21/89
/* Note:      This template shall be repeated for each
/*            instrument section fields of view.
/*
OBJECT_NAME                = INSTSECTFOVS          <SQL FMT>  <UNITS>  <VALS>

FOV_SHAPE_NAME             =                   /* char(20)   none     STDVAL
HORIZONTAL_PIXEL_FOV       =                   /* float(17)  deg      RANGE
VERTICAL_PIXEL_FOV         =                   /* float(17)  deg      RANGE
HORIZONTAL_FOV             =                   /* float(17)  deg      RANGE
VERTICAL_FOV               =                   /* float(17)  deg      RANGE
FOVS                       =                   /* smallint   none     DEFN.

END_OBJECT                 = INSTSECTFOVS
END_OBJECT                 = INSTSECTINFO
```

```
/* Template: Instrument Section Parameter Template                  Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              instrument section parameter.
/*
OBJECT_NAME                     = INSTSECTPARM          <SQL FMT>  <UNITS>  <VALS>

INSTRUMENT_PARAMETER_NAME       =                    /* char(40)   none     STDVAL
MINIMUM_INSTRUMENT_PARAMETER    =                    /* float(17)  none     RANGE
MAXIMUM_INSTRUMENT_PARAMETER    =                    /* float(17)  none     RANGE
NOISE_LEVEL                     =                    /* float(17)  none     RANGE
INSTRUMENT_PARAMETER_UNIT       =                    /* char(60)   none     STDVAL
SAMPLING_PARAMETER_NAME         =                    /* char(40)   none     STDVAL
MINIMUM_SAMPLING_PARAMETER      =                    /* float(17)  none     RANGE
MAXIMUM_SAMPLING_PARAMETER      =                    /* float(17)  none     RANGE
SAMPLING_PARAMETER_INTERVAL     =                    /* float(17)  none     RANGE
SAMPLING_PARAMETER_RESOLUTION   =                    /* float(17)  none     RANGE
SAMPLING_PARAMETER_UNIT         =                    /* char(60)   none     STDVAL

END_OBJECT                      = INSTSECTPARM

/* Template: Instrument Section Detector Template                   Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              instrument section detector id.
/*
OBJECT_NAME                     = INSTSECTDET           <SQL FMT>  <UNITS>  <VALS>

DETECTOR_ID                     =                    /* char(20)   none     STDVAL

END_OBJECT                      = INSTSECTDET

/* Template: Instrument Section Electronics Template                Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              instrument section electronics component.
/*
OBJECT_NAME                     = INSTSECTELEC          <SQL FMT>  <UNITS>  <VALS>

ELECTRONICS_ID                  =                    /* char(20)   none     STDVAL

END_OBJECT                      = INSTSECTELEC
```

```
/* Template: Instrument Section Filter Template                 Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              instrument section filter.
/*
OBJECT_NAME                     = INSTSECTFILT        <SQL FMT>  <UNITS>  <VALS>

FILTER_NUMBER                   =               /* char(4)    none      STDVAL

END_OBJECT                      = INSTSECTFILT

/* Template: Instrument Section Optics Template                 Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              instrument section telescope.
/*
OBJECT_NAME                     = INSTSECTOPTC        <SQL FMT>  <UNITS>  <VALS>

TELESCOPE_ID                    =               /* char(60)   none      STDVAL

END_OBJECT                      = INSTSECTOPTC
END_OBJECT                      = INSTSECTION

/* Template: Instrument Mode Information Template               Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              instrument mode.
/*
OBJECT_NAME                     = INSTMODEINFO        <SQL FMT>  <UNITS>  <VALS>

INSTRUMENT_MODE_ID              =               /* char(20)   none      STDVAL
GAIN_MODE_ID                    =               /* char(30)   none      STDVAL
DATA_PATH_TYPE                  =               /* char(60)   none      STDVAL
INSTRUMENT_POWER_CONSUMPTION    =               /* float(17)  W         RANGE
INSTRUMENT_MODE_DESC            =               /* text       none      TEXT

/* Template: Instrument Mode Section Information Template       Rev: 01/21/89
/* Note:        This template shall be repeated for each association of an
/*              instrument mode to an instrument section.
/*
OBJECT_NAME                     = INSTMODESECT        <SQL FMT>  <UNITS>  <VALS>

SECTION_ID                      =               /* char(4)    none      STDVAL

END_OBJECT                      = INSTMODESECT
END_OBJECT                      = INSTMODEINFO
```

```
/* Template: Instrument Reference Information Template          Rev: 01/21/89
/* Note:       The following template form part of a standard
/*             set for the submission of a publication reference
/*             to the PDS.
/*
OBJECT_NAME                 = INSTREFINFO        <SQL FMT>  <UNITS>  <VALS>

REFERENCE_KEY_ID            =                 /* char(20)  none     DEFN.

/* Template: Reference Template                                 Rev: 01/21/89
/* Note:       This template shall be completed for each
/*             reference document.
/*
OBJECT_NAME                 = REFERENCE          <SQL FMT>  <UNITS>  <VALS>

DOCUMENT_TOPIC_TYPE         =                 /* char(60)  none     STDVAL
JOURNAL_NAME                =                 /* char(60)  none     STDVAL
PUBLICATION_DATE            =                 /* char(8)   none     FORM.
REFERENCE_DESC              =                 /* text      none     TEXT

/* Template: Reference Authors Template                         Rev: 01/21/89
/* Note:       This template shall be repeated for each
/*             author associated with the reference in
/*             the reference template.
/*
OBJECT_NAME                 = REFAUTHORS         <SQL FMT>  <UNITS>  <VALS>

AUTHOR_FULL_NAME            =                 /* char(60)  none     DEFN.

END_OBJECT                  = REFAUTHORS
END_OBJECT                  = REFERENCE
END_OBJECT                  = INSTREFINFO
END_OBJECT                  = SCINSTRUMENT
```

```
/* Template: Instrument Section Filter Template                   Rev: 01/21/89
/* Note:      This template shall be repeated for each
/*            instrument section filter.
/*
OBJECT_NAME                   = INSTSECTFILT           <SQL FMT>  <UNITS>  <VALS>

FILTER_NUMBER                 =                     /* char(4)    none     STDVAL

END_OBJECT                    = INSTSECTFILT

/* Template: Instrument Section Optics Template                   Rev: 01/21/89
/* Note:      This template shall be repeated for each
/*            instrument section telescope.
/*
OBJECT_NAME                   = INSTSECTOPTC           <SQL FMT>  <UNITS>  <VALS>

TELESCOPE_ID                  =                     /* char(60)   none     STDVAL

END_OBJECT                    = INSTSECTOPTC
END_OBJECT                    = INSTSECTION

/* Template: Instrument Mode Information Template                 Rev: 01/21/89
/* Note:      This template shall be repeated for each
/*            instrument mode.
/*
OBJECT_NAME                   = INSTMODEINFO           <SQL FMT>  <UNITS>  <VALS>

INSTRUMENT_MODE_ID            =                     /* char(20)   none     STDVAL
GAIN_MODE_ID                  =                     /* char(30)   none     STDVAL
DATA_PATH_TYPE                =                     /* char(60)   none     STDVAL
INSTRUMENT_POWER_CONSUMPTION  =                     /* float(17)  W        RANGE
INSTRUMENT_MODE_DESC          =                     /* text       none     TEXT

/* Template: Instrument Mode Section Information Template         Rev: 01/21/89
/* Note:      This template shall be repeated for each association of an
/*            instrument mode to an instrument section.
/*
OBJECT_NAME                   = INSTMODESECT           <SQL FMT>  <UNITS>  <VALS>

SECTION_ID                    =                     /* char(4)    none     STDVAL

END_OBJECT                    = INSTMODESECT
END_OBJECT                    = INSTMODEINFO
```

```
/* Template: Instrument Reference Information Template          Rev: 01/21/89
/* Note:        The following template form part of a standard
/*              set for the submission of a publication reference
/*              to the PDS.
/*
OBJECT_NAME                 = INSTREFINFO          <SQL FMT>  <UNITS>  <VALS>

REFERENCE_KEY_ID            =                   /* char(20)  none      DEFN.

/* Template: Reference Template                                 Rev: 01/21/89
/* Note:        This template shall be completed for each
/*              reference document.
/*
OBJECT_NAME                 = REFERENCE            <SQL FMT>  <UNITS>  <VALS>

DOCUMENT_TOPIC_TYPE         =                   /* char(60)  none      STDVAL
JOURNAL_NAME                =                   /* char(60)  none      STDVAL
PUBLICATION_DATE            =                   /* char(8)   none      FORM.
REFERENCE_DESC              =                   /* text      none      TEXT

/* Template: Reference Authors Template                         Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              author associated with the reference in
/*              the reference template.
/*
OBJECT_NAME                 = REFAUTHORS           <SQL FMT>  <UNITS>  <VALS>

AUTHOR_FULL_NAME            =                   /* char(60)  none      DEFN.

END_OBJECT                  = REFAUTHORS
END_OBJECT                  = REFERENCE
END_OBJECT                  = INSTREFINFO
END_OBJECT                  = SCINSTRUMENT
```

```
/* Template: Spacecraft Template                                        Rev: 01/21/89
/* Note:        The following templates form part of a standard
/*              set for the submission of a spacecraft to the PDS.
/*
/* Hierarchy:    SPACECRAFT
/*                  SCINFO
/*                  PLATFORM
/*                  SCREFINFO
/*                     REFERENCE
/*                        REFAUTHORS
/*
OBJECT_NAME                    = SPACECRAFT          <SQL FMT>  <UNITS>  <VALS>

SPACECRAFT_ID                  =                  /* char(4)    none     STDVAL

/* Template: Spacecraft Information Template                            Rev: 01/21/89
/* Note:        This template shall be completed for the
/*              spacecraft id entered in the spacecraft template.
/*
OBJECT_NAME                    = SCINFO              <SQL FMT>  <UNITS>  <VALS>

LAUNCH_DATE                    =                  /* char(8)    none     FORM.
INSTRUMENT_HOST_NAME           =                  /* char(60)   none     STDVAL
INSTRUMENT_HOST_TYPE           ="SPACECRAFT"      /* char(20)   none     STDVAL
SPACECRAFT_DESC                =                  /* text       none     TEXT

END_OBJECT                     = SCINFO

/* Template: Platform Template                                          Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              instrument platform on the spacecraft.
/*
OBJECT_NAME                    = PLATFORM            <SQL FMT>  <UNITS>  <VALS>

PLATFORM_OR_MOUNTING_NAME      =                  /* char(30)   none     STDVAL
PLATFORM_OR_MOUNTING_DESC      =                  /* text       none     TEXT

END_OBJECT                     = PLATFORM
```

```
/* Template: Spacecraft Reference Information Template          Rev: 01/21/89
/* Note:        The following templates form part of a standard
/*              set for the submission of a publication reference
/*              to the PDS.
/*
OBJECT_NAME                  = SCREFINFO          <SQL FMT>  <UNITS>  <VALS>

REFERENCE_KEY_ID             =                 /* char(20)   none     DEFN.

/* Template: Reference Template                                 Rev: 01/21/89
/* Note:        This template shall be completed for each
/*              reference document.
/*
OBJECT_NAME                  = REFERENCE          <SQL FMT>  <UNITS>  <VALS>

DOCUMENT_TOPIC_TYPE          =                 /* char(60)   none     STDVAL
JOURNAL_NAME                 =                 /* char(60)   none     STDVAL
PUBLICATION_DATE             =                 /* char(8)    none     FORM.
REFERENCE_DESC               =                 /* text       none     TEXT

/* Template: Reference Authors Template                         Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              author associated with the reference in
/*              the reference template.
/*
OBJECT_NAME                  = REFAUTHORS         <SQL FMT>  <UNITS>  <VALS>

AUTHOR_FULL_NAME             =                 /* char(60)   none     DEFN.

