

Science Data Archive Demonstration

Access Mars Express Data via the
Planetary Science Archive

Presented at

the 1st Mars Express Science Conference

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Purpose and Aim

The Planetary Science Archive (PSA) aims to

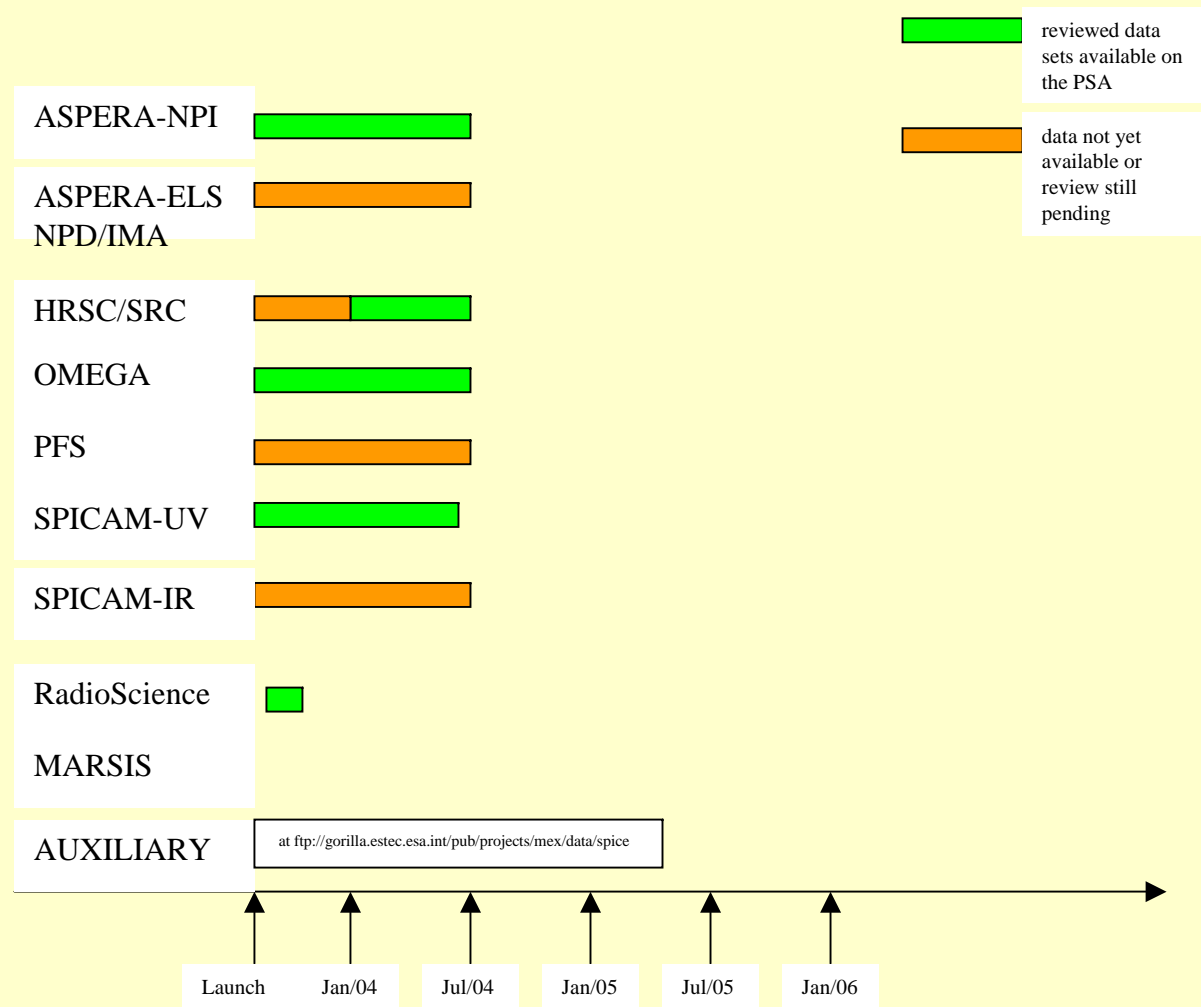
- **Give archive preparation support to data providers**
- **Coordinate the preparation, design and implementation of the long-term preservation of data**
- **Guarantee data preservation of ESA's planetary missions**
- **Distribute scientific and engineering spacecraft and instrument data to the world-wide scientific community**
- **Offer data services to the community using available technologies**

