The Herschel Science Archive

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HSA Content

Herschel Home

Welcome to the Herschel website provided by the Herschel Science Centre (HSC) primarily for the scientific community. External Herschel related websites see link buttons above and 'Useful links'.

Herschel

EXPLORING THE FORMATION OF GALAXIES AND STARS
DÉCOUVRIRE LA FORMATION DES GALAXIES ET DES ÉTOILES

Herschel Astronomers’ website provided by the Herschel Science Centre (HSC) primarily for the scientific community.

Star Formation Across Space and Time Symposium material posted! The Star Formation Across Space and Time Symposium was held on 11-14 November 2014. In the four days 59 talks were given and 54 posters displayed by about 120 attendees. All talks have been posted on the symposium website as well as the posters we have received. We also want to thank everyone who participated and helped making the symposium a very enjoyable and successful event. Thank you!

The Universe Explored by Herschel Symposium material posted! The Universe Explored by Herschel Symposium was held on 15-18 October 2013 to present, discuss, and take stock of the scientific results based on Herschel to date. In the four days 114 talks were given and about 200 posters displayed by over 350 attendees. All talks have been posted on the symposium website as well as the posters we have received. We also want to thank everyone who participated and helped making the symposium a very successful event. Thank you!
HSA Content

OVERVIEW OF HERSCHEL STANDARD PRODUCTS

A wide range of Herschel data products are available, both in 'scope' and 'level'. Most of them are automatically generated by systematic pipeline processing performed at the Herschel Science Centre (HSC) using the Herschel Data Processing system and made available through the Herschel Science Archive (HSA). These products are labelled with the version of the SPG (Standard Product Generation) software used for their production. Others, interactively generated, may eventually become part of the HSA at a later stage of the mission.

The Herschel products (not all of direct interest for the observers) consist of:

- Observational products
  - Contain the scientific data resulting from the Herschel observations
  - Classified depending on the level of the processing of the data they contain, ranging from raw data to highly processed scientific data (see below)
  - Generated per observation (AOR), in contrast with highly processed products that may result from the combination of data from several observations (AORs)

- Auxiliary products
  - Contain all Herschel non-science spacecraft data required directly or indirectly in the processing and analysis of the scientific data.
  - Normally generated per Herschel Operational Day, with the exception of the Herschel Pointing Product that is generated per observation

- Calibration products
  - Contain the parameters that characterise the behaviour of the satellite and the instruments.
  - There are uplink and downlink calibration products. Downlink calibration products are used in the processing of the raw data to produce astronomically calibrated products in which the instrument artefacts have been removed.

- Quality control products
  - Gather a summary of the information required to evaluate the technical quality of the executed observation and the products generated, and provide a global quality assessment

- User Provided Data Products (UPDP)
  - Interactively reduced data provided to the Herschel Science Centre by the observers (initially from the Herschel Key Program consortia only, that committed to do that explicitly, but not excluding other programmes as well, on a voluntary basis)
  - Stored in the HSA and made available to the astronomical community after validation
  - Must follow provided guidelines in terms of format and associated documentation
Accessing the HSA User Interface

To Access the HSA through the user interface please use the following link:

Start the HSA User Interface (HUI) using Java Web Start

To run the HSA as a desktop application, you must have Java Web Start enabled. First time you launch a Java Web start application? Please follow these instructions. More details on what Java Web Start is can be found here.

HSA Troubleshooting FAQ

HSA News

Garching 15-17 April 2015

To access the HSA data directly through the Archive InterOperability System (HAIO) please use the HAIO web Interface. Please note
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<th>Postcards</th>
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Please refer to:
http://herschel.esac.esa.int/DpKnownIssues.shtml
for known problems in products.