END_OBJECT                   = REFAUTHORS
END_OBJECT                   = REFERENCE
END_OBJECT                   = SCREFINFO
END_OBJECT                   = SPACECRAFT
```

```
/* Template: Target Template                                            Rev: 01/21/89
/* Note:        The following templates form part of a standard
/*              set for the submission of a target to the PDS.
/*
/* Hierarchy:     TARGET
/*                   TARGETINFO
/*                      TARGPARMINFO
/*
OBJECT_NAME                    = TARGET                  <SQL FMT>  <UNITS>  <VALS>

TARGET_NAME                    =                      /* char(30)  none       STDVAL
```

```
/* Template: Target Information Template                         Rev: 01/21/89
/* Note:        This template shall be completed if the target
/*              moves in an orbit.
/*
OBJECT_NAME                      = TARGETINFO       <SQL FMT>  <UNITS>  <VALS>

TARGET_TYPE                      =               /* char(20)   none     STDVAL
PRIMARY_BODY_NAME                =               /* char(30)   none     STDVAL
A_AXIS_RADIUS                    =               /* float(17) km        RANGE
B_AXIS_RADIUS                    =               /* float(17) km        RANGE
BOND_ALBEDO                      =               /* float(17) none      RANGE
C_AXIS_RADIUS                    =               /* float(17) km        RANGE
FLATTENING                       =               /* float(17) none      RANGE
MAGNETIC_MOMENT                  =               /* float(17) J/T       RANGE
MASS                             =               /* float(17) kg        RANGE
MASS_DENSITY                     =               /* float(17) g/cm^3    RANGE
MAXIMUM_SURFACE_PRESSURE         =               /* float(17) bar       RANGE
MAXIMUM_SURFACE_TEMPERATURE      =               /* float(17) K         RANGE
EQUATORIAL_RADIUS                =               /* float(17) km        RANGE
MEAN_SURFACE_PRESSURE            =               /* float(17) bar       RANGE
MEAN_SURFACE_TEMPERATURE         =               /* float(17) K         RANGE
MINIMUM_SURFACE_PRESSURE         =               /* float(17) bar       RANGE
MINIMUM_SURFACE_TEMPERATURE      =               /* float(17) K         RANGE
SURFACE_GRAVITY                  =               /* float(17) m/s^2     RANGE
MEAN_RADIUS                      =               /* float(17) km        RANGE
ASCENDING_NODE_LONGITUDE         =               /* float(17) deg       RANGE
OBLIQUITY                        =               /* float(17) deg       RANGE
ORBITAL_ECCENTRICITY             =               /* float(17) none      RANGE
ORBITAL_INCLINATION              =               /* float(17) deg       RANGE
ORBITAL_SEMIMAJOR_AXIS           =               /* float(17) km        RANGE
PERIAPSIS_ARGUMENT_ANGLE         =               /* float(17) deg       RANGE
POLE_DECLINATION                 =               /* float(17) deg       RANGE
POLE_RIGHT_ASCENSION             =               /* float(17) deg       RANGE
REVOLUTION_PERIOD                =               /* float(17) d         RANGE
SIDEREAL_ROTATION_PERIOD         =               /* float(17) d         RANGE
MEAN_SOLAR_DAY                   =               /* float(17) d         RANGE
ORBIT_DIRECTION_TYPE             =               /* char(30)   none     STDVAL
ROTATION_DIRECTION_TYPE          =               /* char(30)   none     STDVAL
RING_SYSTEM_SUMMARY              =               /* text       none     TEXT
```

```
/* Template: Target Parameter Information Template                  Rev: 01/21/89
/* Note:        This template shall be repeated for each
/*              target parameter associated with the target
/*              name entered in the target template.
/*
OBJECT_NAME                     = TARGPARMINFO       <SQL FMT>  <UNITS>  <VALS>

TARGET_PARAMETER_NAME           =                 /* char(30)  none     STDVAL
TARGET_PARAMETER_EPOCH          =                 /* char(18)  none     FORM.
TARGET_PARAMETER_UNCERTAINTY    =                 /* char(40)  none     STDVAL
DATA_SOURCE_ID                  =                 /* char(60)  none     STDVAL
DATA_SOURCE_DESC                =                 /* text      none     TEXT

END_OBJECT                      = TARGPARMINFO
END_OBJECT                      = TARGETINFO
END_OBJECT                      = TARGET

/* Template: Discipline Description Template                        Rev: 01/21/89
/* Note:        This template shall be completed for the submission
/*              of a scientific discipline description to the PDS.
/*
OBJECT_NAME                     = DISCD              <SQL FMT>  <UNITS>  <VALS>

DISCIPLINE_NAME                 =                 /* char(30)  none     STDVAL
DISCIPLINE_DESC                 =                 /* text      none     TEXT

END_OBJECT                      = DISCD

/* Template: Data Set Instrument Parameter Description Template     Rev: 01/21/89
/* Note:        This template shall be completed for any
/*              data set or instrument parameter description.
/*
OBJECT_NAME                     = DSINSTPARMD        <SQL FMT>  <UNITS>  <VALS>

DATA_SET_OR_INSTRUMENT_PARM_NM=                   /* char(40)  none     STDVAL
DATA_SET_OR_INST_PARM_DESC      =                 /* text      none     TEXT

END_OBJECT                      = DSINSTPARMD
```

```
/* Template: Data Set Processing Template                          Rev: 01/21/89
/* Note:          This template shall be repeated for each
/*                source dataset id used in production of the
/*                dataset id in the dataset template.
/*
OBJECT_NAME                    = DSPROCESSING          <SQL FMT>  <UNITS>  <VALS>

SOURCE_DATA_SET_ID             =                    /* char(30)  none     STDVAL
SOFTWARE_NAME                  =                    /* char(30)  none     DEFN.
PRODUCT_DATA_SET_ID            =                    /* char(40)  none     FORM.

END_OBJECT                     = DSPROCESSING

/* Template: Earth Base Data Set Template                          Rev: 01/21/89
/* Note:          This template shall be completed if the
/*                data set id in the dataset template is
/*                associated with a spacecraft.
/*
OBJECT_NAME                    = EBDATASET             <SQL FMT>  <UNITS>  <VALS>

INSTRUMENT_HOST_ID             =                    /* char(4)   none     STDVAL
INSTRUMENT_ID                  =                    /* char(4)   none     STDVAL
MEASUREMENT_SOURCE_DESC        =                    /* text      none     TEXT
MEASUREMENT_ATMOSPHERE_DESC    =                    /* text      none     TEXT
MEASUREMENT_STANDARD_DESC      =                    /* text      none     TEXT
MEASUREMENT_WAVE_CALBRT_DESC   =                    /* text      none     TEXT

END_OBJECT                     = EBDATASET

/* Template: Parameter Template                                    Rev: 01/21/89
/* Note:          This template shall be completed for each combination
/*                of data set parameter name, instrument parameter
/*                name and instrument host id associated with a dataset.
/*
OBJECT_NAME                    = PARAMETER             <SQL FMT>  <UNITS>  <VALS>

INSTRUMENT_HOST_ID             =                    /* char(4)   none     STDVAL
DATA_SET_PARAMETER_NAME        =                    /* char(40)  none     STDVAL
INSTRUMENT_PARAMETER_NAME      =                    /* char(40)  none     STDVAL
IMPORTANT_INSTRUMENT_PARMS     =                    /* smallint  none     DEFN.

END_OBJECT                     = PARAMETER
```

```
/* Template: Processing Description Template                          Rev: 01/21/89
/* Note:        This template shall be completed for each
/*              CODMAC processing level to be reference in
/*              the PDS.
/*
OBJECT_NAME                    = PROCESSD          <SQL FMT>  <UNITS>  <VALS>

PROCESSING_LEVEL_ID            =                /* char(1)    none     STDVAL
PROCESSING_LEVEL_DESC          =                /* text       none     TEXT

END_OBJECT                     = PROCESSD

/* Template: Software Information Template                            Rev: 01/21/89
/* Note:        This template is completed for each node
/*              software application referenced in the PDS.
/*
OBJECT_NAME                    = SOFTWARE          <SQL FMT>  <UNITS>  <VALS>

SOFTWARE_NAME                  =                /* char(30)   none     DEFN.
NODE_ID                        =                /* char(10)   none     STDVAL
SOFTWARE_RELEASE_DATE          =                /* char(8)    none     FORM.
SOFTWARE_TYPE                  =                /* char(30)   none     STDVAL
COGNIZANT_FULL_NAME            =                /* char(60)   none     DEFN.
SOFTWARE_ACCESSABILITY_DESC    =                /* char(60)   none     STDVAL
SOFTWARE_DESC                  =                /* char(60)   none     TEXT

