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## Explore ESA's Planetary Science Archive!



The European Space Agency's Planetary Science Archive (PSA) is the central repository for all scientific and engineering data returned by ESA's Solar System missions: currently **Giotto**, **Huygens**, **Mars Express**, **Rosetta**, **SMART-1**, and **Venus Express**, as well as several ground-based cometary observations.

The PSA uses NASA's Planetary Data System standards as a baseline for the formatting and structure of all data

contained within the archive. [Learn more...](#)

### Access the Data



#### Anonymous FTP

Get access to all publicly available data via an anonymous FTP server. Unlike the other interfaces, it has no search capability but you can quickly browse the content of the archive using the FTP-client

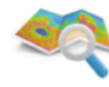
[Browse FTP](#)



#### Advanced Search

Search through a Java-based application which allows for complex querying of data. You can search at the data set or data product level using a wide variety of query parameters. [More...](#)

[Launch Interface](#)



#### Map-based Search

Search through a Java-based application which allows for visual querying of geographically referenced data. It can be used in combination with the Advanced Search interface to refine your

[Launch Interface](#)

In addition to these interfaces, you can programmatically query and retrieve data products using the **PSA Archive InterOperability** (PAIO). The PAIO implements the **Planetary Data Access Protocol** (PDAP).

We are pleased to announce a **Venus Express VIRTIS and VMC Data Workshop** that will be held at ESAC (Madrid, Spain) on 12-15 May 2014.

For more details, visit the [workshop's web page](#)

#### LATEST NEWS

**Tweets**    [Follow](#)

**ESA's PSA News** @esapsanews    13 Mar  
New #MEX #ASPERA #IMA raw data from March 29, 2013 through May 4, 2013. All data are accessible from [goo.gl/mzwgd9](http://goo.gl/mzwgd9)

**ESA's PSA News** @esapsanews    13 Mar  
New #MEX #ASPERA #ELS raw and calibrated data from March 29, 2013 through May 4, 2013. All data are accessible from [goo.gl/mzwgd9](http://goo.gl/mzwgd9)

**ESA's PSA News** @esapsanews    13 Mar  
New #MEX #ASPERA #NPI raw and

Tweet to @esapsanews



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## Restricted Access Logon

Username: Password: 

Login

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Lost Username/Password

## Restricted Search (Guest)

GO

## FTP Browser



Get access to all publicly available PSA data via an anonymous FTP server: <ftp://psa.esac.esa.int/pub/mirror>. Unlike the other interfaces, it has no search capability but you can quickly browse the content of the archive using the FTP-client application of your choice. If you don't know which data sets you are looking for, we recommend using the [Advanced](#) or [Map-based Search](#) Interfaces

BEPI GIOTTO EARTH-BASED HUYGENS MEX ROSETTA SMART-1

### Mars Express Orbiter Data

- Analyser of Space Plasmas and Energetic Atoms (ASPERA-3)
- High Resolution Stereo Camera (HRSC)
- Mars Advanced Radar for Subsurface and Ionosphere Sounding (MARSIS)
- Mars Express Orbiter Radio Science (MRS)
- Observatoire pour la Mineralogie, l'Eau, les Glaces et l'Activite (OMEGA)
- Planetary Fourier Spectrometer (PFS)
- Spectroscopy for Investigation of Characteristics of the Atmosphere of Mars (SPICAM)

### Ancillary Data

- SPICE Repository
- SPICE PDS Data Set
- ESOC Ancillary Information

Visit the [mission page](#) for more information

### Data Set Naming

Please be aware that all data sets follow a naming convention which typically indicates the *mission*, *target body*, *instrument*, and *data processing level*. This allows experienced users to quickly find the data set(s) they are looking for.

### FTP Access

#### Mars Advanced Radar for Subsurface and Ionosphere Sounding (MARSIS)

#### Principal Investigator(s):

- G. Picardi (Universita di Roma 'La Sapienza', Rome, Italy)
- R. Orosei (IAPS, Rome, Italy)
- J. Plaut (JPL, Pasadena, USA)

**Please acknowledge** the above Principal Investigator(s) as well as the European Space Agency when making a publication using the data you are going to download.

