



Digging Deeper into the Herschel Science Archive

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User Support coordinator / NHSC
Archive Scientist
(based on talks by David Ardila)



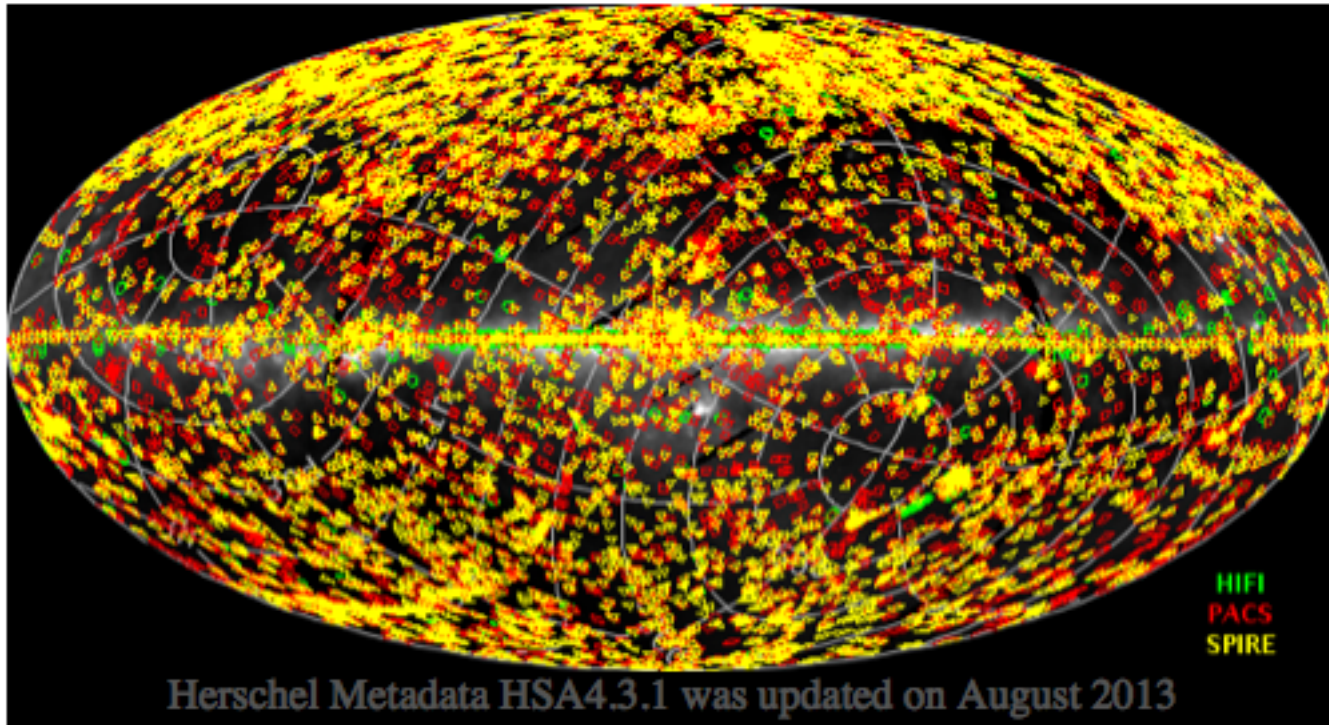


Outline

- Pipeline-processed products
 - What's available
 - Using Observing Logs
- User-Provided Data Products (UPDPs)
- Accessing the data
 - HSA User Interface
 - Herschel Portal at IRSA
- Publication List



Looking at the Archive



- Over 60000 observations and over 20000 hours, but not full sky
- Everything is public six months after observed (except for some calibration observations)

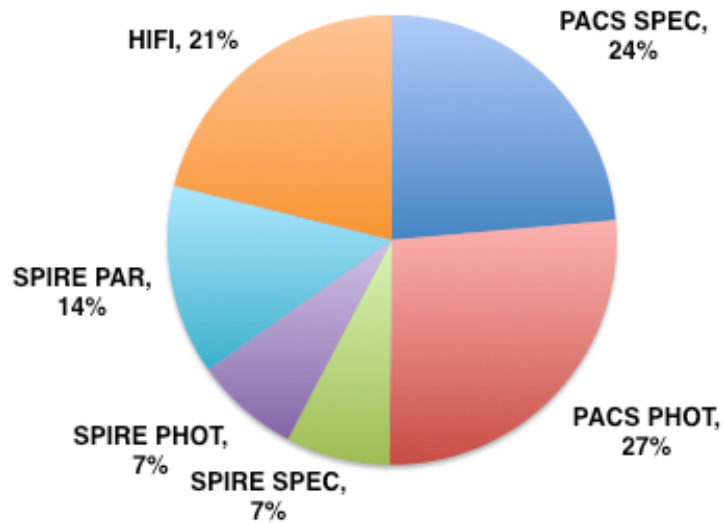


What's in the archive...

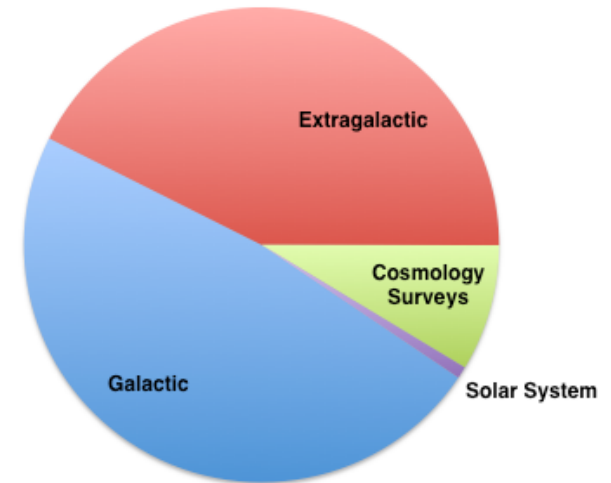
- Each observation done by Herschel
 - All are run through a reduction pipeline
 - The products of the pipeline may or may not be what you want. If you want to do photometry of isolated point source you are done!
- The user-provided data products (UPDPs) submitted by Key Programs
 - These can be anything: tables, images, 1D spectra
- You will not find catalogs (unless part of a UPDP) or extracted photometry or line measurements