Acknowledgement

The demonstration presented is the outcome of a consolidated effort from

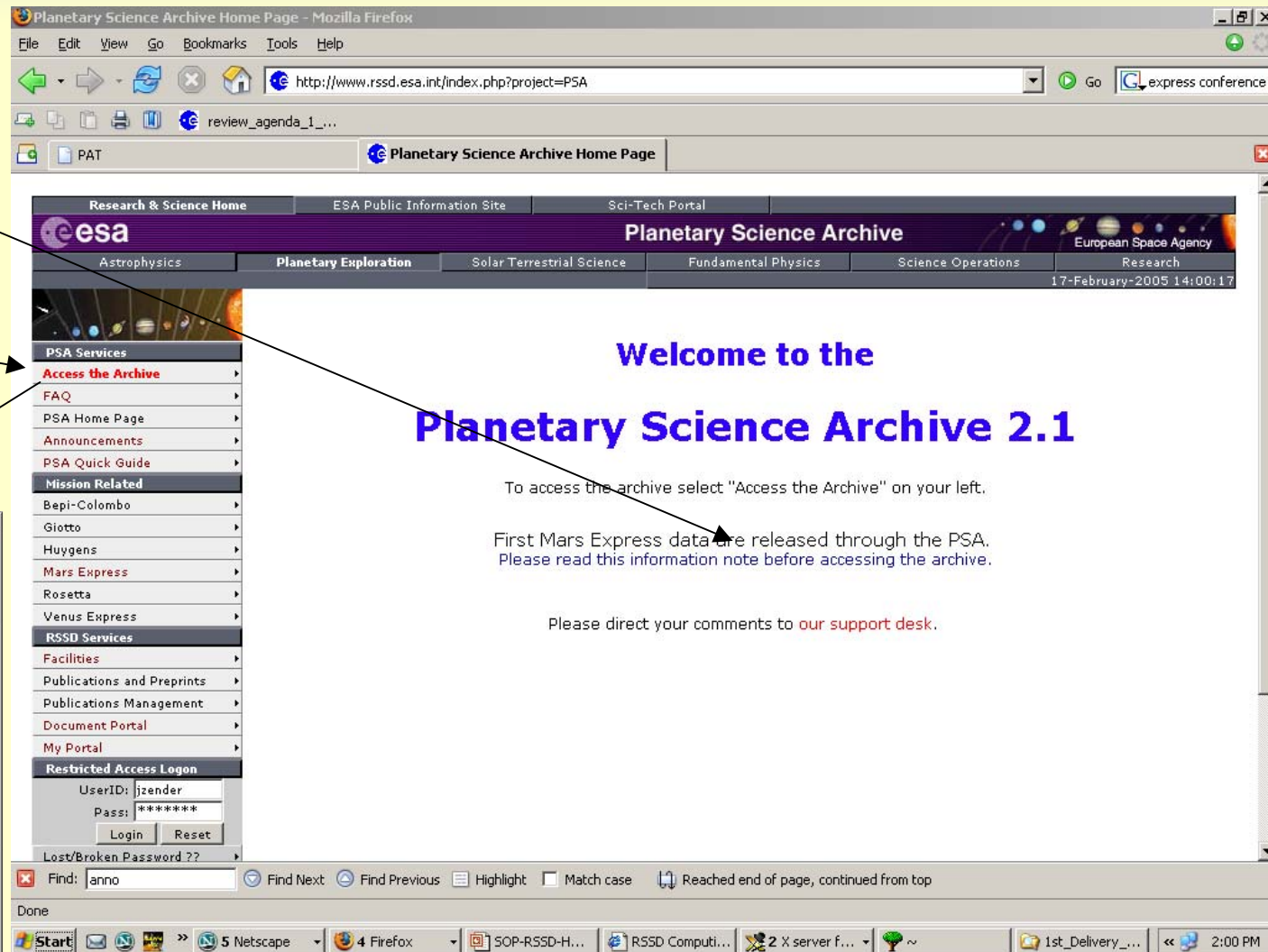
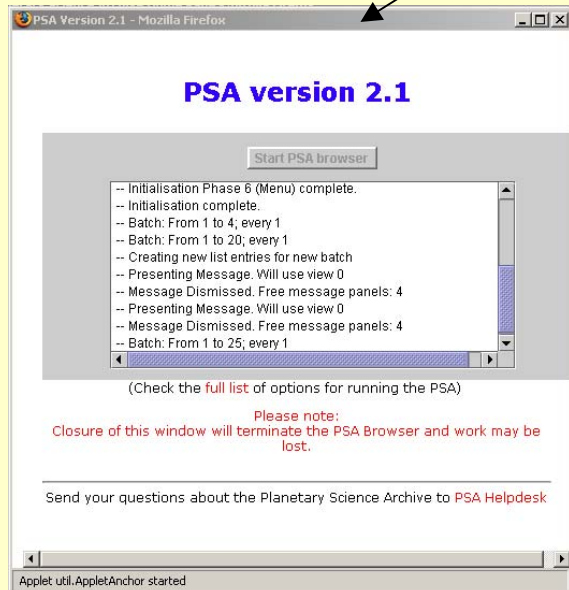
- **All Mars Express instrument teams**
- **The Planetary Science Archive team**
 - Located at ESTEC/SCI-SB
 - Located at ESAC/SCI-SD
 - With the kind support and contribution of the PDS Geoscience Node

