# Planetary Data System (PDS) SHARAD and MARSIS

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# What is the Planetary Data System?

- The Planetary Data System (PDS) is a NASA organization that archives science data from NASA's planetary missions.

- PDS responsibilities are:
  - To help NASA missions and other data providers to organize and document their digital planetary data,
  - To collect complete, well-documented planetary data into archives that are peer-reviewed,
  - To make the planetary data available and useful to the science community,
  - To ensure the long-term preservation and usability of the data.

- PDS consists of a set of discipline nodes – the Geoscience node handles SHARAD and, via an agreement with ESA, a copy of MARSIS
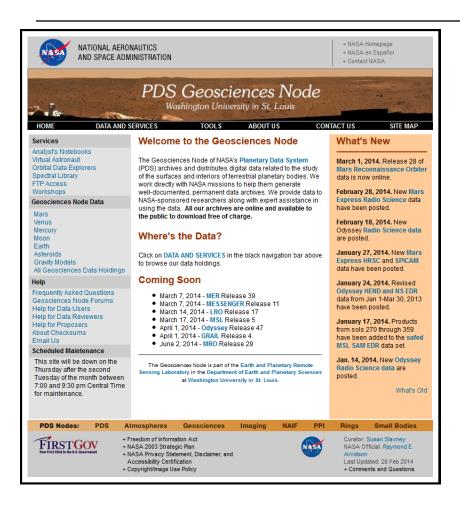
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# SHARAD / MARSIS in PDS

- SHARAD
  - Via PDS Geosciences Web Site
  - Via the Orbital Data Explorer
- MARSIS
  - Copied from ESA
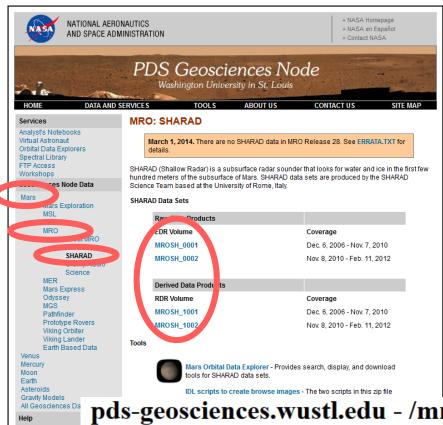  - Via PDS Geosciences Web Site
  - Via the Orbital Data Explorer

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# Geosciences Web Site



□ http://geo.pds.nasa.gov/

# To Find SHARAD

- ☐ Select Mars

- ☐ Select MRO

- ☐ Select SHARAD

- ☐ Select Archive Volume

- ☐ File Access to Volume

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# To Find MARSIS



- Select Mars
- Select MEX
- Select MARSIS
- Select MARSIS Subsurface Reduce Data
- Select mexmds_1001
- File Access to Volume

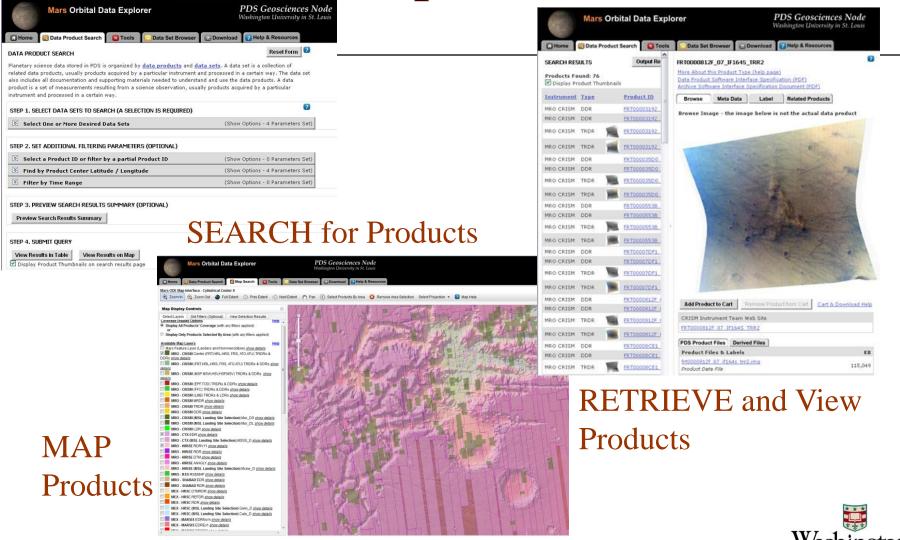**pds-geosciences.wustl.edu - /mex/mex-m-marsis-3-rdr-ss-v1/**