END_OBJECT                     = SOFTWARE
```

Appendix A

DESCRIPTOR TERMS ~~LIST~~ Definition 5/12/90

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"

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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~~ length".
Example: "scaled_image_width"

Appendix B

CLASS TERMS definitions 9/12/90

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

omit 5/12/90

~~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.

→ summary from description

Appendix C

Nomenclature Term List

~~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	shap	
sheet	descriptor	shee	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	class ~~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**	

Appendix D

DISPLAY NAME - ELEMENT NAME CROSS REFERENCE

This appendix provides a cross reference of display names to associated data elements. The ***display name*** is a screen data field label which identifies an input to, or output from, a database query against a column in the table identified by ***table name***. This column is associated with a ***data dictionary element name*** in Appendix E. The ***user views*** list defines one or more screens where the ***display name*** appears.

Display names pairs which are shown with a (max) and a (min) suffix indicate data input fields where the user may specify a range of values rather than a specific value to define the query search criteria against a single column.

HIGH LEVEL CATALOG

DISPLAY NAME

SPICE_kernel_data_set

DATA DICTIONARY ELEMENT NAME	naif_data_set_id
TABLE NAME:	instinfo
USER VIEW:	Instrument Information References

a_axis_radius(min)
a_axis_radius(max)

DATA DICTIONARY ELEMENT NAME	a_axis_radius
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

ascending_node_longitude(min)
ascending_node_longitude(max)

DATA DICTIONARY ELEMENT NAME	ascending_node_longitude
TABLE NAME:	targorbinfo
USER VIEW:	Target Dynamic Parameters

b_axis_radius(min)
b_axis_radius(max)

DATA DICTIONARY ELEMENT NAME	b_axis_radius
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

bond_albedo(min)
bond_albedo(max)

DATA DICTIONARY ELEMENT NAME	bond_albedo
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

c_axis_radius(min)
c_axis_radius(max)

DATA DICTIONARY ELEMENT NAME	c_axis_radius
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

center_emission_angle

DATA DICTIONARY ELEMENT NAME	emission_angle
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

center_incidence_angle

DATA DICTIONARY ELEMENT NAME	incidence_angle
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

center_latitude

DATA DICTIONARY ELEMENT NAME	latitude
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

center_longitude

DATA DICTIONARY ELEMENT NAME	longitude
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

center_phase_angle

DATA DICTIONARY ELEMENT NAME	phase_angle
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

center_scaled_pixel_height

DATA DICTIONARY ELEMENT NAME	scaled_pixel_height
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

center_scaled_pixel_width

DATA DICTIONARY ELEMENT NAME	scaled_pixel_width
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

data_admin_contact_mailing_address

DATA DICTIONARY ELEMENT NAME	mailing_address_line
TABLE NAME:	persmailaddr
USER VIEW:	Node Data Administration Contact Information

data_administration_contact

DATA DICTIONARY ELEMENT NAME	full_name
TABLE NAME:	persinfo
USER VIEW:	General Node Information
TABLE NAME:	persinfo
USER VIEW:	Node Data Administration Contact Information

data_set_sampling_parameter_interval

DATA DICTIONARY ELEMENT NAME	sampling_parameter_interval
TABLE NAME:	dsparminfo
USER VIEW:	Derived Parameters

data_set_sampling_parameter_name

DATA DICTIONARY ELEMENT NAME	sampling_parameter_name
TABLE NAME:	dsparminfo
USER VIEW:	Derived Parameters

data_set_sampling_parameter_unit

DATA DICTIONARY ELEMENT NAME	sampling_parameter_unit
TABLE NAME:	dsparminfo
USER VIEW:	Derived Parameters

distributor

DATA DICTIONARY ELEMENT NAME	node_id
TABLE NAME:	invnodemedia
USER VIEW:	General Data Set Information
TABLE NAME:	invnodemedia
USER VIEW:	Data Set Distribution Information

emission_angle(min)
emission_angle(max)

DATA DICTIONARY ELEMENT NAME	emission_angle
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

equatorial_radius(min)
equatorial_radius(max)

DATA DICTIONARY ELEMENT NAME	equatorial_radius
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

flattening(min)
flattening(max)

DATA DICTIONARY ELEMENT NAME	flattening
TABLE NAME:	targphysinfo
USER VIEW:	Target Dynamic Parameters
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

image_number(min)
image_number(max)

DATA DICTIONARY ELEMENT NAME	image_number
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

image_time(min)
image_time(max)

DATA DICTIONARY ELEMENT NAME	image_time
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

incidence_angle(min)
incidence_angle(max)

DATA DICTIONARY ELEMENT NAME	incidence_angle
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

latitude(min)
latitude(max)

DATA DICTIONARY ELEMENT NAME	latitude
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

longitude(min)
longitude(max)

DATA DICTIONARY ELEMENT NAME	longitude
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

magnetic_moment(min)
magnetic_moment(max)

DATA DICTIONARY ELEMENT NAME	magnetic_moment
TABLE NAME:	targphysinfo
USER VIEW:	Target Dynamic Parameters
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

mailing_address

DATA DICTIONARY ELEMENT NAME	mailing_address_line
TABLE NAME:	perselecmail
USER VIEW:	Personnel Information

mass(min)
mass(max)

DATA DICTIONARY ELEMENT NAME	mass
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

mass_density(min)
mass_density(max)

DATA DICTIONARY ELEMENT NAME	mass_density
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

max_surface_pressure(min)
max_surface_pressure(max)

DATA DICTIONARY ELEMENT NAME	maximum_surface_pressure
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

max_surface_temperature(min)
max_surface_temperature(max)

DATA DICTIONARY ELEMENT NAME	maximum_surface_temperature
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

maximum_sampling_parameter(min)
maximum_sampling_parameter(max)

DATA DICTIONARY ELEMENT NAME	maximum_sampling_parameter
TABLE NAME:	
USER VIEW:	Data Set Parameters Full Information

maximum_value(dynamic_range)

DATA DICTIONARY ELEMENT NAME	maximum_instrument_parameter
TABLE NAME:	instsectparm
USER VIEW:	Mode Dependent Measurement Paramete:

mean_radius(min)
mean_radius(max)

DATA DICTIONARY ELEMENT NAME	mean_radius
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

mean_solar_day(min)
mean_solar_day(max)

DATA DICTIONARY ELEMENT NAME	mean_solar_day
TABLE NAME:	targorbinfo
USER VIEW:	Target Dynamic Parameters

mean_surface_pressure(min)
mean_surface_pressure(max)

DATA DICTIONARY ELEMENT NAME	mean_surface_pressure
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

mean_surface_temperature(min)
mean_surface_temperature(max)

DATA DICTIONARY ELEMENT NAME	mean_surface_temperature
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

min_surface_pressure(min)
min_surface_pressure(max)

DATA DICTIONARY ELEMENT NAME	minimum_surface_pressure
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

min_surface_temperature(min)
min_surface_temperature(max)

DATA DICTIONARY ELEMENT NAME	minimum_surface_temperature
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

minimum_sampling_parameter(min)
minimum_sampling_parameter(max)

DATA DICTIONARY ELEMENT NAME	minimum_sampling_parameter
TABLE NAME:	
USER VIEW:	Data Set Parameters Full Information

minimum_value(dynamic_range)

DATA DICTIONARY ELEMENT NAME minimum_instrument_parameter
TABLE NAME: instsectparm
USER VIEW: Mode Dependent Measurement Parameters

mission_expertise

DATA DICTIONARY ELEMENT NAME expertise_area_type
TABLE NAME:
USER VIEW: Personnel Affiliations
TABLE NAME: perstask
USER VIEW: Personnel Information

mission_role

DATA DICTIONARY ELEMENT NAME role_desc
TABLE NAME: perstask
USER VIEW: Personnel Information

mission_specialty

DATA DICTIONARY ELEMENT NAME specialty_desc
TABLE NAME: perstask
USER VIEW: Personnel Information

node_manager

DATA DICTIONARY ELEMENT NAME full_name
TABLE NAME: persinfo
USER VIEW: General Node Information
TABLE NAME: persinfo
USER VIEW: Node Manager Information
TABLE NAME: persinfo
USER VIEW: Data Set Distribution Information

node_manager_mailing_address

DATA DICTIONARY ELEMENT NAME mailing_address_line
TABLE NAME: persmailaddr
USER VIEW: Node Manager Information

noise_level_unit

DATA DICTIONARY ELEMENT NAME data_set_parameter_unit
TABLE NAME: dsparminfo
USER VIEW: Data Set Parameters Full Information

obliquity(min)
obliquity(max)

DATA DICTIONARY ELEMENT NAME	obliquity
TABLE NAME:	targorbinfo
USER VIEW:	Target Dynamic Parameters

operations_contact

DATA DICTIONARY ELEMENT NAME	full_name
TABLE NAME:	persinfo
USER VIEW:	General Node Information
TABLE NAME:	persinfo
USER VIEW:	Node Operations Contact Information

operations_contact_mailing_address

DATA DICTIONARY ELEMENT NAME	mailing_address_line
TABLE NAME:	persmailaddr
USER VIEW:	Node Operations Contact Information

orbital_eccentricity(min)
orbital_eccentricity(max)

DATA DICTIONARY ELEMENT NAME	orbital_eccentricity
TABLE NAME:	targorbinfo
USER VIEW:	Target Dynamic Parameters

orbital_inclinition(min)
orbital_inclinition(max)

DATA DICTIONARY ELEMENT NAME	orbital_inclination
TABLE NAME:	targorbinfo
USER VIEW:	Target Dynamic Parameters

orbital_semimajor_axis(min)
orbital_semimajor_axis(max)

DATA DICTIONARY ELEMENT NAME	orbital_semimajor_axis
TABLE NAME:	targorbinfo
USER VIEW:	Target Dynamic Parameters

periapsis_argument_angle(min)
periapsis_argument_angle(max)

DATA DICTIONARY ELEMENT NAME	periapsis_argument_angle
TABLE NAME:	targorbinfo
USER VIEW:	Target Dynamic Parameters

person_at_node

DATA DICTIONARY ELEMENT NAME	**full_name**
TABLE NAME:	**persinfo**
USER VIEW:	**Personnel Affiliations**
TABLE NAME:	**persinfo**
USER VIEW:	**Node Manager Information**
TABLE NAME:	**persinfo**
USER VIEW:	**Node Operations Contact Information**
TABLE NAME:	**persinfo**
USER VIEW:	**Node Data Administration Contact Information**

phase_angle(min)

phase_angle(max)

DATA DICTIONARY ELEMENT NAME	**phase_angle**
TABLE NAME:	**imimageinfo**
USER VIEW:	**Region Information**
TABLE NAME:	**imimageinfo**
USER VIEW:	**Feature Information**

planet_day_number(min)

planet_day_number(max)

DATA DICTIONARY ELEMENT NAME	**planet_day_number**
TABLE NAME:	**imimageinfo**
USER VIEW:	**Region Information**
TABLE NAME:	**imimageinfo**
USER VIEW:	**Feature Information**

pole_declination(min)

pole_declination(max)