Data Availability



Access the archive via
<http://www.rssd.esa.int/psa>

After having read the
 information node, get the
 JAR package to start the
 PSA



PSA follows the Planetary Data System (PDS) Standard

PSA Nomenclature

- Data Product
- Data Set
- Release

4 Different Views on the PSA

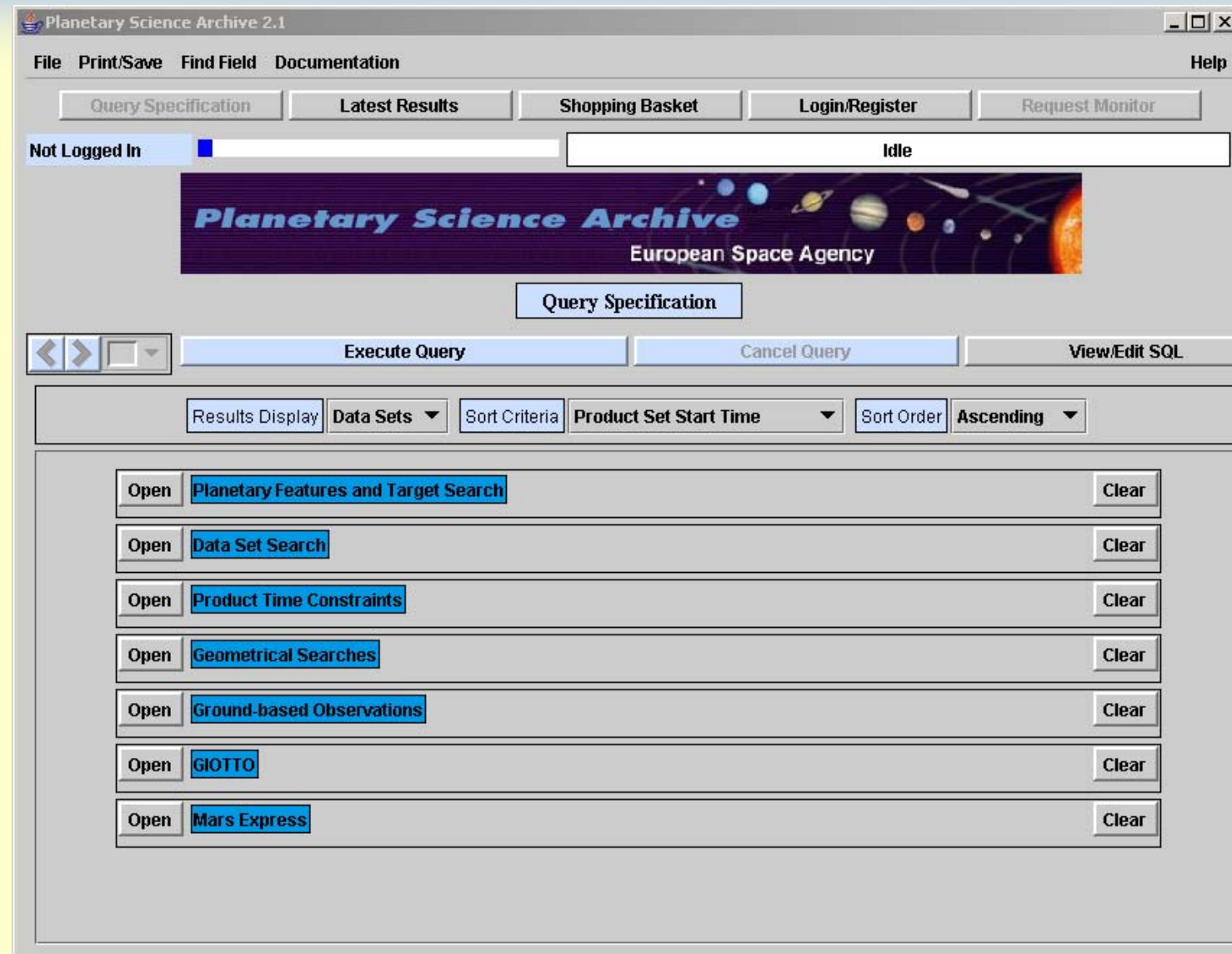
- 'Login/Register' View
- 'Query Specification' View
- 'Latest Result' View
- 'Shopping Basket' View