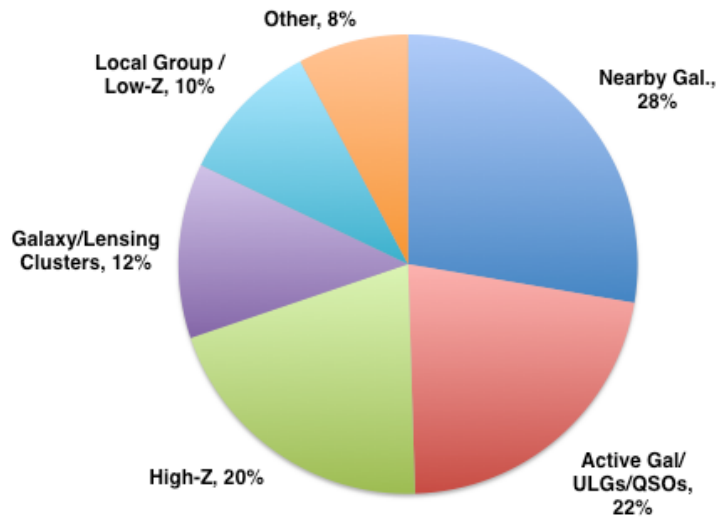
Instrument Distribution: 22694 hrs



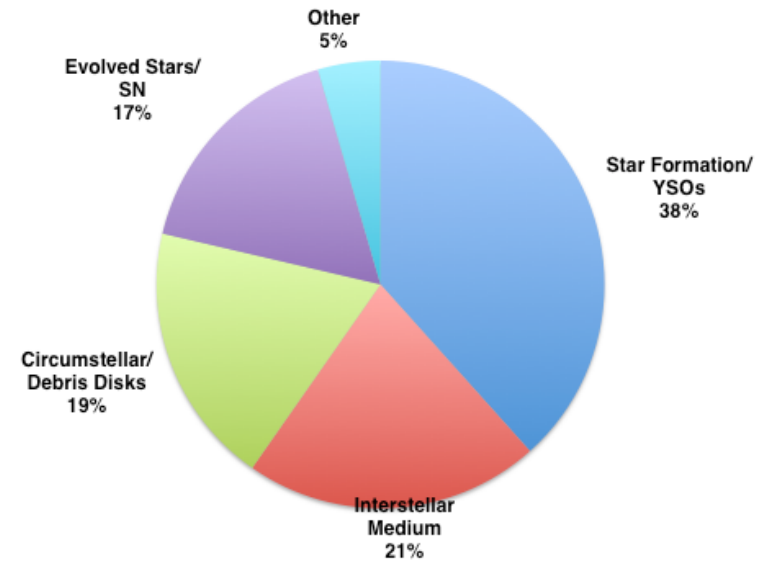
Science Distribution (by hour)



Extragalactic Science



Galactic Science





The Herschel Observing Log

Double-click on
Observations



The screenshot shows the NHSC Astronomer's Web Site. On the left is a sidebar menu with the following items: Main NHSC Page, News & Events, Help Desks & Services, Computer Support, Observations (circled in red), Data Reduction, Instruments, HIFI, PACS, SPIRE, Mapping, Mission Links, Science Links, Related Links, Outreach, NHSC User Panel, Acknowledgments for publications, and Contact us. The main content area has a dark red header with the text "NHSC Astronomer's Web Site". Below this is a navigation bar with "View", "Edit", "History", "Print", and "Login". The main content area contains a "Calendar" icon, a link to "NHSC Newsletter / Helpdesk", and a "TWITTER" icon. Below this is an "Announcements" section with the following text:

Data Processing Workshop: Exploiting the Herschel Archive
NEW: You can attend the workshop remotely, via Webex. Please indicate this when you register.

Registration is now open for the NHSC Data processing Workshop, taking place August 26th-30th, 2013, in Pasadena, CA. The goal of this workshop is to showcase the contents and capabilities of the Herschel Archive, and to provide information and training about how to best exploit it. This workshop is directed to:

- * Astronomers new to Herschel, interested in exploiting the Herschel archive
- * Beginner Herschel users who want to learn how to reduce their data
- * Intermediate Herschel users who want to learn about the latest software capabilities

Workshop Topics:

- * An introduction to the Herschel Space Observatory
- * The contents of the Herschel Archive
- * How to reduce Herschel data



The Herschel Observing Log



- Main NHSC Page
- News & Events
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 - HIFI
 - PACS
 - SPIRE
- Map-making
- Mission Links
- Science Links
- Related Links
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- Acknowledgments for publications
- Contact us

Edit SideBar

[ObsStatus /](#)

Observations

Tracking and Scheduling

[Search Observations with Vizier](#) [Observing Log](#) [Observing Schedule](#) [Observing Log Tables](#)

Approved Programs

| | | | | |
|------------------------------|--|-----------------------------------|--|-----------------------------------|
| Key Programs | GT1 (Guaranteed Time AO-1) | OT1 (Open Time 1) | GT2 (Guaranteed Time AO-2) | OT2 (Open Time 2) |
|------------------------------|--|-----------------------------------|--|-----------------------------------|

Observing Log: good but limited...

No name resolution

Searches by science category!

Herschel Observation List

herschel.esac.esa.int/logreggen/observationlist.do

Observing Log

Query observations

OD From: OD To:

Target Proposal

AOT Subinstrument

Obs. Id AOR label

Duration (min): Duration (max):

Start Time From: (e.g. 2010-09-05T16:30:00Z) Start Time To: (e.g. 2010-09-05T16:30:00Z)

SPG version QC State

Science Category

Active galaxies/ULGs/QSOs
Asteroids
Brown Dwarfs/Very Low-Mass Stars
Circumstellar/Debris disks

Observations per page: 50

Search observations Clear

38,484 items found, displaying 1 to 50. [First/Prev] 1, 2, 3, 4, 5, 6, 7, 8 [Next/Last]