DATA DICTIONARY ELEMENT NAME	**pole_declination**
TABLE NAME:	**targorbinfo**
USER VIEW:	**Target Dynamic Parameters**

pole_right_ascension(min)

pole_right_ascension(max)

DATA DICTIONARY ELEMENT NAME	**pole_right_ascension**
TABLE NAME:	**targorbinfo**
USER VIEW:	**Target Dynamic Parameters**

principal_investigator

DATA DICTIONARY ELEMENT NAME	full_name
TABLE NAME:	persinfo
USER VIEW:	General Instrument Information
TABLE NAME:	persinfo
USER VIEW:	Data Set Distribution Information

principal_investigator_location

DATA DICTIONARY ELEMENT NAME	person_institution_name
TABLE NAME:	persinstn
USER VIEW:	General Instrument Information

producer

DATA DICTIONARY ELEMENT NAME	producer_full_name
TABLE NAME:	dsinfo
USER VIEW:	Data Set Distribution Information

producer_location

DATA DICTIONARY ELEMENT NAME	producer_institution_name
TABLE NAME:	dsinfo
USER VIEW:	Data Set Distribution Information

reference_citation

DATA DICTIONARY ELEMENT NAME	reference_desc
TABLE NAME:	refd
USER VIEW:	References
TABLE NAME:	refd
USER VIEW:	Instrument Information References
TABLE NAME:	refd
USER VIEW:	Mission and Spacecraft Information References

revolution_period(min)
revolution_period(max)

DATA DICTIONARY ELEMENT NAME	revolution_period
TABLE NAME:	targorbinfo
USER VIEW:	Target Dynamic Parameters

sampling_parameter_interval(min)
sampling_parameter_interval(max)

DATA DICTIONARY ELEMENT NAME	sampling_parameter_interval
TABLE NAME:	dsparminfo
USER VIEW:	General Data Set Information

scaled_pixel_height(min)
scaled_pixel_height(max)

DATA DICTIONARY ELEMENT NAME	scaled_pixel_height
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

scaled_pixel_width(min)
scaled_pixel_width(max)

DATA DICTIONARY ELEMENT NAME	scaled_pixel_width
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

sidereal_rotation_period(min)
sidereal_rotation_period(max)

DATA DICTIONARY ELEMENT NAME	sidereal_rotation_period
TABLE NAME:	targorbinfo
USER VIEW:	Target Dynamic Parameters

spacecraft_clock_start_count(min)
spacecraft_clock_start_count(max)

DATA DICTIONARY ELEMENT NAME	spacecraft_clock_start_count
TABLE NAME:	imimageinfo
USER VIEW:	Region Information
TABLE NAME:	imimageinfo
USER VIEW:	Feature Information

spacecraft_name

DATA DICTIONARY ELEMENT NAME	instrument_host_name
TABLE NAME:	hostinfo
USER VIEW:	Personnel Affiliations
TABLE NAME:	hostinfo
USER VIEW:	Spacecraft Description
TABLE NAME:	hostinfo
USER VIEW:	Mission Phase Information
TABLE NAME:	hostinfo
USER VIEW:	Associated Missions and Spacecraft
TABLE NAME:	hostinfo
USER VIEW:	Spacecraft and Instrument Mountings
TABLE NAME:	hostinfo
USER VIEW:	General Mission and Spacecraft Information
TABLE NAME:	hostinfo
USER VIEW:	Mission and Spacecraft Associated Data Sets
TABLE NAME:	hostinfo
USER VIEW:	Mission and Spacecraft Information References

surface_gravity(min)
surface_gravity(max)

DATA DICTIONARY ELEMENT NAME	surface_gravity
TABLE NAME:	targphysinfo
USER VIEW:	Target Physical Parameters

task_expertise

DATA DICTIONARY ELEMENT NAME	expertise_area_type
TABLE NAME:	
USER VIEW:	Personnel Affiliations
TABLE NAME:	perstask
USER VIEW:	Personnel Information

task_role

DATA DICTIONARY ELEMENT NAME	role_desc
TABLE NAME:	perstask
USER VIEW:	Personnel Information

task_specialty

DATA DICTIONARY ELEMENT NAME	specialty_desc
TABLE NAME:	perstask
USER VIEW:	Personnel Information

telescope_resolution(min)
telescope_resolution(max)

DATA DICTIONARY ELEMENT NAME	telescope_resolution
TABLE NAME:	instoptics
USER VIEW:	Optical Parameters

user_full_name

DATA DICTIONARY ELEMENT NAME	full_name
TABLE NAME:	persinfo
USER VIEW:	Personnel Information

DISPLAY NAME

center_emission_angle

DATA DICTIONARY ELEMENT NAME	emission_angle
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

center_incidence_angle

DATA DICTIONARY ELEMENT NAME	incidence_angle
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

center_latitude

DATA DICTIONARY ELEMENT NAME	latitude
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

center_longitude

DATA DICTIONARY ELEMENT NAME	longitude
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

center_phase_angle

DATA DICTIONARY ELEMENT NAME	phase_angle
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

center_scaled_pixel_height

DATA DICTIONARY ELEMENT NAME	scaled_pixel_height
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

center_scaled_pixel_width

DATA DICTIONARY ELEMENT NAME	scaled_pixel_width
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

emission_angle(min)
emission_angle(max)

DATA DICTIONARY ELEMENT NAME	emission_angle
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

image_number(min)
image_number(max)

DATA DICTIONARY ELEMENT NAME	image_number
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

image_time(min)
image_time(max)

DATA DICTIONARY ELEMENT NAME	image_time
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

incidence_angle(min)
incidence_angle(max)

DATA DICTIONARY ELEMENT NAME	incidence_angle
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

latitude(min)
latitude(max)

DATA DICTIONARY ELEMENT NAME	latitude
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

local_time(min)
local_time(max)

DATA DICTIONARY ELEMENT NAME	local_time
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode

longitude(min)
longitude(max)

DATA DICTIONARY ELEMENT NAME	longitude
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

phase_angle(min)
phase_angle(max)

DATA DICTIONARY ELEMENT NAME	phase_angle
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

planet_day_number(min)
planet_day_number(max)

DATA DICTIONARY ELEMENT NAME	planet_day_number
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

scaled_pixel_height(min)
scaled_pixel_height(max)

DATA DICTIONARY ELEMENT NAME	**scaled_pixel_height**
TABLE NAME:	**imimageinfo**
USER VIEW:	**Image Orientation**
TABLE NAME:	**imimageinfo**
USER VIEW:	**Image Instrument Mode**
TABLE NAME:	**imimageinfo**
USER VIEW:	**General Image Information**

scaled_pixel_width(min)
scaled_pixel_width(max)

DATA DICTIONARY ELEMENT NAME	**scaled_pixel_width**
TABLE NAME:	**imimageinfo**
USER VIEW:	**Image Orientation**
TABLE NAME:	**imimageinfo**
USER VIEW:	**Image Instrument Mode**
TABLE NAME:	**imimageinfo**
USER VIEW:	**General Image Information**

solar_longitude(min)
solar_longitude(max)

DATA DICTIONARY ELEMENT NAME	**solar_longitude**
TABLE NAME:	**imimageinfo**
USER VIEW:	**Image Instrument Mode**

spacecraft_altitude(min)
spacecraft_altitude(max)

DATA DICTIONARY ELEMENT NAME	**spacecraft_altitude**
TABLE NAME:	**imimageinfo**
USER VIEW:	**Image Orientation**
TABLE NAME:	**imimageinfo**
USER VIEW:	**Image Instrument Mode**

spacecraft_clock_start_count(min)
spacecraft_clock_start_count(max)

DATA DICTIONARY ELEMENT NAME	spacecraft_clock_start_count
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode
TABLE NAME:	imimageinfo
USER VIEW:	General Image Information

target_body_center_distance

DATA DICTIONARY ELEMENT NAME	target_center_distance
TABLE NAME:	imimageinfo
USER VIEW:	Image Orientation
TABLE NAME:	imimageinfo
USER VIEW:	Image Instrument Mode

DISPLAY NAME

(min)
(max)

DATA DICTIONARY ELEMENT NAME	vector_component_1
TABLE NAME:	fpposition
USER VIEW:	Position Related Data Quality

(min)
(max)

DATA DICTIONARY ELEMENT NAME	vector_component_2
TABLE NAME:	fpposition
USER VIEW:	Position Related Data Quality

(min)
(max)

DATA DICTIONARY ELEMENT NAME	vector_component_3
TABLE NAME:	fpposition
USER VIEW:	Position Related Data Quality

Z_number_instrument_parameter_name

DATA DICTIONARY ELEMENT NAME	instrument_parameter_name
TABLE NAME:	
USER VIEW:	LECP Channel Information

Z_number_instrument_parameter_unit

DATA DICTIONARY ELEMENT NAME	instrument_parameter_unit
TABLE NAME:	
USER VIEW:	LECP Channel Information

Z_number_maximum_instrument_parameter

DATA DICTIONARY ELEMENT NAME	maximum_instrument_parameter
TABLE NAME:	
USER VIEW:	LECP Channel Information

Z_number_minimum_instrument_parameter

DATA DICTIONARY ELEMENT NAME	minimum_instrument_parameter
TABLE NAME:	
USER VIEW:	LECP Channel Information

channel_maximum_sampling_parameter

DATA DICTIONARY ELEMENT NAME	maximum_sampling_parameter
TABLE NAME:	fppwschnl
USER VIEW:	PWS Sampling Scheme

channel_minimum_sampling_parameter

DATA DICTIONARY ELEMENT NAME	minimum_sampling_parameter
TABLE NAME:	fppwschnl
USER VIEW:	PWS Sampling Scheme

channel_sampling_parameter_name

DATA DICTIONARY ELEMENT NAME	sampling_parameter_name
TABLE NAME:	fppwschnl
USER VIEW:	PWS Sampling Scheme

channel_sampling_parameter_unit

DATA DICTIONARY ELEMENT NAME	sampling_parameter_unit
TABLE NAME:	fppwschnl
USER VIEW:	PWS Sampling Scheme

end_of_data_set

DATA DICTIONARY ELEMENT NAME	event_stop_time
TABLE NAME:	dsinfo
USER VIEW:	General Data Set Information

energy_rng_instrument_parameter_name

DATA DICTIONARY ELEMENT NAME	instrument_parameter_name
TABLE NAME:	
USER VIEW:	LECP Channel Information

energy_rng_instrument_parameter_unit

DATA DICTIONARY ELEMENT NAME	instrument_parameter_unit
TABLE NAME:	
USER VIEW:	LECP Channel Information

energy_rng_maximum_instrument_parameter

DATA DICTIONARY ELEMENT NAME	maximum_instrument_parameter
TABLE NAME:	
USER VIEW:	LECP Channel Information

energy_rng_minimum_instrument_parameter

DATA DICTIONARY ELEMENT NAME	minimum_instrument_parameter
TABLE NAME:	
USER VIEW:	LECP Channel Information

inst_maximum_sampling_parameter

DATA DICTIONARY ELEMENT NAME	maximum_sampling_parameter
TABLE NAME:	instsectparm
USER VIEW:	PWS Sampling Scheme

inst_minimum_sampling_parameter

DATA DICTIONARY ELEMENT NAME	minimum_sampling_parameter
TABLE NAME:	instsectparm
USER VIEW:	PWS Sampling Scheme

inst_sampling_parameter_interval

DATA DICTIONARY ELEMENT NAME	sampling_parameter_interval
TABLE NAME:	instsectparm
USER VIEW:	PWS Sampling Scheme

inst_sampling_parameter_name

DATA DICTIONARY ELEMENT NAME	sampling_parameter_name
TABLE NAME:	instsectparm
USER VIEW:	PWS Sampling Scheme

inst_sampling_parameter_resolution

DATA DICTIONARY ELEMENT NAME	sampling_parameter_resolution
TABLE NAME:	instsectparm
USER VIEW:	PWS Sampling Scheme

inst_sampling_parameter_unit

DATA DICTIONARY ELEMENT NAME	sampling_parameter_unit
TABLE NAME:	instsectparm
USER VIEW:	PWS Sampling Scheme

maximum_value(dynamic_range)

DATA DICTIONARY ELEMENT NAME	maximum_instrument_parameter
TABLE NAME:	instsectparm
USER VIEW:	PWS Mode Information

minimum_value(dynamic_range)

DATA DICTIONARY ELEMENT NAME	minimum_instrument_parameter
TABLE NAME:	instsectparm
USER VIEW:	PWS Mode Information

nominal_energy_resolution(min)
nominal_energy_resolution(max)

DATA DICTIONARY ELEMENT NAME	nominal_energy_resolution
TABLE NAME:	fpplsmodeinf
USER VIEW:	PLS Detailed Mode Information

number_of_important_inst_parms

DATA DICTIONARY ELEMENT NAME	important_instrument_parms
TABLE NAME:	dsinstparm