No restrictions on the login

Query Panel

➤ Combination of query panels allows to phrase and detail your search

➤ Open query panels are 'AND'ed into one search

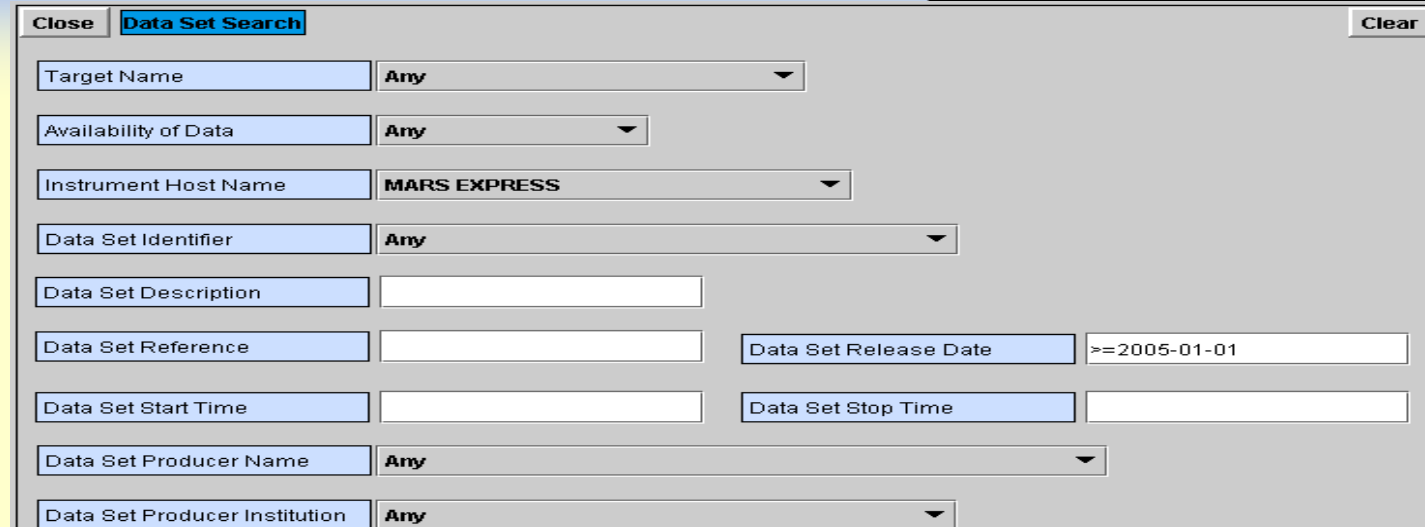


The screenshot shows the Planetary Science Archive 2.1 web interface. At the top, there is a navigation bar with links: File, Print/Save, Find Field, Documentation, and Help. Below this is a secondary navigation bar with buttons: Query Specification, Latest Results, Shopping Basket, Login/Register, and Request Monitor. A status bar indicates 'Not Logged In' and 'Idle'. A large banner for the Planetary Science Archive, European Space Agency, is displayed. Below the banner is a 'Query Specification' button. The main content area features a search bar with 'Execute Query', 'Cancel Query', and 'View/Edit SQL' buttons. Below the search bar are dropdown menus for 'Results Display', 'Data Sets', 'Sort Criteria', 'Product Set Start Time', 'Sort Order', and 'Ascending'. The bottom section contains a list of query panels, each with an 'Open' button, a text input field, and a 'Clear' button. The panels are: Planetary Features and Target Search, Data Set Search, Product Time Constraints, Geometrical Searches, Ground-based Observations, GIOTTO, and Mars Express.