[To Parent Directory]

```
 6/10/2008   1:16 PM        <dir> mexmds 1001
12/10/2012   3:59 PM        99899 mexmds_1001_121210.md5
```

**pds-geosciences.wustl.edu - /mex/mex-m-marsis-3-rdr-ss-v1/mexmds_1001/**

[To Parent Directory]

```
6/10/2008  8:57 AM        3,480 aareadme.txt
6/10/2008 12:00 PM        <dir> calib
6/10/2008 12:00 PM        <dir> catalog
6/10/2008 12:00 PM        <dir> data
6/10/2008 12:00 PM        <dir> document
6/10/2008 12:00 PM        <dir> index
6/10/2008 12:00 PM        <dir> label
6/10/2008  8:57 AM        4176 voldesc.cat
```

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# Orbital Data Explorer (ODE)



SEARCH for Products

MAP Products

RETRIEVE and View Products

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# Orbital Data Explorer (ODE)
## http://ode.rsl.wustl.edu/mars/

- Specialized PDS web tool - Allows users to:
    - search, retrieve, and order PDS products
    - search across missions and instruments
    - search across PDS nodes
    - search via maps and forms
- Supports PDS-Compliant Mars archives from:
    - Mars Reconnaissance Orbiter
        - SHARAD, CRISM, HiRISE, CTX, RSS, MCS
    - ESA Mars Express
        - MARSIS, HRSC, OMEGA, PFS
    - Mars Odyssey
        - GRS, THEMIS
    - Mars Global Surveyor
        - MOLA, MOC
    - Viking Orbiter Camera

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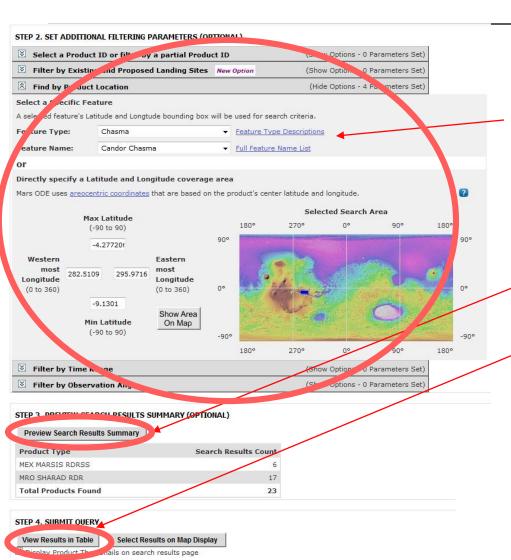# ODE Approach – Web Interface

- Dynamic forms-based **product** query including:
    - Instrument / Product Type
    - Space and Time
    - Coordinated Target Observations
    - Ad-hoc cross-instrument searches
    - Product-specific searches
- Map-based query
- Browse versions of products
- Direct access to product-specific web interfaces
    - Example: HiRISE JPIP Servers or CRISM Team Site
- Download selected products in "on-the-fly mini-archives"

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# ODE - SHARAD and MARSIS



Open ODE

Select "Data Product Search"

Open Data Sets

Check Desired Product Types

SHARAD RDRs

MARSIS RDRSSs

Other Product Types (EDRs)

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# ODE - SHARAD and MARSIS



Scroll down

Filter by location, product id, observation time, and orbits

Preview Results

View Results

# ODE - SHARAD and MARSIS

# ODE - SHARAD and MARSIS



Zoom/Pan Map

Select Projection

Filter Products by
- Time
- Product Id
- Location

Select, View, and Download Products

Control Map Layers
- Transparency
- Layer Order
- Coverage Layers
- Basemap Layers

Select Product Type Layers

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# Questions? Demos?

- Visit us at the PDS Geosciences Booth
  - Get detailed answers
  - See live demos
- Contacts:
  - Keith Bennett
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