USER VIEW:	Data Set and Instrument Parameters
TABLE NAME:	dsinstparm
USER VIEW:	Parameter Availability (Location and Data Sets)

principal_investigator

DATA DICTIONARY ELEMENT NAME	full_name
TABLE NAME:	persinfo
USER VIEW:	MAG Instrument Information
TABLE NAME:	persinfo
USER VIEW:	PLS Instrument Information
TABLE NAME:	persinfo
USER VIEW:	PWS Instrument Information
TABLE NAME:	persinfo
USER VIEW:	LECP Instrument Information

spacecraft_id

DATA DICTIONARY ELEMENT NAME	instrument_host_id
TABLE NAME:	dshost
USER VIEW:	General Data Set Information
TABLE NAME:	dshost
USER VIEW:	Target Related Spacecraft and Time
TABLE NAME:	dsinstparm
USER VIEW:	Data Set and Instrument Parameters
TABLE NAME:	dsinstparm
USER VIEW:	Parameter Availability (Location and Data Sets)
TABLE NAME:	instmoded
USER VIEW:	PLS Mode Description

start_date

DATA DICTIONARY ELEMENT NAME	event_start_time
TABLE NAME:	dsinfo
USER VIEW:	Target Related Spacecraft and Time

start_of_data_set

DATA DICTIONARY ELEMENT NAME	event_start_time
TABLE NAME:	dsinfo
USER VIEW:	General Data Set Information

start_of_hour

DATA DICTIONARY ELEMENT NAME	event_start_time
TABLE NAME:	fpdatacvg
USER VIEW:	Event Related Data Quality
TABLE NAME:	fpdatacvg
USER VIEW:	Data Set Related Data Quality
TABLE NAME:	fpdatacvg
USER VIEW:	Position Related Data Quality
TABLE NAME:	fpdatacvg
USER VIEW:	Target and Time Related Data Quality

stop_date

DATA DICTIONARY ELEMENT NAME	event_stop_time
TABLE NAME:	dsinfo
USER VIEW:	Target Related Spacecraft and Time

Appendix E

COLUMN - TABLE CROSS REFERENCE

This appendix provides a cross-reference between columns and tables. The data dictionary name for each column (attribute) is shown, along with all of the tables (relations) which contain the column.

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
aaxisradius	a_axis_radius	targphysinfo
acceptdetd	acceptance_detector_desc	fplecppmpadd
acceptinfod	acceptance_information_desc	fplecppmpaid
ascnodelon	ascending_node_longitude	targorbinfo
authfullname	author_full_name	refauth
avlvaltype	available_value_type	ddcol
az	azimuth	imimageinfo imret
bandwidth	bandwidth	fppwschnl
baxisradius	b_axis_radius	targphysinfo
billaddrline	billing_address_line	ordbilladdr persbilladdr
blname	bl_name	ddcol ddcold ddcolstdval ddqueryparm ddtblcols
blsqlfmt	bl_sql_format	ddcol
bondalb	bond_albedo	targphysinfo
browseflag	browse_flag	fpbrowseavl
builddate	build_date	instinfo
caxisradius	c_axis_radius	targphysinfo
chnlgeomfact	channel_geometric_factor	fplecpchnlz
chnlgrpname	channel_group_name	fplecpchnlz fplecpenergy fplecpmode fplecppmpadd

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		fplecppmpaid fplecppmpdet fplecppmpinf
chnlid	channel_id	fplecpchnlz fplecpenergy fpplschnl fppwschnl
chnlintgdur	channel_integration_duration	fpplsmodeinf
chnls	channels	fplecpmode fpplsmodeinf fppwsmode
clustkey	clustered_key	ddtblcols
cogfullname	cognizant_full_name	swinfo
cold	column_description	ddcold
colname	column_name	ddcol
colnamealias	column_name_alias	ddqueryparm
colord	column_order	ddtblcols
colreqflag	column_required_flag	ddqueryparm
colunittype	column_unit_type	ddcol ddunitd
colval	column_value	ddcolstdval
colvalnodeid	column_value_node_id	ddcolstdval
colvaltype	column_value_type	ddcolstdval
comtfullname	committee_member_full_name	revwcomty
coneang	cone_angle	imimageinfo imret
coneoffang	cone_offset_angle	scinstoff
conflvlnote	confidence_level_note	dsconf
contamd	contamination_desc	fpcontamd
contamid	contamination_id	fpcontamd fpdatacvg
crdsysctrnm	coordinate_system_center_name	crdinfo

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
crdsysd	coordinate_system_desc	crdd
crdsysepoch	coordinate_system_ref_epoch	crdinfo
crdsysid	coordinate_system_id	crdd crdinfo evtposition evtspatial fpcrddefault fpposition vectcomp
crdsysname	coordinate_system_name	crdinfo
createdate	create_date	ddtbl
critical	criticality	ddtblcols
crsconeang	cross_cone_angle	imimageinfo imret
crsconoffang	cross_cone_offset_angle	scinstoff
ctrfiltwave	center_filter_wavelength	instfilt
ctrfreq	center_frequency	fppwschnl
cycleid	cycle_id	fpplscycfram fpplscycle
dapdsuserid	da_contact_pds_user_id	nodeinfo
datacvgpct	data_coverage_percentage	fpdatacvg imimageinfo
dataobjtype	data_object_type	dsinfo
datapathtype	data_path_type	instmodeinfo
dataquald	data_quality_desc	fpdataquald
dataqualid	data_quality_id	fpdatacvg fpdataquald
datarate	data_rate	instsectinfo
datasourced	data_source_desc	dssourceinfo
datasourceid	data_source_id	dssourceinfo targparminfo
declination	declination	imimageinfo imret

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
deliverydate	delivery_estimate_date	orditm
detailcatflg	detailed_catalog_flag	dsinfo
detaspectrto	detector_aspect_ratio	instdet
detd	detector_desc	instdetd
detgrpname	detector_group_name	fplecppmpadd fplecppmpdet
detgrps	detector_groups	fplecppmpinf
detid	detector_id	fpmagdetinfo fpmagdetrng fpmagmodedet fpplsmodedet iminsttempd instdet instdetd instsectdet instsensd
dets	detectors	fplecppmpdet fpmagmodeinf fpplsmodeinf
dettype	detector_type	instdet
discd	discipline_desc	discd
discname	discipline_name	discd nodeinfo
distnodeid	distribution_node_id	orditm
doctopictype	document_topic_type	refinfo
dsbytes	data_set_bytes	invsize
dscost	data_set_cost	invnodemedia
dsd	data_set_desc	dsd
dsgranname	data_set_granule_name	invszthrshld orditm
dsid	data_set_id	dsconf dsd dsdoc dsebmeasatmd dsebmeassrcd

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		dsebmeasstdd dsebmeaswvd dshost dsinfo dsparminfo dstarg fpdatacvg imdsimage invnodemedia invpinsw invsize invszthrshld orditm revwdset
dsinstparmd	data_set_or_inst_parm_desc	dsinstparmd
dsinstparmnm	data_set_or_instrument_parm_nm	dsinstparmd
dsname	data_set_name	dsinfo
dsparmname	data_set_parameter_name	dsinstparm dsparminfo
dsparmunit	data_set_parameter_unit	dsparminfo
dspfmt	display_format	ddcol ddqueryparm
dsreleasedt	data_set_release_date	dsinfo
dsthrshld	data_set_threshold	invszthrshld
dstnmediad	distribution_media_desc	orditm
earthrcvdtm	earth_received_time	imimageinfo
ebid	earth_base_id	ebinfo ebinstloc
ebinstnname	earth_base_institution_name	ebinfo
editmodeid	edit_mode_id	imimageinfo
editrtnname	edit_routine_name	tmpltattr
elecmailid	electronic_mail_id	ords perselecmail
elecmailtype	electronic_mail_type	ords perselecmail
elecsd	electronics_desc	instelecd

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
elecsid	electronics_id	instelecd instsectelec
elevation	elevation	imimageinfo imret
emissang	emission_angle	imimageinfo imret
equatradius	equatorial_radius	targphysinfo
evtname	event_name	evtinfo
evtstoptime	event_stop_time	dsinfo evtinfo
evtstrthour	event_start_hour	fpdatacvg
evtstrttime	event_start_time	dsinfo evtinfo evtspatial fpbrowseavl fpdatacvg fpposition
evttype	event_type	evtd evtinfo evtposition evtspatial
evttyped	event_type_desc	evtd
exposdur	exposure_duration	imimageinfo
exposofflg	exposure_offset_flag	imimageinst
exposoffnum	exposure_offset_number	imimageinst
exprtareatyp	expertise_area_type	persmsn perstask
featname	feature_name	imfeatinfo
feattype	feature_type	imfeatinfo imfeattyped
feattyped	feature_type_desc	imfeattyped
filtname	filter_name	imimageinfo instfilt
filtnum	filter_number	imimageinfo

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		instfilt instmswvcd instsectfilt
filttype	filter_type	instfilt
flattening	flattening	targphysinfo
fovs	fovs	instsectfovs
fovshapename	fov_shape_name	instsectfovs
framedur	frame_duration	fpplsframdur
frameid	frame_id	fpplscycfram fpplsframdur fpplsframecmd
frames	frames	fpplscycle
frameseqnum	frame_sequence_number	fpplscycfram
ftsnum	fts_number	persinfo
fullname	full_name	persinfo
gainmodeid	gain_mode_id	instmodeinfo
gainmodes	gain_modes	fppwsmode
granseqnum	granule_sequence_number	orditmgran
granstop	granule_stop	orditmgran
granstrt	granule_start	orditmgran
helpid	help_id	ddhelp
helpname	help_name	ddhelp
helptext	help_text	ddhelp
horzfov	horizontal_fov	instsectfovs
horzpixfov	horizontal_pixel_fov	instsectfovs
imageid	image_id	imimageinfo
imagekeyid	image_key_id	imdsimage imimageinfo imimagenote imret
imagenum	image_number	imimageinfo

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
imageobstype	image_observation_type	imimageinfo
imagetime	image_time	imimageinfo
impinstparms	important_instrument_parms	dsinstparm
incidang	incidence_angle	imimageinfo imret
initnodeid	initiating_node_id	ords
instcalibd	instrument_calibration_desc	instcalibd
instd	instrument_desc	instd
instheight	instrument_height	instinfo
insthostid	instrument_host_id	dsebmeasatmd dsebmeassrcd dsebmeasstdd dsebmeaswvd dshost dsinstparm evtinfo hostinfo iminsttempd instcalibd instd instdet instdetd instdoc instelecd instfilt instinfo instmoded instmodeinfo instmodesect instmountd instmswvcd instoperd instoptics instopticsd instsciobjd instsectdet instsectelec instsectfilt instsectfovs instsectinfo

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		instsectoptc instsectparm instsensd platd
insthostname	instrument_host_name	hostinfo
insthosttype	instrument_host_type	hostinfo
instid	instrument_id	dsebmeasatmd dsebmeassrcd dsebmeasstdd dsebmeaswvd dshost ebinstloc evtinfo fpbrowseavl fpcontamd fpdataquald fplecpchnls fplecpenergy fplecpmode fplecppmpadd fplecppmpaid fplecppmpdet fplecppmpinf fpmagdetinfo fpmagdetrng fpmagmodedet fpmagmodeinf fpplschnl fpplscycfram fpplscycle fpplsframdur fpplsframemd fpplsmodedet fpplsmodeinf fpplsmodeprm fppwschnl fppwsmode fppwssampd imimageinfo imimageinst iminsttempd instcalibd instd instdet

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		instdetd instdoc instelecd instfilt instinfo instmoded instmodeinfo instmodesect instmountd instmswvcd instoperd instoptics instopticsd instsciobjd instsectdet instsectelec instsectfilt instsectfovs instsectinfo instsectoptc instsectparm instsensd persmsn scinstoff
instlength	instrument_length	instinfo
instmass	instrument_mass	instinfo
instmfgname	instrument_manufacturer_name	instinfo
instmoded	instrument_mode_desc	instmoded
instmodeid	instrument_mode_id	fpbrowseavl fplecpmode fpmagmodedet fpmagmodeinf fpplschnl fpplsframemd fpplsmodedet fpplsmodeinf fpplsmodeprm fppwschnl fppwsmode fppwssampd imimageinfo imimageinst instmoded

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		instmodeinfo instmodesect
instmountd	instrument_mounting_desc	instmountd
instname	instrument_name	instinfo
instparmname	instrument_parameter_name	dsinstparm fplecpchnlz fplecpenergy fplecpmode fplecppmpdet fpmagdetrng fpplsmodeprm fppwsmode instsectparm
instparmrngs	instrument_parameter_ranges	fpmagdetinfo
instparmunit	instrument_parameter_unit	fplecpchnlz fplecpenergy fplecppmpdet fpmagdetrng instsectparm
instpwrcnsmp	instrument_power_consumption	instmodeinfo
instserlnum	instrument_serial_number	instinfo