Data Set Query Panel

➤ Use, if you want to query against top-level parameters, as

- Mission Name
- Release Date
- Producer Name



Data Set Search

Close Clear

Target Name: Any

Availability of Data: Any

Instrument Host Name: MARS EXPRESS

Data Set Identifier: Any

Data Set Description:

Data Set Reference: Data Set Release Date: >=2005-01-01

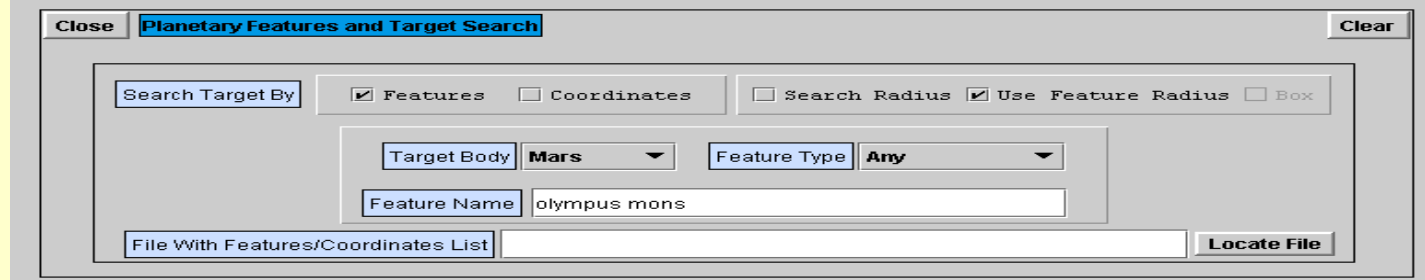
Data Set Start Time: Data Set Stop Time:

Data Set Producer Name: Any

Data Set Producer Institution: Any

Planetary Feature and Target Query Panel

➤ use, if you want to query against lat/long and feature names



Planetary Features and Target Search

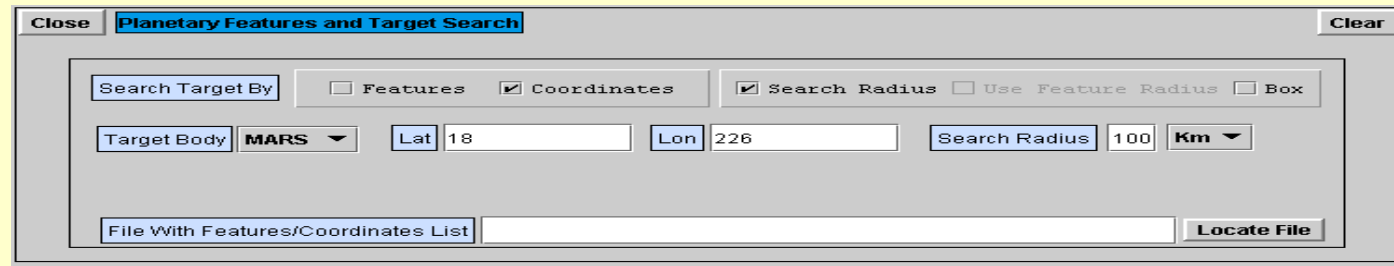
Close Clear

Search Target By: ☒ Features ☐ Coordinates ☐ Search Radius ☒ Use Feature Radius ☐ Box

Target Body: Mars Feature Type: Any

Feature Name: olympus mons

File With Features/Coordinates List: Locate File



Planetary Features and Target Search

Close Clear

Search Target By: ☐ Features ☒ Coordinates ☒ Search Radius ☐ Use Feature Radius ☐ Box

Target Body: MARS Lat: 18 Lon: 226 Search Radius: 100 Km

File With Features/Coordinates List: Locate File

Planetary Science Archive 2.1

File Print/Save Find Field Documentation Help

Query Specification Latest Results Shopping Basket Login/Register Request Monitor

Not Logged In Idle

Planetary Science Archive
European Space Agency

Query Specification

Execute Query Cancel Query View/Edit SQL

Results Display Data Sets Sort Criteria Product Set Start Time Sort Order Ascending