| OD | Target | RA | DEC | Proposal | AOT | Duration | Start time | Obs. Id | AOR Label | SPG version | QC State |
|------|-----------|---------------|---------------|-----------------|---------------|----------|----------------------|------------|----------------------------|-------------|----------|
| 1451 | NGC4194 | 12h14m09.635s | +54d31m36.08s | OT2_larmus_2 | PacsRangeSpec | 423 | 2013-05-04T11:21:49Z | 1342272045 | PSpecR-NII-NGC4194 | SPG v10.3.0 | PENDING |
| 1451 | 110017 | 10h35m39.305s | +28d33m56.91s | OT2_asainton_1 | PacsLineSpec | 399 | 2013-05-04T11:09:12Z | 1342272044 | PSpecL - 110017 | SPG v10.3.0 | PENDING |
| 1451 | 109058 | 9h52m03.802s | +19d39m04.04s | OT2_asainton_1 | PacsLineSpec | 399 | 2013-05-04T10:59:12Z | 1342272043 | PSpecL - 109058 | SPG v10.3.0 | PENDING |
| 1451 | 109088 | 9h58m53.330s | +15d22m47.81s | OT2_asainton_1 | PacsLineSpec | 399 | 2013-05-04T10:50:24Z | 1342272042 | PSpecL - 109088 | SPG v10.3.0 | PENDING |
| 1451 | 109100 | 9h46m31.022s | +15d53m10.77s | OT2_asainton_1 | PacsLineSpec | 765 | 2013-05-04T10:35:30Z | 1342272041 | PSpecL - 109100 | SPG v10.3.0 | PENDING |
| 1451 | 109106 | 9h53m51.490s | +13d36m54.39s | OT2_asainton_1 | PacsLineSpec | 399 | 2013-05-04T10:26:42Z | 1342272040 | PSpecL - 109106 | SPG v10.3.0 | PENDING |
| 1451 | 109050 | 9h58m36.230s | +13d15m18.99s | OT2_asainton_1 | PacsLineSpec | 399 | 2013-05-04T10:17:54Z | 1342272039 | PSpecL - 109050 | SPG v10.3.0 | PENDING |
| 1451 | irc+10216 | 9h47m57.410s | +13d16m43.60s | DDT_jcernich_10 | PacsRangeSpec | 2267 | 2013-05-04T09:37:58Z | 1342272038 | TV_PACS-epoch_4 | SPG v10.3.0 | PENDING |
| 1451 | 109077 | 9h51m18.362s | +9d08m21.23s | OT2_asainton_1 | PacsLineSpec | 7459 | 2013-05-04T07:31:30Z | 1342272037 | PSpecL - 109077 | SPG v10.3.0 | PENDING |
| 1451 | 109006 | 9h47m42.139s | +9d09m39.80s | OT2_asainton_1 | PacsLineSpec | 1131 | 2013-05-04T07:10:30Z | 1342272036 | PSpecL - 109006 | SPG v10.3.0 | PENDING |
| 1451 | 109122 | 9h46m22.620s | +9d09m54.83s | OT2_asainton_1 | PacsLineSpec | 765 | 2013-05-04T06:55:36Z | 1342272035 | PSpecL - 109122 | SPG v10.3.0 | PENDING |
| 1451 | 109011 | 9h45m35.453s | +4d24m38.13s | OT2_asainton_1 | PacsLineSpec | 1131 | 2013-05-04T06:34:36Z | 1342272034 | PSpecL - 109011 | SPG v10.3.0 | PENDING |
| 1451 | 109103 | 9h36m40.738s | +2d42m12.78s | OT2_asainton_1 | PacsLineSpec | 2287 | 2013-05-04T05:54:20Z | 1342272033 | PSpecL - 109103 | SPG v10.3.0 | PENDING |
| 1451 | HD 212695 | 22h28m14.442s | -2d47m20.32s | OT2_isong_5 | PacsPhoto | 276 | 2013-05-04T03:13:22Z | 1342272022 | PacsPhoto-HD212695-100-110 | SPG v10.3.0 | PENDING |

Hawaii Time: Tue 08:15 Pacific Time: Tue 11:15 Mountain Time: Tue 12:15 Central Time: Tue 13:15 Bogota: Tue 13:15 Eastern Time: Tue 14:15 GMT/UTC: Tue 18:15 Madrid: Tue 20:15

Observing Log at VizieR



- Main NHSC Page
- News & Events
- Help Desks & Services
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 - HIFI
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- Map-making
- Mission Links
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- Acknowledgments for publications
- Contact us

Edit SideBar

[ObsStatus /](#)

Observations

Tracking and Scheduling

- [Search Observations with VizieR](#)
- [Observing Log](#)
- [Observing Schedule](#)
- [Observing Log Tables](#)

Approved Programs

- | | | | | |
|------------------------------|--|-----------------------------------|--|-----------------------------------|
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|------------------------------|--|-----------------------------------|--|-----------------------------------|

VizieR search by target

Portal Simbad **VizieR** Aladin X-Match Other Help

Catalog Selection Page

Simple Target List Of Targets

Target Name (resolved by [Sesame](#)) or Position: J2000 arcmin

Target dimension: Radius Box size

Radn IR J2000 X Y Herschel Observation Log (Herschel Science Centre, 2013) [image/jpg](#) [Similar](#)

VI/139 [Post annotation](#)

1.VI/139/herschel The Herschel Observation Log (37093 rows)
(see also the [postcard server](#))

Simple Constraint List Of Constraints

Query by [Constraints](#) applied on Columns (Output Order: + -)

| Show | Sort | Column | Constraint |
|-------------------------------------|-----------------------|--|--|
| <input type="checkbox"/> | <input type="radio"/> | recno <input type="text"/> | Record number assigned by the VizieR team |
| <input checked="" type="checkbox"/> | <input type="radio"/> | OD <input type="text"/> | [120/1446] Herschel Operational Day (meta. |
| <input checked="" type="checkbox"/> | <input type="radio"/> | Target <input type="text"/> (char) | Target Name, as given by the observer (meta |
| <input checked="" type="checkbox"/> | <input type="radio"/> | RAJ2000 <input type="text"/> "h:m:s" (n) | Hour of Right Ascension (J2000) (pos.eq. |
| <input checked="" type="checkbox"/> | <input type="radio"/> | DEJ2000 <input type="text"/> "d:m:s" (n) | Degree of Declination (J2000) (pos.eq.de |
| <input checked="" type="checkbox"/> | <input type="radio"/> | Proposal <input type="text"/> (char) | Name of the proposal (meta.id;obs) |
| <input type="checkbox"/> | <input type="radio"/> | AOT <input type="text"/> (char) | Astronomical observing template (Note 1) (|
| <input checked="" type="checkbox"/> | <input type="radio"/> | Dur <input type="text"/> s | [24/64498] Total duration of the observation |
| <input checked="" type="checkbox"/> | <input type="radio"/> | Start <input type="text"/> s | (n)Start time of the observation (UTC; YYYY' |
| <input checked="" type="checkbox"/> | <input type="radio"/> | ObsId <input type="text"/> | Herschel observation identifier (meta.id;obs. |


Name resolver for target

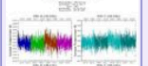



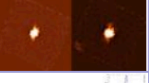


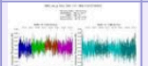

Tick the ObsId box! You'll want this later

Vizier output page

[VI/139/herschel](#) [Herschel Observation Log \(Herschel Science Centre, 2013\)](#)
[Post annotation](#) The Herschel Observation Log (37093 rows)