insttype	instrument_type	instinfo
instwidth	instrument_width	instinfo
journalname	journal_name	refinfo
kwddefault	keyword_default_value	tmpltattr
kwdhelptxt	keyword_value_help_text	tmpltattr
lastname	last_name	persinfo
lat	latitude	ebinstloc imimageinfo imret
launchdate	launch_date	scinfo
litefldstflg	light_flood_state_flag	imimageinst
localhourang	local_hour_angle	evtposition fpposition
localtime	local_time	imimageinfo

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
lon	longitude	ebinstloc imimageinfo imret
magmoment	magnetic_moment	targphysinfo
mailaddrline	mailing_address_line	persmailaddr
mandatorycol	mandatory_column	ddtblcols
mass	mass	targphysinfo
massdensity	mass_density	targphysinfo
maxchnlid	maximum_channel_id	fpplsframemd
maxcolval	maximum_column_value	ddcol
maxexposdur	maximum_instrument_exposr_dur	imimageinst
maxinstparm	maximum_instrument_parameter	fplecpchnls fplecpenergy fplecppmpdet fpmagdetrng instsectparm
maxlat	maximum_latitude	evtspatial imfeatinfo imregioninfo
maxlon	maximum_longitude	evtspatial imfeatinfo imregioninfo
maxsampparm	maximum_sampling_parameter	dsparminfo fpplschnl fpplsmodeinf fppwschnl instsectparm
maxsurfpres	maximum_surface_pressure	targphysinfo
maxsurftemp	maximum_surface_temperature	targphysinfo
maxwave	maximum_wavelength	instdet instfilt
meanradius	mean_radius	targphysinfo
meansolarday	mean_solar_day	targorbinfo
meansurfpres	mean_surface_pressure	targphysinfo

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		instmodeinfo instmodesect
instmountd	instrument_mounting_desc	instmountd
instname	instrument_name	instinfo
instparmname	instrument_parameter_name	dsinstparm fplecpchnlz fplecpenergy fplecpmode fplecppmpdet fpmagdetrng fpplsmodeprm fppwsmode instsectparm
instparmrngs	instrument_parameter_ranges	fpmagdetinfo
instparmunit	instrument_parameter_unit	fplecpchnlz fplecpenergy fplecppmpdet fpmagdetrng instsectparm
instpwrcnsmp	instrument_power_consumption	instmodeinfo
instserlnum	instrument_serial_number	instinfo
insttype	instrument_type	instinfo
instwidth	instrument_width	instinfo
journalname	journal_name	refinfo
kwddefault	keyword_default_value	tmpltattr
kwdhelptxt	keyword_value_help_text	tmpltattr
lastname	last_name	persinfo
lat	latitude	ebinstloc imimageinfo imret
launchdate	launch_date	scinfo
litefldstflg	light_flood_state_flag	imimageinst
localhourang	local_hour_angle	evtposition fpposition
localtime	local_time	imimageinfo

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
lon	longitude	ebinstloc imimageinfo imret
magmoment	magnetic_moment	targphysinfo
mailaddrline	mailing_address_line	persmailaddr
mandatorycol	mandatory_column	ddtblcols
mass	mass	targphysinfo
massdensity	mass_density	targphysinfo
maxchnlid	maximum_channel_id	fpplsframemd
maxcolval	maximum_column_value	ddcol
maxexposdur	maximum_instrument_exposr_dur	imimageinst
maxinstparm	maximum_instrument_parameter	fplecpchnlz fplecpenergy fplecppmpdet fpmagdetrng instsectparm
maxlat	maximum_latitude	evtspatial imfeatinfo imregioninfo
maxlon	maximum_longitude	evtspatial imfeatinfo imregioninfo
maxsampparm	maximum_sampling_parameter	dsparminfo fpplschnl fpplsmodeinf fppwschnl instsectparm
maxsurfpres	maximum_surface_pressure	targphysinfo
maxsurftemp	maximum_surface_temperature	targphysinfo
maxwave	maximum_wavelength	instdet instfilt
meanradius	mean_radius	targphysinfo
meansolarday	mean_solar_day	targorbinfo
meansurfpres	mean_surface_pressure	targphysinfo

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
meansurftemp	mean_surface_temperature	targphysinfo
measatmd	measurement_atmosphere_desc	dsebmeasatmd
meassourced	measurement_source_desc	dsebmeassrcd
measstdd	measurement_standard_desc	dsebmeasstdd
measwvcalibd	measurement_wave_calbrt_desc	dsebmeaswvd instmswvcd
mediad	medium_desc	invnodemedia
medium	medium	invcsthrshld invnodemedia orditm
mgrpdsuserid	node_manager_pds_user_id	nodeinfo
minavlsampiv	minimum_available_sampling_int	dsparminfo
minchnlid	minimum_channel_id	fpplsframemd
mincolval	minimum_column_value	ddcol
minexposdur	minimum_instrument_exposr_dur	imimageinst
mininstparm	minimum_instrument_parameter	fplecpchnlz fplecpenergy fplecppmpdet fpmagdetrng instsectparm
minlat	minimum_latitude	evtspatial imfeatinfo imregioninfo
minlon	minimum_longitude	evtspatial imfeatinfo imregioninfo
minsampparm	minimum_sampling_parameter	dsparminfo fpplschnl fpplsmodeinf fppwschnl instsectparm
minsurfpres	minimum_surface_pressure	targphysinfo
minsurftemp	minimum_surface_temperature	targphysinfo
minwave	minimum_wavelength	instdet

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		instfilt
modecontflag	mode_continuation_flag	fpplsframemd
modeintgdur	mode_integration_duration	fpplsmodeinf
msnaliasname	mission_alias_name	msninfo
msnd	mission_desc	msnd
msnname	mission_name	msnd msndoc msninfo msnobjsmy msnphsinfo persmsn
msnobjsmy	mission_objectives_summary	msnobjsmy
msnphsd	mission_phase_desc	msnphsd
msnphsstoptm	mission_phase_stop_time	msnphsinfo
msnphsstrttm	mission_phase_start_time	msnphsinfo
msnphstype	mission_phase_type	msnphsd msnphsinfo
msnstopdate	mission_stop_date	msninfo
msnstrtdate	mission_start_date	msninfo
naifdsid	naif_data_set_id	instinfo
nativestoptm	native_stop_time	dsinfo
nativestrttm	native_start_time	dsinfo
ndinstnname	node_institution_name	nodeinfo
noded	node_desc	noded
nodeid	node_id	custsup invcsthrshld invnethrshld invnodemedia invpinsw invszthrshld noded nodeinfo persnode swinfo

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
nodename	node_name	nodeinfo
nodeorditmid	node_order_item_id	orditm
noiselevel	noise_level	dsparminfo instsectparm
nomenergyres	nominal_energy_resolution	fpplsmodeinf
nomopertemp	nominal_operating_temperature	instdet
nonclustkey	non_clustered_key	ddtblcols
northaz	north_azimuth	imimageinfo
note	note	imimagenote
objattrval	object_attribute_value	kwdctltbl
objname	object_name	kwdctltbl tmplt tmpltattr tmpltctltbl tmpltd tmplthier txtctltbl
obliquity	obliquity	targorbinfo
operconsidd	operational_consid_desc	instoperd
opspdsuserid	operations_contact_pds_user_id	nodeinfo
opticsd	optics_desc	instopticsd
orbdirtype	orbit_direction_type	targorbinfo
orbecc	orbital_eccentricity	targorbinfo
orbincln	orbital_inclination	targorbinfo
orbnum	orbit_number	imimageinfo
orbsemimajax	orbital_semimajor_axis	targorbinfo
orddate	order_date	ords
ordinitr	order_initiator	ords
orditmbytes	order_item_bytes	orditm
orditmd	order_item_desc	orditm
orditmmedcst	order_item_media_cost	orditm

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
orditmnum	order_item_number	orditm orditmgran orditmshpins orditmspcins orditmstatus orditmstsd
orditmprccst	order_item_processing_cost	orditm
orditmqty	order_item_quantity	orditm
orditmshpcst	order_item_shipping_cost	orditm
orditmshpin	order_item_shipping_instr	orditmshpins
orditmshpqty	order_item_ship_quantity	orditmstatus
orditmspcin	order_item_special_instr	orditmspcins
orditmstaff	order_status_staff_name	orditmstatus
orditmstatus	order_item_status	orditmstatus
orditmstsd	order_item_status_desc	orditmstsd
orditmstsdt	order_item_status_date	orditmstatus
orditmstsseq	order_item_status_sequence_num	orditmstatus orditmstsd
ordnum	order_number	ordbilladdr orditm orditmgran orditmshpins orditmspcins orditmstatus orditmstsd ords ordshpaddr ordstatus
ordprefid	order_preference_id	persorder
ordshpcarrnm	order_ship_carrier_name	ords
ordstatus	order_status	ordstatus
ordstsdate	order_status_date	ordstatus
ordstsseqnum	order_status_sequence_number	ordstatus
outputflag	output_flag	ddcolstdval

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
parenttmplt	parent_template	kwdctltbl tmpltattr
parmseqnum	parameter_sequence_number	ddqueryparm
parmtype	parameter_type	ddqueryparm
partspecanm	particle_species_name	fplecpenergy fpplsmodeinf
pdssuplrname	pds_supplier_name	tmpltctltbl
pdsuserid	pds_user_id	custsup ords persbilladdr perselecmail persinfo persinstn persmailaddr persmsn persnode persorder perstask
peerrevwid	peer_review_id	revw revwcomty revwdset revwrslt
peerrevwrole	peer_review_role	revwcomty
peerrvwdssts	peer_review_data_set_status	revwdset
peerrvwrslts	peer_review_results_desc	revwrslt
periargang	periapsis_argument_angle	targorbinfo
pershpcaract	personnel_shipping_account_num	ords persorder
persinstnnm	person_institution_name	persinstn
persshpcarr	personnel_shipping_carrier_nam	persorder
phsang	phase_angle	imimageinfo imret
pinswid	pin_software_id	invpinsw
pipdsuserid	pi_pds_user_id	instinfo
planetdaynum	planet_day_number	imimageinfo

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
platmountd	platform_or_mounting_desc	platd
platmountnm	platform_or_mounting_name	ebinstloc instmountd platd scinstoff
poledecl	pole_declination	targorbinfo
polera	pole_right_ascension	targorbinfo
positiontime	position_time	evtposition evtspatial
preferenceid	preference_id	perselecmail
primbodyname	primary_body_name	targphysinfo
proclvld	processing_level_desc	procd
proclvlid	processing_level_id	dsinfo procd
procstoptime	processing_stop_time	dsinfo
procstrttime	processing_start_time	dsinfo
proddsid	product_data_set_id	dsproc
prodfullname	producer_full_name	dsinfo
prodinstnnm	producer_institution_name	dsinfo
publdate	publication_date	refinfo
quantzres	quantization_resolution	fpmagdetrng
querycontext	query_context	ddquery
queryname	query_name	ddquery ddqueryparm
ra	right_ascension	imimageinfo imret
refd	reference_desc	refd
refkeyid	reference_key_id	dsdoc instdoc msndoc refauth refd refinfo

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		scdoc
refobjname	reference_object_name	vectcomp
reftargname	reference_target_name	vectcomp
regdate	registration_date	persinfo
regiond	region_desc	imregiond
regionname	region_name	imregiond imregioninfo
retpointnum	reticle_point_number	imret
revper	revolution_period	targorbinfo
revwstopdate	peer_review_stop_date	revw
revwstrtdate	peer_review_start_date	revw
ringsyssmy	ring_system_summary	targringsmy
roled	role_desc	persmsn perstask
rotdirtype	rotation_direction_type	targorbinfo
sampbits	sample_bits	instsectinfo
sampd	sampling_desc	fppwssampd
sampparmiv	sampling_parameter_interval	dsparminfo fplecpmode fpmagdetinfo instsectparm
sampparmname	sampling_parameter_name	dsparminfo fpmagdetinfo fpplschnl fpplsmodeinf fppwschnl instsectparm
sampparmres	sampling_parameter_resolution	dsparminfo instsectparm
sampparmunit	sampling_parameter_unit	dsparminfo fpmagdetinfo fpplschnl fpplsmodeinf fppwschnl instsectparm

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
scaleimageht	scaled_image_height	imimageinfo
scaleimagewd	scaled_image_width	imimageinfo
scalepixht	scaled_pixel_height	imimageinfo imret
scalepixwd	scaled_pixel_width	imimageinfo imret
scalt	spacecraft_altitude	imimageinfo
scanmodeid	scan_mode_id	instsectinfo
scd	spacecraft_desc	scd