Open Ground-based Observations Clear

Open GIOTTO Clear

Close Mars Express Clear

Orbit Number Spacecraft Altitude

Mission Phase IC

Sub-Spacecraft Longitude Sub-Spacecraft Latitude

ASPERS HRSC MaRS MARSIS OMEGA PFS SPICAM

Mission related query panels allow you to search for

- Spacecraft related parameters
- Instrument related parameters

ASPERS HRSC MaRS MARSIS OMEGA PFS SPICAM

Product Id

Standard Data Product ID Any

Channel ID UV

ASPERS HRSC MaRS MARSIS OMEGA PFS SPICAM

Product Id

Standard Data Product ID Any

ASPERS HRSC MaRS MARSIS OMEGA PFS SPICAM

Product Id

Detector ID Any

Maximum Resolution

ASPERS HRSC MaRS MARSIS OMEGA PFS SPICAM

Product Id

Standard Data Product ID Any

Channel ID Any

Planetary Science Archive 2.1

File Print/Save Find Field Documentation Help

Query Specification Latest Results Shopping Basket Login/Register Request Monitor

Not Logged In Idle

Planetary Science Archive
European Space Agency

Move Selected to Basket Move All to Basket Mark All Delete Selected Refresh List

Products 181. Shown: 1st and each until and including 25th

25 in Page
Each One

☐ Data Sets
☒ Products

Geometrical Info
Instrument Info
Other Info

<input type="checkbox"/>	Retrieve	MEX-M-HRSC/SRC-3-RDR-0030-V1.0 MEX HRSC Calibrated Data, Orbits 0030-0100 V1.0	
<input type="checkbox"/>	Retrieve	Not available 638x658x552x604 Km Not Aplicable	
<input type="checkbox"/>	Retrieve	HIGH RESOLUTION STEREO CAMERA HRSC	
<input type="checkbox"/>	Retrieve	H0061_0000_RE2.IMG 2004-01-29T10:15:07.71 2004-01-29T10:18:59.98	
<input type="checkbox"/>	Retrieve	MEX-M-HRSC/SRC-3-RDR-0030-V1.0 MEX HRSC Calibrated Data, Orbits 0030-0100 V1.0	
<input type="checkbox"/>	Retrieve	Not available 15x21x15x21 Km Not Aplicable	
<input type="checkbox"/>	Retrieve	HIGH RESOLUTION STEREO CAMERA HRSC	
<input type="checkbox"/>	Retrieve	H0061_0002_SR2.IMG 2004-01-29T10:28:55.86 2004-01-29T10:28:55.87	
<input type="checkbox"/>	Retrieve	MEX-M-HRSC/SRC-3-RDR-0030-V1.0 MEX HRSC Calibrated Data, Orbits 0030-0100 V1.0	
<input type="checkbox"/>	Retrieve	Not available 15x21x15x21 Km Not Aplicable	
<input type="checkbox"/>	Retrieve	HIGH RESOLUTION STEREO CAMERA HRSC	
<input type="checkbox"/>	Retrieve	H0061_0003_SR2.IMG 2004-01-29T10:29:01.31 2004-01-29T10:29:01.32	
<input type="checkbox"/>	Retrieve	MEX-M-HRSC/SRC-3-RDR-0030-V1.0 MEX HRSC Calibrated Data, Orbits 0030-0100 V1.0	
<input type="checkbox"/>	Retrieve	Not available 15x21x15x21 Km Not Aplicable	
<input type="checkbox"/>	Retrieve	HIGH RESOLUTION STEREO CAMERA HRSC	
<input type="checkbox"/>	Retrieve	H0061_0004_SR2.IMG 2004-01-29T10:29:07.31 2004-01-29T10:29:07.31	

Different details of the query results can be viewed

- Instrument Info
- Geometrical Info
- Icons
- Other Info

Planetary Science Archive 2.1

File Print/Save Find Field Documentation Help

Query Specification Latest Results Shopping Basket Login/Register Request Monitor