[2013yCat.6139....0H](#) [ReadMe+ftp](#)

 start AladinLite

| Full | OD | Target | RAJ2000 "h:m:s" | DEJ2000 "d:m:s" | Proposal | Dur s | Start s | ObsId | PACS | HIFI | SPIRE |
|----------------------|--------------------|------------------------|------------------------------------|------------------------------------|---------------------------------|--------------------------|----------------------------|-----------------------|---|---|---|
| 50 | 534 | M82 | 09 55 52.22 | +69 40 46.9 | KPGT_rquesten_1 | 1933 | 2010-10-30T13:34:41 | 1342208586 | |  | |
| 49 | 543 | m82 | 09 55 52.22 | +69 40 46.9 | KPGT_cwilso01_1 | 17843 | 2010-11-08T01:58:26 | 1342208388 | | |  |
| 48 | 543 | m82 | 09 55 52.22 | +69 40 46.9 | KPGT_cwilso01_1 | 5041 | 2010-11-08T06:56:15 | 1342208389 | | |  |
| 47 | 546 | m82 | 09 55 52.22 | +69 40 46.9 | KPGT_cwilso01_1 | 3271 | 2010-11-10T20:17:56 | 1342209350 |  | | |
| 46 | 546 | m82 | 09 55 52.22 | +69 40 46.9 | KPGT_cwilso01_1 | 3271 | 2010-11-10T21:13:30 | 1342209351 |  | | |
| 45 | 550 | M82-outflow-south | 09 55 56.00 | +69 40 04.0 | KPGT_esturm_1 | 1502 | 2010-11-15T05:03:08 | 1342208945 |  | | |
| 44 | 550 | M82-outflow-north | 09 55 48.80 | +69 41 27.0 | KPGT_esturm_1 | 1502 | 2010-11-15T05:30:20 | 1342208946 |  | | |
| 43 | 550 | M82-outflow-north | 09 55 48.80 | +69 41 27.0 | KPGT_esturm_1 | 1669 | 2010-11-15T05:57:30 | 1342208947 | | | |
| 42 | 560 | M82-SW | 09 55 49.44 | +69 40 42.3 | KPGT_rquesten_1 | 3697 | 2010-11-25T00:37:27 | 1342210062 | |  | |
| 41 | 560 | M82-NE | 09 55 55.00 | +69 40 51.5 | KPGT_rquesten_1 | 3697 | 2010-11-25T01:40:47 | 1342210063 | |  | |

Note: Calibration observations are not included



Key Programs

- 42 large programs submitted at the beginning of the mission. 40% of all time in Herschel.
- Two kinds:
 - Open Time Key Programs (KPOT - The community)
 - Guaranteed Time Key Programs (KPGT - Instrument groups)
- Required to produce User Provided Data Products (UPDPs) : High level products with custom processing.



Key Programmes at HSC website

Cosmos » Herschel » Observations » Key Programmes

| |
|-----------------------|
| Home |
| General Information ▶ |
| Documentation ▶ |
| Observations ▶ |
| Data Products ▶ |
| Data Processing ▶ |
| Publications ▶ |
| User Services ▶ |
| Herschel Helpdesk |

HERSCHEL OBSERVING KEY PROGRAMMES

INTRODUCTION

The Announcement of Opportunity (AO) for the Herschel Key Programmes (KP) was issued on 1 February 2007, with separate deadlines for guaranteed time (GT) and open time (OT) proposals. The whole Key Programme AO process has now been completed, by coincidence there is exactly the same number of KP GT and OT programmes, in both cases 21 programmes have been awarded observing time.

Taken together these 42 observing programmes contain 11650 AORs which form the current Reserved Observation List. The total allocated observing time for these programmes is 11257.7 hours, corresponding to approximately 57% of the nominally available Herschel routine mission science time. Some additional statistics are [provided here](#).

Below you can find the list of accepted [Guaranteed Time](#) and [Open Time](#) Key Programmes sorted by Science Category. Click on the proposal ID's to access the text of the abstracts. These observations cannot be duplicated by future 'regular' programmes. If you want to check whether your planned observations are already covered by one or more existing AORs, you can easily do so by using the [Herschel Reserved Observations Search Tool](#) to find out.

GUARANTEED TIME KEY PROGRAMMES

For the Guaranteed Time (GT) part of the Key Programme AO a total of 21 Key Programmes were proposed and accepted (with some modifications). The total allocated observing time for these observing programmes contains 6668 AORs and amounts to 5878.9 hours, or approximately 93% of all available GT.

SOLAR SYSTEM (1)

[KPGT_pharto01_1](#)

"Water and Related Chemistry in the Solar System"

(PI: Paul Hartogh, 293.7 hours allocated)

ISM/STAR FORMATION (10)

[KPGT_aabergel_1](#)

"Evolution of interstellar dust"

(PI: Alain Abergel, 163.0 hours allocated)

[KPGT_mgerin_1](#)

"PRISMAS: PRobing InterStellar Molecules with Absorption line Studies"

(PI: Maryvonne Gerin, 128.0 hours allocated)

[KPGT_vossenko_1](#)

"The warm and dense ISM"

(PI: Volker Ossenkopf, 160.0 hours allocated)



There are counterparts to Spitzer Legacy programs

- **Spitzer' SINGS** (The Spitzer Infrared Nearby Galaxies Survey - Physics of the Star-Forming ISM and Galaxy Evolution)
→ **Herschel Kingfish** (Key Insights on Nearby Galaxies: A Far-Infrared Survey with Herschel)
- **Spitzer's GLIMPSE and MIPS GAL** → **Herschel's Hi-Gal** (The Herschel infrared Galactic Plane Survey)
- **Spitzer's C2D** → **Herschel's DIGIT**
- **Spitzer's FEPS** → **Herschel's GASPS**





Some UPDPs are already available

Cosmos » Herschel » Data Products » User Provided Data Products

- Home
- General Information
- Documentation
- Observations
- Data Products
- Data Processing
- Publications
- User Services
- Herschel Helpdesk

HERSCHEL USER PROVIDED DATA PRODUCTS

INTRODUCTION

The Herschel Science Archive contains products obtained by processing the observations data through an automatic processing pipeline. This corrects well a number of instrumental artifacts in an automatic fashion. The final products can, however, be significantly improved by processing them further, e.g. by means of the interactive analysis software tools available within HIPE or with the help of [other external tools and/or user contributed software](#).

The resulting products are called Highly Processed Data Products (HPDPs). In a broader sense this definition includes catalogues and atlases. In the future, the Herschel Science Archive is expected to be enhanced with the functionality for continuous ingestion of new user provided data products, catalogues and atlases, in the form of HPDPs.

In particular, and as agreed at the time of submission of the Key Programme observing proposals, KP consortia are committed to deliver to the HSC the User Provided Data Products corresponding to the data obtained as part of the Science Demonstration Phase. In addition, on a best effort basis, they are also expected to continue contributing with additional User Provided Data Products corresponding to the results obtained as part of their core programmes as they become published in the refereed literature.

For the moment, this web page is intended to play the role of a User Provided Data Products repository by providing links to those external sites (mostly via ftp repositories hosted by the consortia delivering the data) containing data generated by different projects (and associated documentation), that may eventually be ingested into the Herschel Science Archive.