scid	spacecraft_id	fpbrowseavl fpcontamd fpdataquald fplecpchnls fplecpenergy fplecpmode fplecppmpadd fplecppmpaid fplecppmpdet fplecppmpinf fpmagdetinfo fpmagdetrng fpmagmodedet fpmagmodeinf fpplschnl fpplscycfram fpplscycle fpplsframdur fpplsframemd fpplsmodedet fpplsmodeinf fpplsmodeprm fppwschnl fppwsmode fppwssampd imdsimage imimageinfo imimageinst imimagenote imret msnphsd msnphsinfo

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		persmsn scd scdoc scinfo scinstoff
scifundid	scientist_funding_id	persinfo
sciobjsmy	scientific_objectives_summary	instsciobjd
sclkstrtcnt	spacecraft_clock_start_count	imimageinfo
scopermodeid	spacecraft_operating_mode_id	fpplscycle
scopertype	spacecraft_operations_type	msnphsinfo
screenid	screen_id	orditm
sectid	section_id	fppwschnl fppwsmode fppwssampd instmodesect instsectdet instsectelec instsectfilt instsectfovs instsectinfo instsectoptc instsectparm
sensd	sensitivity_desc	instsensd
shpaddrline	shipping_address_line	ordshpaddr
shutmodeid	shutter_mode_id	imimageinfo
sidrotper	sidereal_rotation_period	targorbinfo
slantdist	slant_distance	imimageinfo imret
sollon	solar_longitude	imimageinfo
sourcedsid	source_data_set_id	dsproc
spcld	specialty_desc	persmsn perstask
sqlfmt	sql_format	ddcol
stdvaltype	standard_value_type	ddcol
strttimebase	start_time_base	fpplsframemd

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
subobjname	sub_object_name	tmplthier
subscaz	sub_spacecraft_azimuth	imimageinfo
subsclat	sub_spacecraft_latitude	imimageinfo
subsclon	sub_spacecraft_longitude	imimageinfo
subsolaz	sub_solar_azimuth	imimageinfo
subsollat	sub_solar_latitude	imimageinfo
subsollon	sub_solar_longitude	imimageinfo
supreqd	support_request_desc	custsupreqd
supreqdate	support_request_date	custsup
suprequestnu	support_request_no	custsup custsupreqd custsupresd
supres	support_resolution	custsupresd
supresdate	support_resolution_date	custsup
supstaffname	support_staff_full_name	custsup
surfclarpct	surface_clarity_percentage	imimageinfo
surfgrav	surface_gravity	targphysinfo
swaccessd	software_accessability_desc	swinfo
swd	software_desc	swd
swflag	software_flag	dsinfo
swname	software_name	dsproc swd swinfo
swreleasedt	software_release_date	swinfo
swtype	software_type	swinfo
sysevtcrd	system_event_coordinator	syssched
sysevtid	system_event_id	syssched
sysevtloc	system_event_location	syssched
sysevtname	system_event_name	syssched
sysevtstoptm	system_event_stop_time	syssched

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
sysevtstrttm	system_event_start_time	syssched
targctrdist	target_center_distance	imimageinfo
targname	target_name	dstarg evtinfo fpcrddefault fpplscycfram fpplscycle imfeatinfo imimageinfo imregioninfo msnphsd msnphsinfo targorbinfo targparminfo targphysinfo targringsmy
targparmname	target_parameter_name	targparminfo
targparmunct	target_parameter_uncertainty	targparminfo
targprmepoch	target_parameter_epoch	targparminfo
targtype	target_type	targphysinfo
taskname	task_name	perstask
tblblname	table_bl_name	kwdctltbl tmpltattr
tbld	table_desc	ddtbld
tblname	table_name	ddqueryparm ddtbl ddtblcols ddtbld kwdctltbl tmpltattr txtctltbl
tbltype	table_type	ddtbl
telephonenum	telephone_number	persinfo
temptransd	temperature_translation_desc	iminsttempd
tersename	terse_name	ddcol
thrshldbytes	threshold_bytes	invnethrshld

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
thrshldcost	threshold_cost	invcsthrshld
timeclsapr	time_from_closest_approach	imimageinfo
tlscpdiam	telescope_diameter	instoptics
tlscpfnum	telescope_f_number	instoptics
tlscpfoclen	telescope_focal_length	instoptics
tlscpid	telescope_id	instoptics instopticsd instsectoptc
tlscpres	telescope_resolution	instoptics
tlscpserlnum	telescope_serial_number	instoptics
tlscptnum	telescope_t_number	instoptics
tlscptnumerr	telescope_t_number_error	instoptics
tlscpxmit	telescope_transmittance	instoptics
tmpltblname	template_bl_name	kwdctltbl tmpltattr
tmpltloddate	template_load_date	kwdctltbl tmpltctltbl txtctltbl
tmpltlodtime	template_load_time	kwdctltbl tmpltctltbl txtctltbl
tmpltname	template_name	tmplt
tmpltnote	template_note	tmpltd
tmpltrevdate	template_revision_date	tmplt
tmpltstatus	template_status	tmpltctltbl
tmplttype	template_type	tmplt
tmpltuseind	template_use_indicator	tmplt
totaldsgran	total_data_set_granules	invsize
totfovs	total_fovs	instsectinfo
trueanomang	true_anomaly_angle	imimageinfo
tupseqnum	tuple_sequence_number	crdd

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		custsupreqd
		custsupresd
		ddcold
		ddhelp
		ddquery
		ddtbld
		dduvcatgry
		dduvd
		dduvhier
		discd
		dsconf
		dsd
		dsebmeasatmd
		dsebmeassrcd
		dsebmeasstdd
		dsebmeaswvd
		dsinstparmd
		dssourceinfo
		evtd
		fpcontamd
		fpdataquald
		fplecppmpadd
		fplecppmpaid
		fppwssampd
		imfeattyped
		imimagenote
		iminsttempd
		imregiond
		instcalibd
		instd
		instdetd
		instelecd
		instmoded
		instmountd
		instmswvcd
		instoperd
		instopticsd
		instsciobjd
		instsensd
		msnd
		msnobjsmy
		msnphsd
		noded
		ordbilladdr
		orditmshpins
		orditmspcins

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		orditmstsd ordshpaddr persbilladdr persmailaddr platd procd refd revwrslt scd swd targringsmy tmpltattr tmpltd tmplthier txtctltbl vectd
twistoffang	twist_offset_angle	scinstoff
txtflag	text_flag	ddcol
txtstrval	text_string_value	txtctltbl
unitname	unit_name	ddunitd
unitqty	unit_quantity	ddunitd
uvcatgryfull	user_view_category_full_name	dduvcatgry
uvcatgryname	user_view_category_name	dduvcatgry dduvhier
uvd	user_view_desc	dduvd
uvfullname	user_view_full_name	dduv
uvname	user_view_name	ddquery ddqueryparm dduv dduvd dduvhier
uvtype	user_view_type	dduv dduvcatgry
uvwarning	user_view_warning	ddqueryparm
vectcomp1	vector_component_1	evtposition fpposition
vectcomp2	vector_component_2	evtposition

COLUMN NAME	DATA DICTIONARY NAME	TABLE NAME
		fpposition
vectcomp3	vector_component_3	evtposition fpposition
vectcompid	vector_component_id	vectcomp
vectcompid1	vector_component_id_1	evtposition fpcrddefault fpposition
vectcompid2	vector_component_id_2	evtposition fpcrddefault fpposition
vectcompid3	vector_component_id_3	evtposition fpcrddefault fpposition
vectcomptypd	vector_component_type_desc	vectd
vectcomptype	vector_component_type	vectcomp vectd
vectcompunit	vector_component_unit	vectcomp
vertfov	vertical_fov	instsectfovs
vertpixfov	vertical_pixel_fov	instsectfovs

Appendix F

PDS VERSION 1.0 DATA SET LIST

This appendix lists all the data sets that are currently being cataloged by the PDS Catalog for Version 1.0. The due dates are for the submittal of the data sets to the PDS for peer review. The data sets denoted date of review as "TBD" are to be ingested post Version 1.0.

F.1 FIELDS AND PARTICLES

The Fields and Particles data sets shall use the *PDS Data Set Template* (DATASET) for high–level catalog data and the *Fields and Particles Detail Catalog Template* (FPDTLCAT) for detailed–level catalog data.

Data Set ID Data Set Name	Date of Review
VG1-J-LECP-4-15MIN Voyager 1 Jupiter Low Energy Charged Particle Resampled Data 15 Minute Version 1.0	September 1988
VG1-J-LECP-4-BR-15MIN Voyager 1 Jupiter Low Energy Charged Particle Resampled Data Browse 15 Minute Version 1.0	Septbember 1988
VG1-J-MAG-4-1.92SEC Voyager 1 Jupiter Magnetometer Resampled Data 1.92 Seconds	September 1988
VG1-J-MAG-4-48.0SEC Voyager 1 Jupiter Magnetometer Resampled Data 48.0 Seconds Version 1.0	September 1988
VG1-J-MAG-4-9.60SEC Voyager 1 Jupiter Magnetometer Resampled Data 9.60 Seconds Version 1.0	September 1988
VG1-J-PLS-5-ION-MOM-96.0SEC Voyager 1 Jupiter Plasma Science Derived Data Ion Moment	September 1988

96.0 Seconds Version 1.0

VG1-J-PLS/PRA-5-ELE-MOM-96.0SEC Voyager 1 Jupiter Plasma Science Plasma Radio Astronomy Derived Data Electron Moment 96.0 Seconds Version 1.0	September 1988
VG1-J-POS-4-48.0SEC Voyager 1 Jupiter Position Resampled Data 48.0 Seconds Version 1.0	March 1989
VG1-J-PWS-2-SA-4.0SEC Voyager 1 Jupiter Plasma Wave Spectrometer Edited Data Spectrum Analyzer 4.0 Seconds Version 1.0	September 1988
VG1-J-PWS-4-SA-48.0SEC Voyager 1 Jupiter Plasma Wave Spectrometer Resampled Data Spectrum Analyzer 48.0 Seconds Version 1.0	September 1988
VG1-S-LECP-4-15MIN Voyager 1 Saturn Low Energy Charged Particle Resampled Data 15 Minute Version 1.0	September 1988
VG1-S-LECP-4-BR-15MIN Voyager 1 Saturn Low Energy Charged Particle Resampled Data Browse 15 Minute Version 1.0	September 1988
VG1-S-MAG-4-1.92SEC Voyager 1 Saturn Magnetometer Resampled Data 1.92 Seconds Version 1.0	September 1988
VG1-S-MAG-4-48.0SEC Voyager 1 Saturn Magnetometer Resampled Data 48.0 Seconds Version 1.0	September 1988
VG1-S-MAG-4-9.60SEC Voyager 1 Saturn Magnetometer	September 1988

Resampled Data 9.60 Seconds
Version 1.0

VG1-S-PLS-5-ELE-BR-96.0SEC	
Voyager 1 Saturn Plasma Science Derived Data Electron Browse 96.0 Seconds Version 1.0	September 1988
VG1-S-PLS-5-ION-FBR-96.0SEC	
Voyager 1 Saturn Plasma Science Derived Data Ion Fits Browse 96.0 Seconds Version 1.0	September 1988
VG1-S-PLS-5-ION-FIT-96.0SEC	
Voyager 1 Saturn Plasma Science Derived Data Ion Fits 96.0 Seconds Version 1.0	August 1988
VG1-S-PLS-5-ION-MOM-96.0SEC	
Voyager 1 Saturn Plasma Science Derived Data Ion Moment 96.0 Seconds Version 1.0	September 1988
VG1-S-PLS-5-ELE-PAR-96.0SEC	
Voyager 1 Saturn Plasma Science Derived Data Electron Parameters 96.0 Seconds Version 1.0	September 1988
VG1-S-POS-4-48.0SEC	
Voyager 1 Saturn Position Resampled Data 48.0 Seconds Version 1.0	March 1989
VG1-S-PWS-2-SA-4.0SEC	
Voyager 1 Saturn Plasma Wave Spectrometer Edited Data Spectrum Analyzer 4.0 Seconds Version 1.0	September 1988
VG1-S-PWS-4-SA-48.0SEC	
Voyager 1 Saturn Plasma Wave Spectrometer Resampled Data Spectrum Analyzer 48.0 Seconds Version 1.0	September 1988

VG2-J-LECP-4-15MIN

Voyager 2 Jupiter Low Energy Charged Particle Resampled Data 15 Minute Version 1.0	September 1988

VG2-J-LECP-4-BR-15MIN

Voyager 2 Jupiter Low Energy Charged Particle Resampled Data Browse 15 Minute Version 1.0	September 1988

VG2-J-MAG-4-1.92SEC

Voyager 2 Jupiter Magnetometer Resampled Data 1.92 Seconds Version 1.0	September 1988

VG2-J-MAG-4-48.0SEC

Voyager 2 Jupiter Magnetometer Resampled Data 48.0 Seconds Version 1.0	September 1988

VG2-J-MAG-4-9.60SEC

Voyager 2 Jupiter Magnetometer Resampled Data 9.60 Seconds Version 1.0	September 1988

VG2-J-PLS-5-ELE-MOM-96.0SEC

Voyager 2 Jupiter Plasma Science Derived Data Electron Moment 96.0 Seconds Version 1.0	September 1988

VG2-J-PLS-5-ION-MOM-96.0SEC

Voyager 2 Jupiter Plasma Science Derived Data Ion Moment 96.0 Seconds Version 1.0	September 1988

VG2-J-POS-4-48.0SEC

Voyager 2 Jupiter Position Resampled Data 48.0 Seconds Version 1.0	March 1989

VG2-J-PWS-2-SA-4.0SEC

Voyager 2 Jupiter Plasma Wave Spectrometer Edited Data Spectrum Analyzer 4.0 Seconds Version 1.0	September 1988

VG2-J-PWS-4-SA-48.0SEC