Not Logged In Idle

Planetary Science Archive
European Space Agency

Move Selected to Basket Move All to Basket Mark All Delete Selected Refresh List

Products 181. Shown: 1st and each until and including 25th

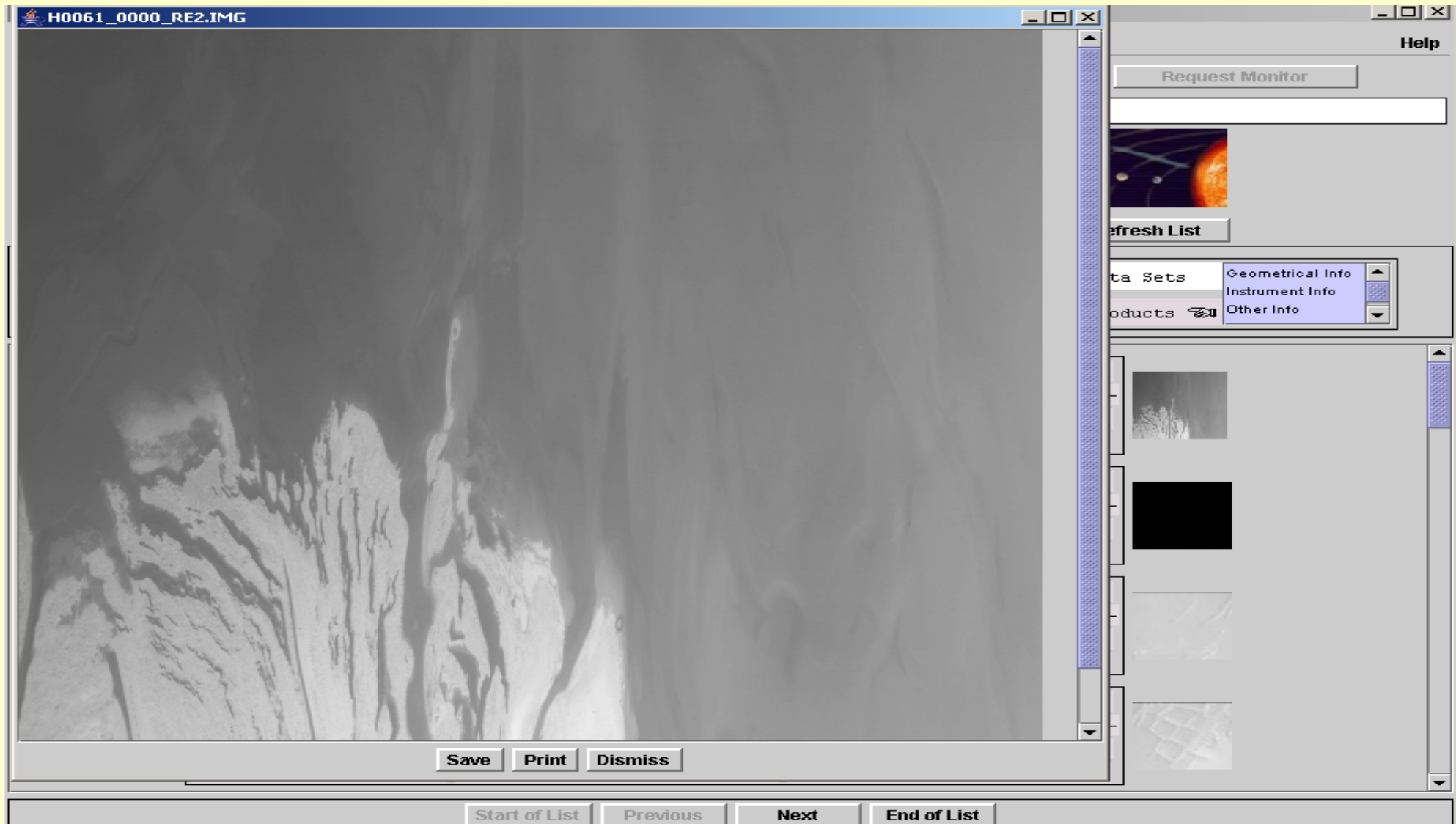
25 in Page
Each One

☐ Data Sets
☒ Products

Instrument Info
Other Info
Product Icon

<input checked="" type="checkbox"/>	Retrieve	MEX-M-HRSC/SRC-3-RDR-0030-V1.0 MEX HRSC Calibrated Data, Orbits 0030-0100 V1.0	
<input checked="" type="checkbox"/>	Retrieve	MEX-M-HRSC/SRC-3-RDR-0030-V1.0 MEX HRSC Calibrated Data, Orbits 0030-0100 V1.0	

Enlarge the icon by mouse selection ...