Quality Flags

**Concept** | **Value**
---|---
Event report
Flag for ratioSampleOutOfCalibrationRangePLW set; ratio of number of samples that are out of the calibrated voltage range to the number of data samples in the detectors of the PLW array is out of range | 0.3814...
Flag for ratioSampleOutOfCalibrationRangePMW set; ratio of number of samples that are out of the calibrated voltage range to the number of data samples in the detectors of the PMW array is out of range | 0.3362...
Flag for ratioSampleOutOfCalibrationRangePSW set; ratio of number of samples that are out of the calibrated voltage range to the number of data samples in the detectors of the PSW array is out of range |

Garching 15-17 April 2015
OVERVIEW OF HERSHEYEL DATA PRODUCT LEVELS

The various Herschel Data Product levels can be briefly described as follows:

- Level-0 data products
  - Raw telemetry data as measured by the instrument. They might be minimally formatted before its ingestion into the Herschel Science Archive. They are automatically generated by the data processing pipeline.

- Level-1 data products
  - Detector readouts calibrated and converted to physical units, in principle instrument and observatory independent.

- Level-2 data products
  - Level-1 data further processed to such a level that scientific analysis can be performed.
  - For optimal results many of the processing steps involved in the generation of level-2 data may require human interaction.
  - Should be suitable for Virtual Observatory access.

- Level-2.5 data products
  - SPIRE level-2.5 products are pairs of scan maps taken in the nominal and orthogonal directions.
  - PACS Level-2.5 photometric products are maps combining scan and cross-scan AORs taken on the same sky field.
  - PACS Level-2.5 spectroscopic products combine two observations obtained on-target and on a nearby reference off-position in the unchopped range scan observing mode.
  - HiFi Level-2.5 map data products are regridded cubes for each of the polarisations and backend sub-bands associated to a given observation.
  - HiFi Level-2.5 spectral scan data products are deconvolved level-2 spectra.

- Level-3 data products
  - Level-3 data products are available for PACS and SPIRE.
  - They are image mosaics obtained by merging all or a subset of contiguous observations belonging to the same proposal with at least a minimum degree of overlap.

- Standalone Browse Products

Since 17 March 2014 the new version of the Herschel Science Archive (HSA 5.2) offers the possibility to download 'Standalone Browse Products' from the Herschel User Interface (using the standard retrieval options or by right clicking on the postcard) and from the Postcard Gallery. 'Standalone Browse Products' are not necessarily 'science ready' products. They are provided for 'quick look' purposes.

At this point, level 2 and level 2.5 FITS products generated by the standard Herschel data processing pipelines are distributed as 'Standalone Browse Products'. They will evolve in the future with the objective to become simpler and easier-to-use products.
The new web-based Archive User Interface for next year
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<td>FUV colours and SEDs of nearby galaxies observed with Herschel</td>
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<td>201DAAB.. 55B. 644[0]</td>
<td>The central region of spiral galaxies as seen by Herschel. M61, M99, and M100</td>
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<td>The Herschel Space Observatory view of dust in M81</td>
<td>Bendo G J et al.</td>
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<td>201DAAB.. 55B. 823[0]</td>
<td>The origin of M81 group extended dust emission</td>
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<td>On the nature of dust clouds in the region towards M 81 and NGC 2917</td>
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<td>Star Formation: A Map-making Software for Herschel and Similar Surveys. A Survey of Nearby Galaxies</td>
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<td>201DAAB.. 44B. 184[0]</td>
<td>The identification of dust heating mechanisms in nearby galaxies using Herschel 160/250 and 250/350 μm surface brightness ratios</td>
<td>Bendo G J et al.</td>
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Another way to query the archive and retrieve the Standalone Browse Products: The postcard gallery

WARNING!

'Sandalone Browse Products' are not 'science ready' products. They are provided for 'quick look' purposes. At this point, level 2 and level 2.5 FITS products generated by the standard Herschel data processing pipelines (see http://herschel.esac.esa.int/Data_Products.shtml for an overview of Herschel Data Product levels) are distributed as 'Standalone Browse Products'. They will evolve in the future with the objective to become simpler and easier-to-use products.

Please also refer to: http://herschel.esac.esa.int/DpKnownIssues.shtml for known issues on Herschel Data Products.

NOTE!

There are currently no PACS Spectroscopy 'Standalone Browse Products' available. They are planned to be provided after the bulk reprocessing of the Herschel Science Archive with version 13 of the standard Herschel data processing pipelines.
Herschel Photometry in ESASky: a third way to query the Archive and retrieve Standalone Browse Products