USER PROVIDED DATA PRODUCTS

The table below provides access to the currently available User Provided Data Products sorted by release date:

| Proposal ID | Proposal Name | Release Note | User Provided Data Products Repository | Related Publications | Latest update | Ingested in HSA ? |
|--|--|--|---|---|---------------|-------------------|
| GT1_golofs01_4 GT2_jbouwman_3 | SPIRE spectroscopy of protoplanetary disks | Data Release Note | Data Repository | van der Wiel et al. 2014 | [27-Aug-2014] | YES |
| KPGT_soliver_1 | HerMES | HerMES Release note | HerMES Data Release | HerMES related publications | [11-Jul-2014] | YES |
| | Physical Processes in the Interstellar | VNGS Release note (SPIRE data) VNGS Release | VNGS Data release (SPIRE data) and postcards VNGS Data | Bendo et al. | [10- | YES (PACS) |



There are several ways of accessing these datasets

- Some metadata can be accessed via the Observing Log
- Access via the Herschel User Interface (HUI)
- Access via the Herschel Interactive Processing Environment (HIPE)
- Access via the Herschel portal at IRSA
- Important: The Archive is not the Interface



I will

- The Herschel Observing Log
- The Herschel Archive User Interface
- The Herschel Interactive Analysis Environment (HIPE)
- HSPOT: The observation planning tool
- The Herschel Publications Tool

HSA Science Archive v4.3.1

File View Windows Account Tools Help

HERSCHEL esa

Search

Herschel Observation Planning Tool - End of Operations version

Publication List

Last update: 2013.08.07 T 11:13:43 CEST

Filter

Publication criteria

Bib_Code

Title

Author Surnames

Affiliation

Journal Any

Min citations

Publication Date

Observation Ids

Status Any

User Reduced Data

HIPE version

Comments

Abstract

Observation criteria

QD range

Target

Proposal

AOT / Instrument / Subinstrument

Duration (min/max)

Start/End Time Range

Science Area & Category

Search publications Clear

Publications per page 1000

744 items found, displaying all items.

| BibCode | Status | Title | Authors | Journal | Date | Citations | #Obs |
|----------------------|-------------|--|--|--|---------|-----------|------|
| 2013RVMP...85..1021T | PENDING | The molecular universe | Tielens A. G. G. M. | Reviews of Modern Physics | 07/2013 | 0 | 0 |
| 2013RAA...13..557H | IN_PROGRESS | Sequential clustering of star formations in IC 1396 | Huang Y.-F., Li J.-Z. | Research in Astronomy and Astrophysics | 05/2013 | 1 | 0 |
| 2013RAA...13..179L | DONE | Far-Infrared and submillimeter properties of SDSS galaxies in the Herschel ATLAS science demonstration phase field | Lam M. I., Wu H., Zhu Y.-N., Zhou Z.-M. | Research in Astronomy and Astrophysics | 02/2013 | 0 | 2 |
| 2013PASP...125..600M | PENDING | An Overview of the Dwarf Galaxv | Madden S. C., R mvy-Ruxer A., Galametz M., Cornier | Publications of the | 06/2013 | 0 | 0 |

Target: None Specified

Total Duration (hrs): 0.0

Proposal - <No File> Net Up

Timing Constrains Query Panel

Query Cancel Clear

Log Console

guest has logged in at 6:08:32 PM

esa

Using the Herschel Archive User Interface - HUI

Herschel Science Center webpage:

<http://www.cosmos.esa.int/web/herschel/home>



Cosmos » Herschel » Home

| | |
|---------------------|---|
| Home | |
| General Information | ▶ |
| Documentation | ▶ |
| Observations | ▶ |
| Data Products | ▶ Data Products Overview |
| Data Processing | ▶ Known Issues |
| Publications | ▶ Herschel Science Archive (HSA) |
| User Services | ▶ User Provided Data Products |
| Herschel Helpdesk | ▶ Postcard Gallery - browse HSA |

Click the Archive link: “Herschel Science Archive (HSA)”



HERSCHEL

EXPLORING THE FORMATION OF GALAXIES AND
DÉCOUVRIR LA FORMATION DES GALAXIES ET DE

... website provided by the Herschel Science Center and related web sites see link buttons above and below.

2009! It is the fourth 'cornerstone' mission in the ESA programme. The 3.5 m Cassegrain telescope it is the largest space telescope ever. It is opening a new window to study how the universe has evolved to become the universe we see today, and how our star the sun, our planet the earth, and we ourselves fit in.

'THE UNIVERSE EXPLORED BY HERSCHEL' SYMPOSIUM

HUI Search on target (M82)

Search Observations #3

Main Query Panel

Observation Id Obs. List

Proprietary Status

Geometry Panel

Target Multiple Target

Shape Circle Box Resolve Name Equatorial

Centre Coordinates

Target **Ra:**
Dec:
Epoch: J2000

Instruments Query Panel

Instrument Obs. Type: Standard Data

All
HIFI
PACS
SPIRE
SPIREPACS

HIFI
Single Point Mapping
Spectral Scan

PACS
Pacs Photometer
Range Spectroscopy
Line Spectroscopy

SPIRE
Photometer
Spectrometer

SPIREPACS
Parallel Mode

1. Send to External Application -> All

The screenshot displays a list of items in a software application. Each item row includes a checkbox, a shopping cart icon, a printer icon, a magnifying glass icon, the text 'UPDP', a 'QUALITY REPORT' icon, a numerical ID, a label, and a time/duration string. A context menu is open over the second item, showing 'Retrieve Products' and 'Send to External Application'. The 'Send to External Application' option is selected, and a sub-menu is open showing options: 'All', 'Auxiliary', 'Calibration', 'Level0', 'Level0_5', 'Level1', 'Level2', 'Level2_5', and 'Level3'. The 'All' option is selected in the sub-menu. In the foreground, a 'Message' dialog box is displayed with a lightbulb icon and the text 'VOTable sent succesfully to external application', with an 'OK' button.

| Item ID | Label | Time/Duration |
|------------|-------|------------------------------|
| 1342185538 | m81 | 09h 55m 28.00s +69d 04' 23.9 |
| 1342186708 | M82 | 09h 55m 51.73s +69d 40' 41.0 |
| 1342186799 | | h 55m 50.60s +69d 40' 25.6 |
| 1342187205 | | h 55m 51.43s +69d 40' 32.8 |

The observation is in HIPE for browsing (“handle” only, not all the contents!)