Select your products in the 'Latest Results' panel and move them into the Shopping Basket

Planetary Science Archive 2.1

File Print/Save Find Field Documentation Help

Query Specification Latest Results Shopping Basket Login/Register Request Monitor

Not Logged In Idle

Planetary Science Archive
European Space Agency





Move Selected to Basket Move All to Basket Mark All Delete Selected Refresh List

Products 181. Shown: 1st and each until and including 25th

25 in Page Each One

☐ Data Sets ☒ Products

Instrument Info Other Info Product Icon

<input checked="" type="checkbox"/>	Retrieve	MEX-M-HRSC/SRC-3-RDR-0030-V1.0 MEX HRSC Calibrated Data, Orbits 0030-0100 V1.0	
<input checked="" type="checkbox"/>	Retrieve	MEX-M-HRSC/SRC-3-RDR-0030-V1.0 MEX HRSC Calibrated Data, Orbits 0030-0100 V1.0	
<input checked="" type="checkbox"/>	Retrieve	MEX-M-HRSC/SRC-3-RDR-0030-V1.0 MEX HRSC Calibrated Data, Orbits 0030-0100 V1.0	
<input type="checkbox"/>	Retrieve	MEX-M-HRSC/SRC-3-RDR-0030-V1.0 MEX HRSC Calibrated Data, Orbits 0030-0100 V1.0	

Previous Next End of List

Planetary Science Archive 2.1

File Print/Save Find Field Documentation Help

Query Specification Latest Results Shopping Basket Login/Register Request Monitor

User: JZENDER Idle

Planetary Science Archive
European Space Agency

Shopping Basket

Next Products PER ITEM Define Custom Submit Request Delete Selected Mark All Refresh

2 Products. Shown: 1st and each until and including 2nd

5 in Page Each One

<input type="checkbox"/> Product	MEX-M-HRSC/SRC-3-RDR-0401-V1.0 MEX HRSC Calibrated Data, Orbits 0401-0500 V1.0
	Not available 57x1408x90x1409 Km Not Applicable
	HIGH RESOLUTION STEREO CAMERA HRSC
	H0401_0000_S12.IMG 2004-05-15T00:47:54.42 2004-05-15T00:53:46.16
<input type="checkbox"/> Product	MEX-M-HRSC/SRC-3-RDR-0401-V1.0 MEX HRSC Calibrated Data, Orbits 0401-0500 V1.0
	Not available 57x1407x91x1408 Km Not Applicable
	HIGH RESOLUTION STEREO CAMERA HRSC
	H0401_0000_IR2.IMG 2004-05-15T00:47:58.48 2004-05-15T00:53:52.77

Within the 'Shopping Basket', order your data.

Select the delivery options and confirm your order.

Your order will be packed and provided to you on the PSA ftp server. An email will inform you on the details.

Planetary Science Archive 2.1

File Print/Save Find Field Documentation

Query Specification

Latest Results

Shopping Basket

Login/Register

Request Monitor

User: JZENDER Idle

Planetary Science Archive

European Space Agency

Confirmation of Request Page

Request Summary

User ID	JZENDER
Number of Items	3 Products
Estimated Total Product Size, Mb	58.67
FTP Download Time	Perform Estimation ----- Not Yet Calculated -----

Tar Option

compressed tar (one file)

zip (one file)

tar (one file)

no tar (files loose)

Confirm

Abort

Your Planetary Science Archive

File Edit View Go

Get Message

Subject: Your Planetary Science Archive Request

From: psahelp@esa.int

Date: 3:12 PM

To: jzender@rssd.esa.int

Dear Planetary Science Archive User,

Your retrieval request has been successfully processed.

Please follow the instructions below to access/browse the ftp area where your data is located:

```
ftp psa.sciops.esa.int
anonymous
<your email address as password>
prompt
cd /pub/jzender
binary
dir
```

Alternatively, you can also access your files directly from your browser at:

<ftp://psa.sciops.esa.int/pub/jzender/JZENDER551.tar.gz>

where you will be able to see some of the products on-line.

Your data will remain at this location for 7 days.

The Planetary Science Archive (PSA) can be accessed at

<http://www.rssd.esa.int/psa>

You can also get more information about the PSA project by accessing the PSA web pages at the same address.

If you have any comments or questions, please contact the PSA HelpDesk at the following email address:

Comments, Idea, Improvements, ...

➤ Via the PSA Helpdesk

`psahelp@rssd.esa.int`

Conclusion

PSA is the official Mars Express archive and ESA offers data services (query, pre-view, selection, ordering) to the science community.