[Browse FTP](#)

<http://jmars.mars.asu.edu/>



[Log In/Register](#)

[Home](#) [Getting Started](#) [Documentation](#) [Download JMARS](#) [Open Source](#) [References](#) [Forums](#)

Welcome to the JMARS website

*JMARS is an acronym that stands for Java Mission-planning and Analysis for Remote Sensing. It is a geospatial information system (GIS) developed by ASU's Mars Space Flight Facility to provide mission planning and data-analysis tools to NASA's orbiters, instrument team members, students of all ages, and the general public.*

#### JMARS Announcements

- 2014/01/24 - **JMARS Beta Version is now available for download!**
- 2013/12/17 - **New Tutorials and JMARS Beta Version coming soon!**
- 2013/12/17 - **J-Vesta is now available!**
- 2013/10/01 - **New numeric MEX/OMEGA maps were added to JMARS**

[more](#)



#### Tour of the JMARS user interface

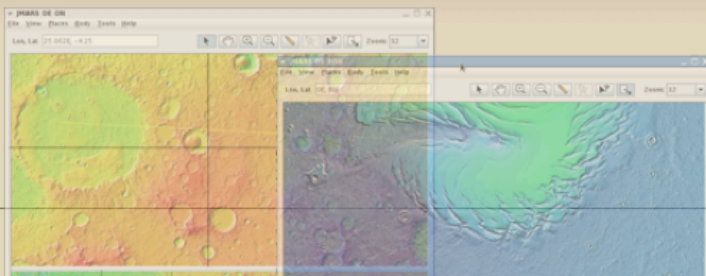
[Introduction to JMARS Video Tutorial](#)

[Interface Overview](#)

[Viewing Window](#)

[Layer Manager](#)

[Interface Details](#)



#### Tour of the JMARS Layers

#### Login

Username/Email Address: \*  Password: \*

[Create new account](#)

[Request new password](#)



#### JMARS Public Downloads



The following JMARS installer is likely the best for your system: **Mac OS**

This JMARS installation includes several planetary bodies, such as Mars, Earth, Earth's moon, Mercury, Venus and many more

[Show other JMARS installers:](#)



The following JMARS Beta installer is likely the best for your system: **Mac OS**

This JMARS Beta installation includes several planetary bodies, such as Mars, Earth, Earth's moon, Mercury, Venus and many more

[Show other JMARS installers:](#)