The screenshot displays the HIPE software interface with several panels:

- Editor x**: Shows the **ObservationContext for PACS data of observation 1342186798**. The **Summary** section contains the following data:

| | | | |
|---------------------|-----------------------|-------------------------|----------------------|
| AOR label: | NearGalPACS-SB-01-red | Obs. ID: | 1342186798 |
| Instrument: | PACS | Obs. Date: | 2009-11-08T15:12:54Z |
| Object: | M82 | Obs. Mode: | Pointed |
| AOT: | Line Spectroscopy | Dec. Nominal: | 69° 40' 46.9" |
| RA Nominal: | 9h 55m 52.22s | Operational Day: | 178 |
| SPG Version: | SPG v12.1.0 | | |

The **Meta Data** section is expanded to show **Data**, with a tree view containing: `obsid_v1342186798`, `History`, `processingErrors`, `auxiliary`, `browseImageProdu`, `browseProduct`, and `calibration`.
- Tasks x**: Lists **Applicable**, **By Category**, and **All**.
- Variables x**: Shows **Observations** with `obsid_v1342186798` selected, and **Other Data**.
- History**, **Log**, and **Console x**: The console shows the following commands:

```
HIPE> from herchel.ia.pal.pool.hsa import MyHSAConnection
HIPE> hsaStore = ProductStorage(MyHSAPool.getNewInstance(MyHSAConnection.ON))
HIPE> obsid_v1342186798 =
hsaStore.load('urn:hsa:herchel.ia.obs.ObservationContext:521696').product
HIPE> del(hsaStore)
HIPE>
```
- Outline x**: Shows a tree view with `obsid_v1342186798` and a preview of data plots.

2. Place observation in Shopping Basket, and submit request for Level-2

UPDP **QUALITY REPORT** 1342187206 M82 09h 55m 51.26s +69d 40' 23.10" 24.58arc... 194

START TIME: 2009-11-24 17:12:32 **Duration:** 4504.0 **URN:** 522229
INSTRUMENT: PACS **OBS. MODE:** PacsLineSpec
PROPOSAL: Calibration_pvpac80
AOR: Calibration_PVSpecAotVal_1-PVSpecAotVal_521X_StdLineMap_63_...
PROP STATUS: Public data **EXPIRATION DATE:** 2009-11-24
SPG: SPG v12.1.0 **Level:** LEVEL2_PROCESSED **Status:**

Search Shopping Basket Observations #3

Observations [1 Observations]

Retrieve On Demand Reprocessing

| | | Observation | Target Name | RA | DEC |
|-------------------------------------|--|-------------|----------------|----------------|-----------------|
| <input type="checkbox"/> | | All | | | |
| <input checked="" type="checkbox"/> | | Level2 | 1342187206 M82 | 09h 55m 51.26s | +69d 40' 23.10" |

You will receive an email when the download is ready

Dear HSA User,

Your retrieval request has been successfully processed.
The data may be retrieved from the following address where they will remain for 3 days.

You can access your files online from the browser at:

http://archives.esac.esa.int/hsa/ftp_public/dshupe204282201/dshupe204282201.tar.gz

The total size of the requested files is 165.0 MB (173285302 bytes).
The list of files which have been copied is attached at the bottom of this message.

You can get more information about the Herschel project by accessing the Herschel web pages from the following URL:

<http://herschel.esac.esa.int>

Best Regards,

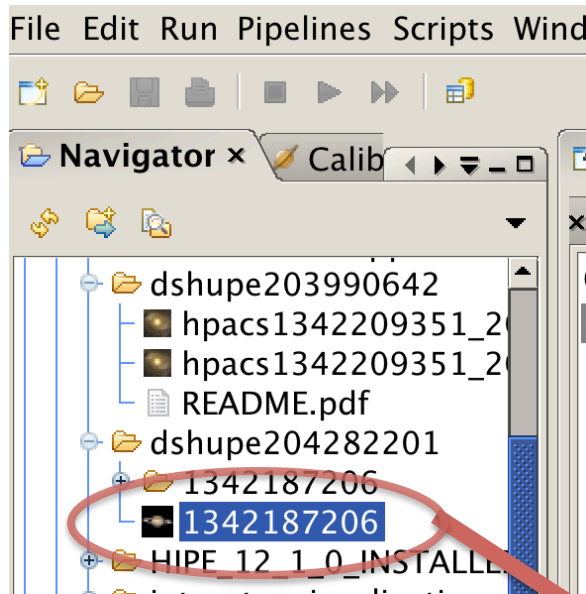
The Herschel Science Data Archive team

The following files have been copied (limit to 1000 products):

=====

23 /hsa/oper/hsa_oper_repository/request_files/v12.1.0/1342187206-herschel.ia.obs.ObservationContext-522229.xml
/hsa/oper/hsa_oper_repository/images/v12.1.0/1342187206-herschel.ia.obs.ObservationContext-522229.jpg

After downloading tarball, unpack and double-click Saturn icon



1. Double-click the Saturn icon...

2. ...then double-click in Variables on obsid_1342187206

ObservationContext for PACS data of observation 1342187206

Summary

| | | | |
|---------------------|--|-------------------------|-----------------|
| AOR label: | Calibration_PVSpecAotVal_1-PVSp...al_521X_StdLineMap_6 | Obs. ID: | 1342187206 |
| Instrument: | PACS | Obs. Date: | 2009-11-24T17:1 |
| Object: | M82 | Obs. Mode: | Mapping |
| AOT: | Line Spectroscopy | Dec. Nominal: | 69° 40' 46.9" |
| RA Nominal: | 9h 55m 52.22s | Operational Day: | 194 |
| SPG Version: | SPG v12.1.0 | | |

Meta Data

Data

- obsid_1342187206
- History
- processingErrors
- auxiliary
- browseImageProduct
- browseProduct
- calibration
- level0
- level0_5
- level1
- level2
- logObsContext
- quality
- trendAnalysis

