Psyche Mission Dictionary

NASA Planetary Data System

Mar 19, 2025

USER GUIDE

The Psyche Mission Dictionary (psyche) contains classes, attributes and rules specific to the Psyche mission, its instruments and working group results.

{date}
{author}

> Note to authors who use this outline: The outline is a suggestion only. It includes the minimum of content needed to inform the dictionary user. Authors are expected to tailor the outline to their particular purposes, elaborating and providing context as needed.

INTRODUCTION

1. Purpose of this User's Guide

2. Audience

3. Applicable Documents

OVERVIEW OF THE {NAME} LOCAL DATA DICTIONARY

What is this dictionary for? What kinds of products might use this dictionary? Who is the steward of this dictionary (person and node name)? How often is it updated? To whom should questions about it be directed? (Give an email address or link to a page with contact information.)

ORGANIZATION OF CLASSES AND ATTRIBUTES

Give a schematic diagram or a list showing the hierarchy of classes in order of appearance in label. Refer the reader to the Definitions section for complete definitions. An example of such a list is given on the page Filling Out The Spectral Dictionary Classes on the PDS Small Bodies Node wiki. In this example the names of classes and attributes have hyperlinks to their definitions further down the page, a useful lookup tool.

The author should take into consideration the complexity of the dictionary when organizing this section. If the hierarchy is large or complicated, it may be helpful to break it down by class as shown in the following subsections, but don't forget to provide a high-level view of how the classes relate to one another.

3.1 Class 1

What is this class for?

Give a schematic diagram or a list of the attributes in this class in order of appearance in label. Refer reader to Definitions section for complete definitions.

Give label snippets showing use of the class and attributes, with annotations as appropriate. Refer reader to Examples section for complete examples.

Explain why some things are required and others are optional.

List and explain any rules that apply to this class (e.g. from Schematron).

3.2 Class 2

[repeat this subsection for each class]

FOUR

DEFINITIONS

Give an alphabetical list of all classes and attributes with complete definitions. (Useful ones, not silly ones like "The map_projection_name attribute provides the name of the map projection.")

Include:

- *Class or attribute name (indicate which it is; capitalize class names according to PDS4 standard)*

- *PDS4 data type (ASCII_Short_String_Collapsed, ASCII_Real, ASCII_Date, etc.)*

- *Definition in complete sentences*

- *Cardinality (minimum and maximum number of values permitted)*

- *Nillable, yes or no? Explain when it is appropriate to use a nil value*

- *Minimum and maximum numeric values, if applicable*

- *Minimum and maximum number of characters, if applicable*

- *List of valid values, if applicable.*

EXAMPLES

Give one or more examples of label snippets for real products, annotated as appropriate. Make sure the examples can be successfully validated using the latest version of the PDS4 core dictionary and, of course, the dictionary described in this document.

‹PSYCHE_MISSION_DICTIONARY›

Submitter: Ernest Cisneros, ASU

6.1 ‹psyche:›

Submitter: Ernest Cisneros

```
<Discipline_Area>
  <psyche:Psyche_Parameters>
    <psyche:mission_phase_name>PHASE</psyche:mission_phase_name>
    <psyche:orbit>ORBIT_NUMBER</psyche:orbit>
    <psyche:release_number>RELEASE_NUMBER</psyche:release_number>
    <psyche:spacecraft_clock_partition>SCLK_PARTITION</psyche:spacecraft_clock_
↪partition>
    <psyche:spacecraft_clock_start>SCLK_START</psyche:spacecraft_clock_start>
    <psyche:spacecraft_clock_stop>SCLK_STOP</psyche:spacecraft_clock_stop>
    <psyche:spacecraft_clock_start_corrected>SCLK_START_CORRECTED</psyche:spacecraft_
↪clock_start_corrected>
    <psyche:spacecraft_clock_stop_corrected>SCLK_STOP_CORRECTED</psyche:spacecraft_
↪clock_stop_corrected>
    <psyche:spacecraft_fsw_dictionary_version>SC_FSW_DICTIONARY_VERSION</
↪psyche:spacecraft_fsw_dictionary_version>
    <psyche:spacecraft_active_flight_computer>SC_ACTIVE_COMPUTER</psyche:spacecraft_
↪active_flight_computer>
  </psyche:Psyche_Parameters>
</Discipline_Area>
```

6.1.1 Mission Phase

This parameter is enumerated to a known phase name, corresponding to specific date ranges of the mission.

- test The Psyche mission phase used for general testing purposes.

- preflight The Psyche mission phase used for preflight operations.

- atlo The Psyche mission phase used for ATLO.

- launch The Psyche mission phase used for spacecraft launch.

- ico The Psyche mission phase used for the initial checkout (ICO), lasting 100 days.

- cruise_1 The Psyche mission phase used for the cruise 1 period, lasting 26 months.

- mga The Psyche mission phase used for the Mars gravity assist, lasting 62 days.

- cruise_2 The Psyche mission phase used for the cruise 2 period, lasting 36 months.

- approach The Psyche mission phase used for the approach to 16 Psyche, last 100 days.

- orbital_operations bThe Psyche mission phase used for the entire orbital operations period, lasting 26 months.

- orbit_a The Psyche mission phase used for orbit A operations, lasting 56 days.

- orbit_b1 The Psyche mission phase used for orbit B1 operations, lasting 92 days.

- orbit_b2 The Psyche mission phase used for orbit B2 operations, lasting 100 days.

- orbit_c The Psyche mission phase used for orbit C operations, lasting 100 days.

- orbit_d The Psyche mission phase used for orbit D operations, lasting 100 days.

- orbit_transfer_a_to_b1 The Psyche mission phase used for orbit transfer A-to-B1, lasting 17 days.

- orbit_transfer_b1_to_d The Psyche mission phase used for orbit transfer B1-to-D, lasting 98 days.

- orbit_transfer_d_to_c The Psyche mission phase used for orbit transfer D-to-C, lasting 90 days.

- orbit_transfer_c_to_b2 The Psyche mission phase used for orbit transfer C-to-B2, lasting 23 days.

6.1.2 Flight Software Dictionary

This parameter is enumerated to known version of the flight software dictionary in use during the mission.

- 5_4_2_1 Version 5.4.2.2 of the Psyche FSW dictionary.
- 5_4_2_1 Version 5.4.2.1 of the Psyche FSW dictionary.