← → Lon, Lat 106.468E, -82.151



Zoom: 32

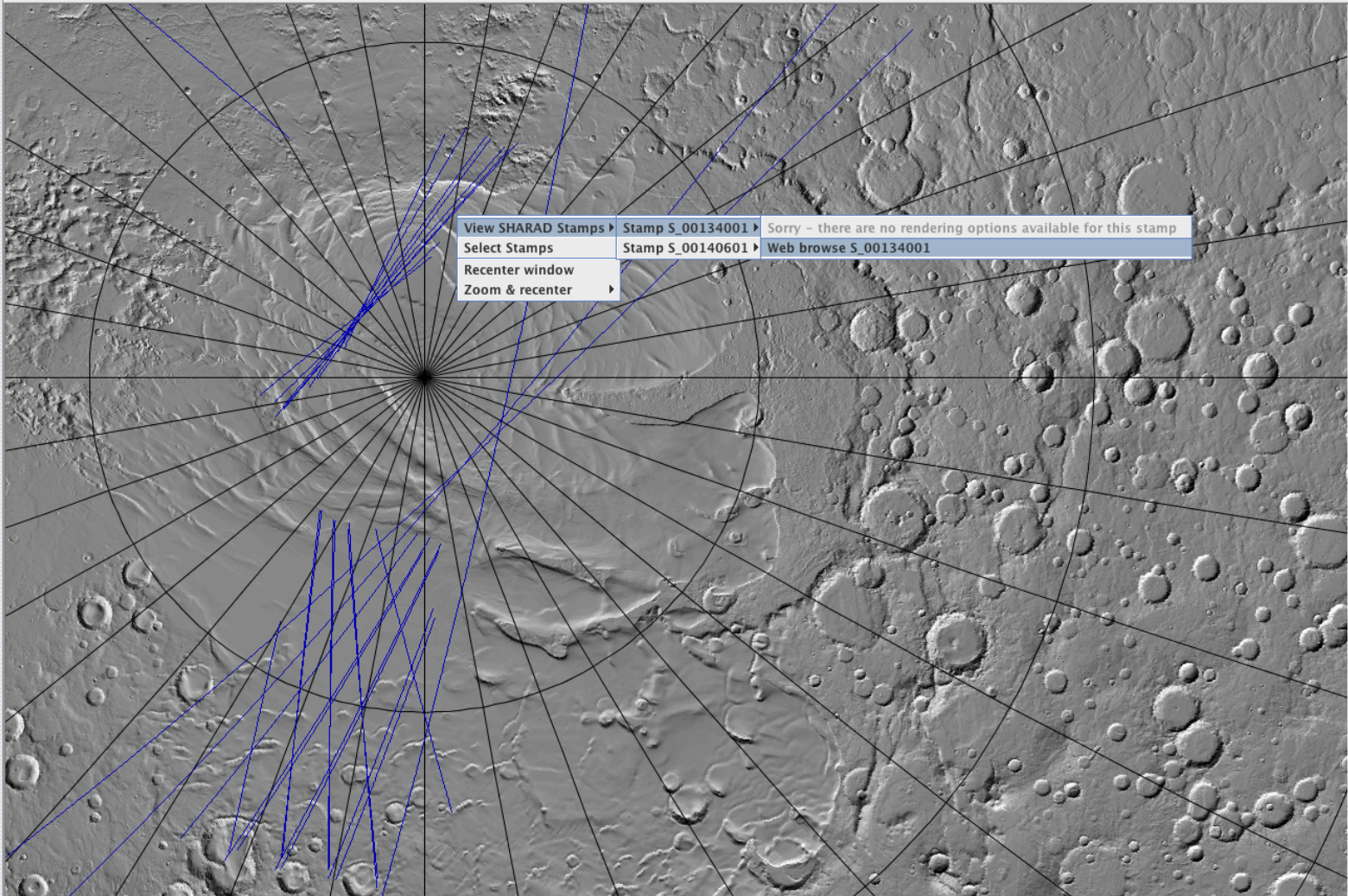
Main Add Layer

Select Category:

Instrument  Advanced  
SHARAD

Data ( 1 )