obsid_1342187206



Data are downloaded in standard FITS files

| Name | Date Modified | Size | Kind |
|--|----------------------|--------|-----------------|
| 1342185456 | Aug 12, 2013 2:08 PM | -- | Folder |
| 1342185456-herschel.ia.obs.ObservationContext-341589.jpg | Jul 13, 2013 7:24 AM | 119 KB | JPEG image |
| browserImageProduct | Aug 8, 2013 11:44 AM | -- | Folder |
| browseProduct | Aug 8, 2013 11:43 AM | -- | Folder |
| hpacs1342185456_obs_1373725440136.fits.gz | Jul 13, 2013 7:24 AM | 8 KB | gzip c...rchive |
| level0 | Aug 8, 2013 11:44 AM | -- | Folder |
| hpacs1342185456_00hppt_1373725421598.fits.gz | Jul 13, 2013 7:24 AM | 8 KB | gzip c...rchive |
| HPENG | Aug 8, 2013 11:44 AM | -- | Folder |
| HPGENHK | Aug 8, 2013 11:44 AM | -- | Folder |
| HPPAVGB | Aug 8, 2013 11:44 AM | -- | Folder |
| HPPAVGR | Aug 8, 2013 11:44 AM | -- | Folder |
| HPPDMCB | Aug 8, 2013 11:44 AM | -- | Folder |
| HPPDMCR | Aug 8, 2013 11:44 AM | -- | Folder |
| HPPHK | Aug 8, 2013 11:44 AM | -- | Folder |
| level0_5 | Today, 5:51 PM | -- | Folder |
| hpacs1342185456_05hppt_1373725429511.fits.gz | Jul 13, 2013 7:24 AM | 8 KB | gzip c...rchive |
| HPPAVGB | Aug 8, 2013 11:44 AM | -- | Folder |
| HPPAVGR | Aug 8, 2013 11:44 AM | -- | Folder |
| level1 | Aug 8, 2013 11:44 AM | -- | Folder |
| hpacs1342185456_10hppt_1373725438000.fits.gz | Jul 13, 2013 7:24 AM | 8 KB | gzip c...rchive |
| HPPAVGB | Aug 8, 2013 11:44 AM | -- | Folder |
| HPPAVGR | Aug 8, 2013 11:43 AM | -- | Folder |
| level2 | Today, 5:50 PM | -- | Folder |
| hpacs1342185456_20hppt_1373725438922.fits.gz | Jul 13, 2013 7:24 AM | 8 KB | gzip c...rchive |
| HPPPMAPB | Today, 5:50 PM | -- | Folder |
| hpacs1342185456_20hppmapb_1373725438250.fits | Today, 5:50 PM | 5.5 MB | Flexib...ystem |
| hpacs1342185456_20hp..._1373725438250.fits.gz | Jul 13, 2013 7:24 AM | 1.9 MB | gzip c...rchive |
| HPPMAPR | Aug 8, 2013 11:43 AM | -- | Folder |
| logObsContext | Aug 8, 2013 11:43 AM | -- | Folder |
| quality | Aug 8, 2013 11:44 AM | -- | Folder |
| 1342185456-herschel.ia.obs.ObservationContext-341589.xml | Jul 13, 2013 7:24 AM | 221 KB | Text document |
| auxiliary | Aug 8, 2013 11:44 AM | -- | Folder |
| calibration | Aug 8, 2013 11:43 AM | -- | Folder |

- These directories are:
- BIG: 500 MB for a small PACS observation, if you download all the products
 - Take a long time to download
 - With these method, you should download only individual levels
 - The whole thing is called an Observation Context
 - The folders within are called products





The FITS are multi-extension files

- Example: This typical PACS level-2 file has 8 extensions (four images and four tables)

fv: Summary of hpacs1342185456_20hpppmapb_1373725438250.fits in /Users/ardila/Deskto...

| Index | Extension | Type | Dimension | View | | | | |
|----------------------------|-------------------|--------|--------------------|--------|-------|-------|-----|--------|
| <input type="checkbox"/> 0 | Primary | Image | 0 | Header | Image | Table | | |
| <input type="checkbox"/> 1 | image | Image | 306 X 550 | Header | Image | Table | | |
| <input type="checkbox"/> 2 | coverage | Image | 306 X 550 | Header | Image | Table | | |
| <input type="checkbox"/> 3 | History | Image | 0 | Header | Image | Table | | |
| <input type="checkbox"/> 4 | HistoryScript | Binary | 1 cols X 51 rows | Header | Hist | Plot | All | Select |
| <input type="checkbox"/> 5 | HistoryTasks | Binary | 4 cols X 27 rows | Header | Hist | Plot | All | Select |
| <input type="checkbox"/> 6 | HistoryParameters | Binary | 10 cols X 288 rows | Header | Hist | Plot | All | Select |
| <input type="checkbox"/> 7 | error | Image | 306 X 550 | Header | Image | Table | | |
| <input type="checkbox"/> 8 | HPFmask | Image | 306 X 550 | Header | Image | Table | | |

FV output





The HUI allows you to peruse and search User Provide Data Products

The screenshot displays the HUI interface with three main panels:

- Proposal Query Panel** (top)
- Timing Constraints Query Panel** (middle)
- User Provided Data Products Panel (UPDP)** (bottom)

The UPDP panel contains a search bar with the text "UPDP Search UPDP" and a list of data products:

- 2013-09-09** ACMC: The Auriga-California Molecular Cloud - PACS and SPIRE Data Atlas
- 2013-10-10** COLDCORES: Galactic Cold Cores: A Herschel survey of the source populations revealed by
- 2013-10-10** DUNES: PACS and SPIRE Observations of Cold Disks around Nearby Stars
- 2014-07-10** GOODS: PACS and SPIRE images of the GOODS fields and associated source catalogs

At the bottom of the interface are three buttons: **Query** (with a green checkmark), **Cancel** (with a red X), and **Clear** (with a trash can icon).



Some (current) limitations of the HUI

- Simple point-within-circle search
 - Footprints are being worked on
- No searches by any spectral variable (wavelength, frequency, band)
 - Coming soon in new HSA/HUI versions
- Standalone products are incomplete for e.g. PACS spectroscopy
 - Solution: Send to HIPE





Approved Programs



- Main NHSC Page
- News & Events
- Help Desks & Services
- Computer Support
- Observations**
- Data Reduction
- Instruments
 - HIFI
 - PACS
 - SPIRE
- Mapping
- Mission Links
- Science Links
- Related Links
- Outreach
- NHSC User Panel
- Acknowledgments for publications
- Contact us

Edit SideBar

[ObsStatus /](#)

[View](#) [Edit](#) [History](#) [Print](#) [Login](#)

Observations

Tracking and Scheduling

[Observing Log](#) [Observing Schedule](#) [Observing Log Tables](#)

Approved Programs

[Key Programs](#) [GT1 \(Guaranteed Time AO-1\)](#) [OT1 \(Open Time 1\)](#) [GT2 \(Guaranteed Time AO-2\)](#) [OT2 \(Open Time 2\)](#) [Filler](#) [Theory & Laboratory Astrophysics](#)

Visualizing Observations

[HSpot](#) [NHSC Additional Software](#)

Archives

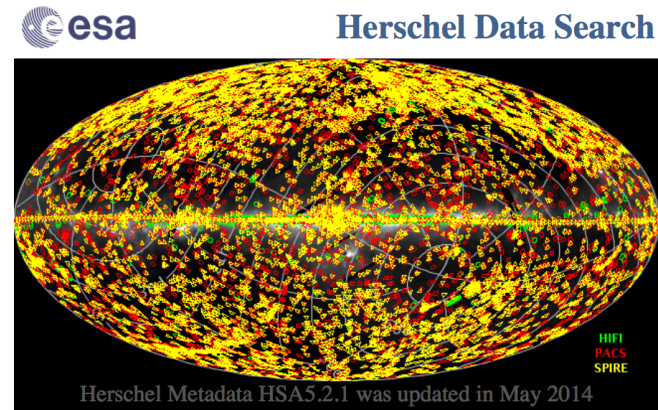
[Herschel Science Archive](#) [IRSA](#)





The Herschel portal at IRSA

- IRSA is the NASA Infrared Science Archive
- The Herschel portal is available from the IRSA page
 - Searches the Archive
 - Provides an interface for UPDP
 - It will allow direct inspection independently of HIPE
 - Cross-mission comparison!
 - Caveat: currently searches map centers only



This web interface allows users to find data in the *Herschel Science Archive (HSA)* maintained by ESA at the European Space Astronomy Centre, and provides links to the data retrieval through the HSA's Virtual Observatory interface. The archive can also be accessed from ESA's [Herschel Science Archive interface](#). An observation log of all Herschel science observations is [also available](#). Additional information about the mission and the instruments can be found on the [NASA Herschel Science Center](#) webpages and on ESA's [Herschel Science Centre](#) webpages.