Voyager 2 Jupiter Plasma Wave Spectrometer Resampled Data Spectrum Analyzer 48.0 Minute Version 1.0 — September 1988

VG2-S-LECP-4-15MIN
Voyager 2 Saturn Low Energy Charged Particle Resampled Data 15 Minute Version 1.0 — September 1988

VG2-S-LECP-4-BR-15MIN
Voyager 2 Saturn Low Energy Charged Particle Resampled Data Browse 15 Minute Version 1.0 — September 1988

VG2-S-MAG-4-1.92SEC
Voyager 2 Saturn Magnetometer Resampled Data 1.92 Seconds Version 1.0 — September 1988

VG2-S-MAG-4-48.0SEC
Voyager 2 Saturn Magnetometer Resampled Data 48.0 Seconds Version 1.0 — September 1988

VG2-S-MAG-4-9.60SEC
Voyager 2 Saturn Magnetometer Resampled Data 9.60 Seconds Version 1.0 — September 1988

VG2-S-PLS-5-ELE-BR-96.0SEC
Voyager 2 Saturn Plasma Science Derived Data Electron Browse 96.0 Seconds Version 1.0 — September 1988

VG2-S-PLS-5-ELE-PAR-96.0SEC
Voyager 2 Saturn Plasma Science Derived Data Electron Parameters 96.0 Seconds Version 1.0 — September 1988

VG2-S-PLS-5-ION-FBR-96.0SEC
Voyager 2 Saturn Plasma Science Derived Ion Fit Browse Data 96.0 Seconds Version 1.0 — September 1988

VG2-S-PLS-5-ION-FIT-96.0SEC Voyager 2 Saturn Plasma Science Derived Ion Fits Data 96.0 Seconds Version 1.0	September 1988
VG2-S-PLS-5-ION-MOM-96.0SEC Voyager 2 Saturn Plasma Science Derived Data Ion Moment 96.0 Seconds Version 1.0	September 1988
VG2-S-POS-4-48.0SEC Voyager 2 Saturn Position Resampled Data 48.0 Seconds Version 1.0	March 1989
VG2-S-PWS-2-SA-4.0SEC Voyager 2 Saturn Plasma Wave Spectrometer Edited Data Spectrum Analyzer 4.0 Seconds Version 1.0	September 1988
VG2-S-PWS-4-SA-48.0SEC Voyager 2 Saturn Plasma Wave Spectrometer Resampled Data Spectrum Analyzer 48.0 Seconds Version 1.0	September 1988
VG2-U-LECP-4-15MIN Voyager 2 Uranus Low Energy Charged Particle Resampled Data 15 Minute Version 1.0	September 1988
VG2-U-LECP-4-BR-15MIN Voyager 2 Uranus Low Energy Charged Particle Resampled Data Browse 15 Minute Version 1.0	September 1988
VG2-U-MAG-4-1.92SEC Voyager 2 Uranus Magnetometer Resampled Data 1.92 Seconds Version 1.0	March 1989
VG2-U-MAG-4-48.0SEC Voyager 2 Uranus Magnetometer Resampled Data 48.0 Seconds Version 1.0	March 1989

VG2-U-MAG-4-9.60SEC
Voyager 2 Uranus Magnetometer
Resampled Data 9.60 Seconds
Version 1.0 — March 1989

VG2-U-PLS-5-ELE-BR-48.0SEC
Voyager 2 Uranus Plasma Science
Derived Data Electron Browse
96.0 Seconds Version 1.0 — September 1988

VG2-U-PLS-5-ELE-PAR-48.0SEC
Voyager 2 Uranus Plasma Science
Derived Data Electron Parameters
96.0 Seconds Version 1.0 — September 1988

VG2-U-PLS-5-ION-FBR-48.0SEC
Voyager 2 Uranus Plasma Science
Derived Data Ion Fits Browse
96.0 Seconds Version 1.0 — September 1988

VG2-U-PLS-5-ION-FIT-48.0SEC
Voyager 2 Uranus Plasma Science
Derived Data Ion Fits
96.0 Seconds Version 1.0 — September 1988

VG2-U-POS-4-48.0SEC
Voyager 2 Uranus Position
Resampled Data
48.0 Seconds Version 1.0 — March 1989

VG2-U-PWS-2-SA-4.0SEC
Voyager 2 Uranus Plasma Wave Spectrometer
Edited Data Spectrum Analyzer
4.0 Seconds Version 1.0 — September 1988

VG2-U-PWS-4-SA-48.0SEC
Voyager 2 Uranus Plasma Wave Spectrometer
Resampled Data Spectrum Analyzer
48.0 Seconds Version 1.0 — September 1988

F.2 PLANETARY GEOLOGY

The Planetary Geology data sets shall use the *PDS Data Set Template* (DATASET) for high–level catalog data and the *Image Detail Catalog Template* (IMAGEDTLCAT) for detailed–level catalog data.

Data Set ID Data Set Name	Date of Review
MR9-M-ISS-2-EDR-V1.0 Mariner 9 Mars Imaging Science Subsystem Experiment Data Record Version 1.0	TBD
VG1/VG2-J-ISS-2-EDR-V1.0 Voyager 1/Voyager 2 Jupiter Imaging Science Subsystem Experiment Data Record Version 1.0	TBD
VG1/VG2-J-ISS-2-EDR-V2.0 Voyager 1/Voyager 2 Jupiter Imaging Science Subsystem Experminent Data Record Version 2.0 (CD-ROM)	TBD
VG1/VG2-S-ISS-2-EDR-V1.0 Voyager 1/Voyager 2 Saturn Imaging Science Subsystem Experiment Data Record Version 1.0	TBD
VG1/VG2-S-ISS-2-EDR-V2.0 Voyager 1/Voyager 2 Saturn Imaging Science Subsystem Experminent Data Record Version 2.0 (CD-ROM)	TBD
VG2-U-ISS-2-EDR-V1.0 Voyager 2 Uranus Imaging Science Subsystem Experiment Data Record Version 1.0	TBD
VG2-U-ISS-2-EDR-V2.0 Voyager 2 Uranus Imaging Science Subsystem Experiment Data Record Version 2.0 (CD-ROM)	TBD
VO1-M-VIS-4-SURVEY-V1.0 Viking Orbiter 1 Mars Imaging Science Subsystem Data for Survey Mission Version 1.0	October 1988
VO1/VO2-M-VIS-2-EDR-V1.0 Viking Orbiter 1/Viking Orbiter 2 Mars	October 1988

Imaging Science Subsystem Experiment
Data Record Version 1.0

F.3 PLANETARY ATMOSPHERES

The Planetary Atmospheres data sets shall use the *PDS Data Set Template* (DATSET) for high-level catalog data and the *Image Detail Catalog Template* (IMAGEDTLCAT) for detailed-level catalog data.

Data Set ID Data Set Name	Date of Review
MR9/VO1/VO2-M-ISS/VIS-5-CLOUD-V1.0 Mariner 9/Viking Orbiter 1/Viking Orbiter 2 Mars Imaging Science Subsystem Derived Data Cloud Version 1.0	June 1989
VL1-VL2-M-LCS-5-ATMOS-OPTICAL-DEPTH-V1.0 Viking Lander 1/Viking Lander 2 Mars LCS Derived Atmospheric Optical Depth Version 1.0	June 1989
VL1/VL2-M-MET-4-BINNED-P-T-V-CORR-V1.0 Viking Lander 1/Viking Lander 2 Mars Meteorology Data Resampled Data Binned P-T-V Version 1.0	June 1989
VL1/VL2-M-MET-4-BINNED-P-T-V-V1.0 Viking Lander 1/Viking Lander 2 Mars Meteorology Data Resampled Data Binned P-T-V Version 1.0	June 1989
VL1/VL2-M-MET-4-DAILY-AVG-PRESSURE-V1.0 Viking Lander 1/Viking Lander 2 Mars Meteorology Data Resampled Data DAP Version 1.0	June 1989
VL1/VL2-M-MET-3-P-V1.0 Viking Lander 1/Viking Lander 2 Mars Meteorology Pressure Calibrated Data Version 1.0	June 1989
VO1/VO2-M-MAWD-4-V1.0	

Viking Orbiter 1/Viking Orbiter 2 Mars Atmospheric Water Detector Resampled Data Version 1.0	June 1989
VO1/VO2-M-IRTM-5-BINNED/CLOUDS-V1.0	
Viking Orbiter 1/Viking Orbiter 2 Mars Infrared Thermal Mapper Binned and Derived Cloud Data Version 1.0	June 1989

F.4 SPECTROSCOPY

The Spectroscopy Sub–Node data sets shall use the *PDS Data Set Template* (DATASET) for high–level catalog data. Detailed–level catalog data will not be submitted for these data sets at this time.

Data Set ID Data Set Name	Date of Review
EAR-A-8CPS-3-RDR-8COL-V1.0	
Earth based observations Asteroid 8 Color Photometric System Survey Reflectance Spectra Version 1.0	June 1989
EAR-A-DBP-3-RDR-26COL-V1.0	
Earth based observations Asteroid Dual Beam Photometer 26-Color Survey Reflectance Spectra Version 1.0	June 1989
EAR-J/SA-NIS-3-RDR-V1.0	
Earth based observations Galilean Satelites Near-Infrared Spectrometer Reflectance Spectra Version 1.0	TBD
EAR-L-NIS-3-RDR-FIRST-V1.0	
Earth based observations Lunar First Look Near-Infrared Spectrometer Reflectance Spectra Version 1.0	TBD
EAR-LB-VS/NIS-3-RDR-MAFICTEMP-V1.0	
Earth Lab VS/NIS Calibrated Mafic Minerals Tempurature Controlled Reflectance Spectra Version 1.0	TBD
EAR-LB-VS/NIS-3-RDR-BASMIX-V1.0	

Earth Lab VS/NIS Calibrated Basaltic Minerals/Mineral Assemblages Reflectance Spectra Version 1.0	TBD
EAR-LB-VS/NIS-3-RDR-ICEMIN-V1.0	
Earth Lab VS/NIS Calibrated Ice/Mineral Mixtures Reflectance Spectra Version 1.0	TBD
EAR-LB-NFTS-3-RDR-MIDIRMIN-R-V1.0	
Earth Lab Pure Minerals USGS Reston 5DXB Mid-Infrared Reflectance Spectra Version 1.0	TBD
EAR-LB-NFTS-3-RDR-IDIRMIN-T-V1.0	
Earth Lab Pure Minerals USGS Reston 5DXB Mid-Infrared Transmittance Spectra Version 1.0	TBD
EAR-M-NIS-3-RDR-780PP-V1.0	
Earth based observations Mars 1978 Near Infrared Spectrometer Reflectance Spectra Version 1.0	TBD
EAR-S/R-NIS-3-RDR-V1.0	
Earth based observations Saturn Rings Near-Infrared Spectrometer Reflectance Spectra Version 1.0	TBD

F.5 PLANETARY RINGS

The Planetary Rings data sets shall use the *PDS Data Set Template* (DATASET) for high–level catalog data. Detailed–level catalog data will not be submitted for these data sets at this time.

Data Set ID Data Set Name	Date of Review
Data_Set_ID (TBD)	
Pioneer 11 Saturn Imaging Photopolarimeter Derived Data Version 1.0	TBD
Data_Set_ID (TBD)	
Voyager 1 Saturn/Ring Imaging Science	TBD

Subsystem Derived Data Version 1.0

Data_Set_ID (TBD) Voyager 1 Saturn/Ring Radio Science Subsystem Derived Data Version 1.0	TBD
Data_Set_ID (TBD) Voyager 2 Saturn/Ring Imaging Science Subsystem Derived Data Version 1.0	TBD
Data_Set_ID (TBD) Voyager 2 Saturn/Ring Photopolarimeter Subsystem Derived Data Version 1.0	TBD
Data_Set_ID (TBD) Voyager 2 Saturn/Ring Ultraviolet Spectrometer Derived Data Version 1.0	TBD
Data_Set_ID (TBD) Voyager Saturn/Ring Instruments Derived Data Atlas Version 1.0	TBD
Data_Set_ID (TBD) Voyager Jupiter/Ring Imaging Science Subsystem Derived Data Version 1.0	TBD

F.6 RADIOMETRY

The Radiometry data sets shall use the *PDS Data Set Template* (DATASET) for high-level catalog data. Detailed-level catalog data will not be submitted for these data sets at this time.

Data Set ID Data Set Name	Date of Review
MR6/MR7-M-IRR-4-V1.0 Mariner 6/Mariner 7 Mars Infrared Radiometer Resampled Data Version 1.0	TBD
MR6/MR7-M-IRS-3-V1.0 Mariner 6/Mariner 7 Mars Infrared Spectrometer Calibrated Data Version 1.0	April 1989

MR9-M-IRR-4-V1.0
Mariner 9 Mars Infrared Radiometer Resampled Data Version 1.0 — TBD

VO1/VO2-M-IRTM-4-V1.0
Viking Orbiter 1/Viking Orbiter 2 Mars Infrared Thermal Mapper Resampled Data Version 1.0 — April 1989

F.7 NAVIGATION ANCILLARY INFORMATION FACILITY

The Navigation Ancillary Information Facility data sets shall use the *PDS Data Set Template* (DATASET) for high–level catalog data. Detailed–level catalog data will not be submitted for these data sets at this time.

Data Set ID / Data Set Name	Date of Review
Data_Set_Id (TBD) Planet and Satellite Navigation Ancillary Data - Physical and Cartographic Constants Version 1.0	December 1988
VG1-J-6-SPK-V1.0 Voyager 1 Jupiter Navigation Ancillary Data - S and P - Ephemeris Kernels Version 1.0	December 1988
VG1-S-6-SPK-V1.0 Voyager 1 Saturn Navigation Ancillary Data - S and P - Ephemeris Kernels Version 1.0	December 1988
VG2-J-6-EK-V1.0 Voyager 2 Jupiter Navigation Ancillary Data - E Kernel Version 1.0	TBD
VG2-J-6-SPK-V1.0 Voyager 2 Jupiter Navigation Ancillary Data - S and P - Ephemeris Kernels Version 1.0	December 1988
VG2-NA-6-CK-V1.0 Voyager 2 Narrow Angle Camera Navigation	TBD

Ancillary Data - Platform C Kernel
Version 1.0

VG2-S-6-SPK-V1.0 Voyager 2 Saturn Navigation Ancillary Data - S and P - Ephemeris Kernels Version 1.0	December 1988
VG2-S-6-EK-V1.0 Voyager 2 Saturn Navigation Ancillary Data - E Kernel Version 1.0	TBD
VG2-U-6-CK-V1.0 Voyager 2 Uranus Navigation Ancillary Data - Platform C Kernel Version 1.0	TBD
VG2-U-6-EK-V1.0 Voyager 2 Uranus Navigation Ancillary Data - E Kernel Version 1.0	TBD
VG2-U-6-SPK-V1.0 Voyager 2 Uranus Navigation Ancillary Data - S and P - Ephemeris Kernels Version 1.0	December 1988
VG2-WA-6-CK-V1.0 Voyager 2 Wide Angle Camera Navigation Ancillary Data - Platform C Kernel Version 1.0	TBD