SHARAD



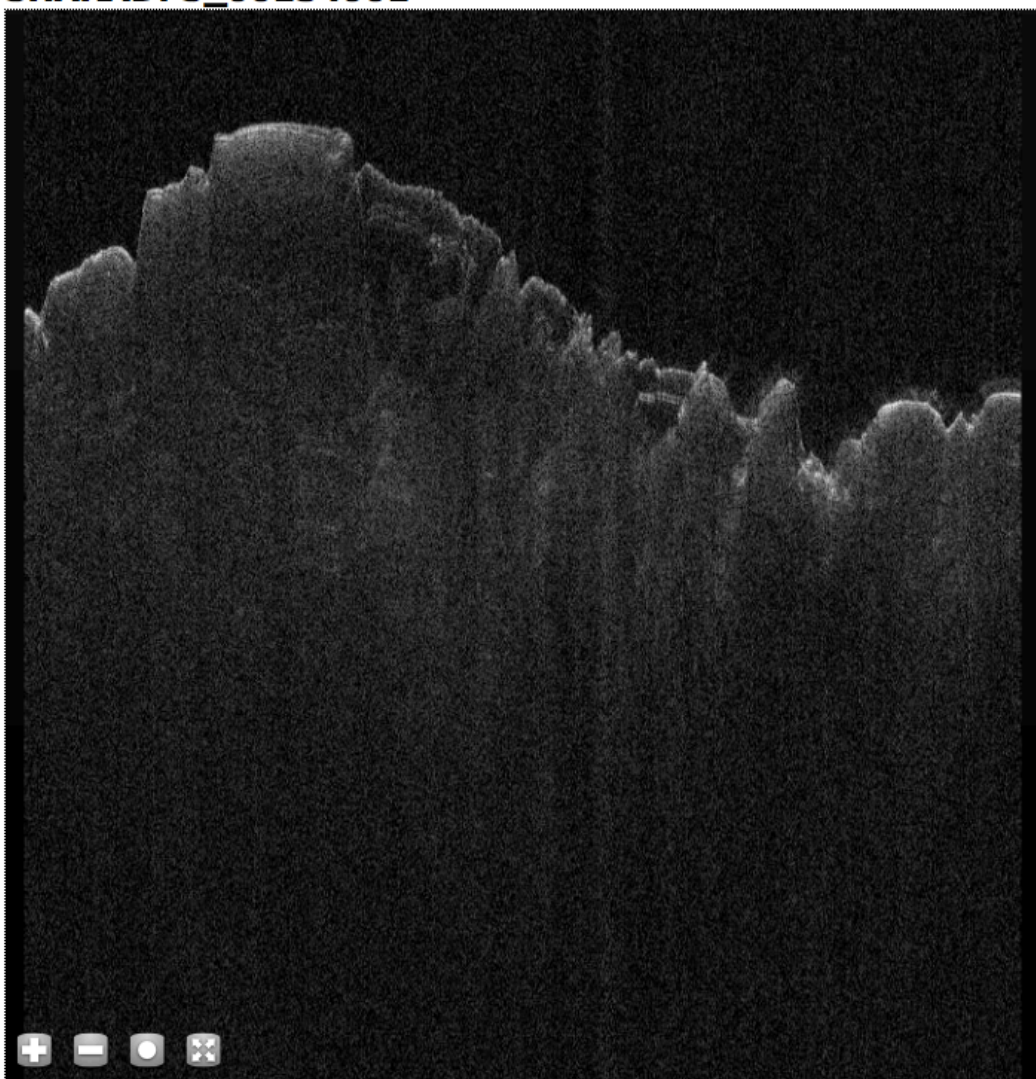
View SHARAD Stamps	Stamp S_00134001	Sorry - there are no rendering options available for this stamp
Select Stamps	Stamp S_00140601	Web browse S_00134001
Recenter window		
Zoom & recenter		

Close Dock Me

76.30°E -75.06°N

SHARAD

## SHARAD: S\_00134001



### Image Identification

Orbit Number	1340
Product Creation time	2014-01-13 19:55:17
Start Time	2006-11-08 20:53:59.986

### Image Acquisition Parameters

Line Samples	1398
Lines	3600

### Ancillary Parameters

Subspacecraft Latitude Start	-82.45211
Subspacecraft Latitude Stop	-85.40773
Subspacecraft Longitude Start	21.578163
Subspacecraft Longitude Stop	255.17575

### Image Min/Max

Mars Radius Maximum	3378.436
Mars Radius Minimum	3378.71
Radial Velocity Maximum	5.2318
Radial Velocity Minimum	-1.4184
Signal Phase Distortion Maximum	0
Signal Phase Distortion Minimum	0
Solar Zenith Angle Maximum	114.51
Solar Zenith Angle Minimum	108
Spacecraft Radius Maximum	3627.136
Spacecraft Radius Minimum	3626.725
Tangent Velocity Maximum	3457

### Full Image

[SHARAD](#)

#### About SHARAD

SHARAD (Shallow Radar) looks for liquid or frozen water in the first few hundreds of feet (up to 1 kilometer) of Mars' crust. SHARAD probes the subsurface using radar waves within a 15- to 25-megahertz frequency band to get the desired, high-depth resolution. The radar wave return, which is captured by the SHARAD antenna, is sensitive to changes in the electrical reflection characteristics of rock, sand, and any water that may be present in the surface and subsurface. Water, like high-density rock, is highly conducting, and has a very strong radar return. Changes in the reflection characteristics of the subsurface, caused by layers deposited by geological processes in the ancient history of Mars, are also visible. The instrument has a horizontal resolution of between 0.3 and 3 kilometers (between two-tenths of a mile and almost 2 miles) and a vertical resolution of 15 meters (about 50 feet) in free space, which translates