The cone and box searches below return all images with RA and DEC header keywords (usually the image center) lying within the specified search region. These searches may not return all images that partially overlap some part of the search region or all images that overlap the center of the search region.

Cone Search Box Search Multi-Position Search All Sky

| | | | | |
|--------------------------------|----------------------|---------------|---------------------------------|-------------------------------------|
| Coordinate/Object | <input type="text"/> | Radius | <input type="text" value="30"/> | <input type="text" value="arcmin"/> |
| Examples: 0 0 gal M42 | | | radius \leq 5.0 deg | |





The Herschel portal at IRSA

The screenshot shows the IRSA (Infrared Science Archive) website interface. At the top, there is a navigation bar with the IPAC logo and the text "NASA/IPAC INFRARED SCIENCE ARCHIVE". Below this, there are links for "IRSA", "DATA SETS", "SEARCH", "TOOLS", and "HELP".

The main content area features a search section with a "Search for Source" form containing a text input for "Name or Coordinates", a "Search" button, and a "Radius" dropdown set to "10" with "arcsec" as the unit. Below this is a "Search Catalog:" dropdown set to "WISE" with another "Search" button.

There are several icons for different data types: "Catalogs", "Images", "Finder Chart", and "VO/API". Below these are icons for various astronomical surveys: "Spitzer", "WISE", "Herschel", "Planck", "2MASS", "IRAS", and "COSMOS", along with a "MORE" button.

At the bottom of the main content area, there are buttons for "Knowledgebase", "Documentation", "Video Tutorials", and "Help Desk".

On the right side, there is a featured section titled "GLIMPSE360 and Vela-Carina" with an image of a star field. Below the image, there is text: "New Images and catalogs from the GLIMPSE360 and Vela-Carina Spitzer Exploration Science programs. GLIMPSE360 images from l=174d-240d have now been released. The Vela-Carina program has released images from l=255d-295d, and source lists for the entire program area." There are also links for "Full News" and "Featured Images".

The footer contains a "Contact" link, a "Privacy Policy" link, an "Acknowledge IRSA" link, a "Search IRSA" button, and logos for "ipac", "Caltech", "JPL", and "NASA".



How to find out what's been published?

Visualizing Observations

[HSpot](#) [NHSC Additional Software](#)

Archives

[Herschel Science Archive](#) [Herschel portal at IRSA](#) [User Provided Data Products](#)

Refereed Publications

[Papers in the ADS](#) [Herschel Publications Tool](#)

Links to refereed papers. These are manually vetted!

Publications list

- Refereed publications after launch
- Hand-checked

Publication List

Last update: 2013.08.07 T 11:13:43 CEST

Filter

Publication criteria

Bib Code

Title

Author Surnames

Affiliation

Journal

Min citations

Publication Date =>

Observation Ids

Status

User Reduced Data

HIPE version

Comments

Abstract

Observation criteria

OD range =>

Target

Proposal

AOT / Instrument / Subinstrument

Duration (min/max) =>

Start/End Time Range =>

Science Area & Category

Publications per page

744 items found, displaying all items.

| BibCode | Status | Title | Authors | Journal | Date | Citations | #Obs |
|---------------------|-------------|--|---|--|---------|-----------|------|
| 2013RvMP...85.1021T | PENDING | The molecular universe | Tielens A. G. G. M. | Reviews of Modern Physics | 07/2013 | 0 | 0 |
| 2013RAA....13..557H | IN_PROGRESS | Sequential clustering of star formations in IC 1396 | Huang Y.-F., Li J.-Z. | Research in Astronomy and Astrophysics | 05/2013 | 1 | 0 |
| 2013RAA....13..179L | DONE | Far-Infrared and submillimeter properties of SDSS galaxies in the Herschel ATLAS science demonstration phase field | Lam M. I., Wu H., Zhu Y.-N., Zhou Z.-M. | Research in Astronomy and Astrophysics | 02/2013 | 0 | 2 |
| 2013PASP..125..600M | PENDING | An Overview of the Dwarf Galax | Madden S. C., Rémy-Ruyer A., Galametz M., Cormier | Publications of the | 06/2013 | 0 | 0 |



Things that will be possible within 6 months

- I want to find all PACS observations of the CII line for list of targets:
 - HSA 6.1 will allow for much more sophisticated searches.





Learn more!

- Lots of videos in YouTube HIPE Academy

YouTube [Search] [Upload]

Popular on YouTube
Music
Sports
Gaming
Movies
TV Shows
News
Live
Spotlight

CHANNELS FOR YOU
C. G. P. Grey
Scott Manley
AgentJayZ
HOCgaming
Praeses & Soapbox Prod...
Danny2462

Browse channels

Sign in now to see your channels and recommendations!
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HIPE Academy [Subscribe] 19

Home Videos Discussion About Search

OUTLINE

- 1- Welcome
- 2- What is new in HIPE 10 (full description at <http://herschel.esac.esa.int/twiki/bin/view/Public/HipeWhatsNew10x>)
- 3- New plugins
We will discuss the new plugins for HIPE 10. Full list at <http://herschel.esac.esa.int/twiki/bin/view/Public/DpHipePlugins>
And contributed software, full list at <http://herschel.esac.esa.int/UserContributedSoftware.shtml>
- 4- Questions and Answers
- 5- Video/Telecon information at <http://hipecommunity.wikispaces.com/What%27s+new+in+HIPE+10+webinar>

282 views 6 months ago

What's new in HIPE 10 webinar hosted by Bruno Merin (HSC/ESA).
Webcast from the Herschel Science Centre at ESAC on 14 Feb 2013 at 14:30 CET.
<http://hipecommunity.wikisp...>

Contents:
Minute 1:34 : HIPE
Minute 7:00 : HIFI
Minute 11:44 : PACS Photometry...
[Read more](#)

European Space Agency

IRE



Summary

- A list of all observations is available from the Observing Log
- Vizier provides a convenient search of all science observations
- Data can be downloaded from HUI using
 - “Retrieve Data” -> Tarball. Big. Can use to retrieve fragments of observation context only.
 - “Send to External Application” -> send to HIPE (reference pointers only aka ‘lazy loading’). Good for inspection and reduction.
- Herschel portal at IRSA provides a familiar interface and cross-correlation with other holdings
- UPDPs available through webpage, HUI, IRSA
- Publications list links papers to datasets

