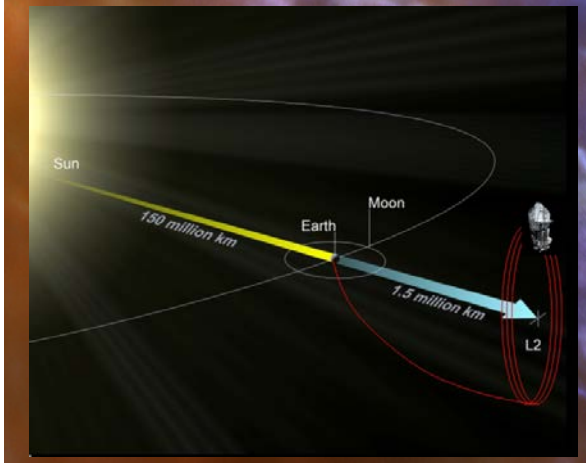
Herschel Mission Status



HUG#6 meeting, ESAC, 8-9 April 2013

Göran Pilbratt, Herschel Project Scientist


Launch on 14 May 2009 …
… 1000 days inflight on 8 February 2012
… 3 years in-flight on 14 May 2012


Launch on 14 May 2009 …
… 1000 days inflight on 8 February 2012
… 3 years in-flight on 14 May 2012
… right now OD#1425 is underway!
… DTCP#1425: Pass was nominal. All operations executed successfully
…ISO ran out of helium on 8 April, need to beat ISO!

Short status update

We are still observing

- … as of yesterday afternoon. Today/any day can be the last!
- We are at the positive side of the (unquantified) error bar
- Nominal status expected until "last drop" of liquid helium
- Have permanently lost half the PACS photometer "red array" (160 um)
- Bulk reprocessing with HCSS 9.1 completed (10.1 to commence)
- … SPIRE "zero-level" from Planck, STR focal length corr. ODs#320-762

Ready to go into POP

- POP Readiness Review held - we are ready (LM's presentation)
- Reduction of staff already commenced (have 0.5 mission planner…)
- Except for "uplink" other activities proceeding "normally"

Spacecraft disposal

- We are no longer in orbit around L2, "disposal" in heliocentric orbit
- Post-cryo activities planned, currently last command on 16 May 2013

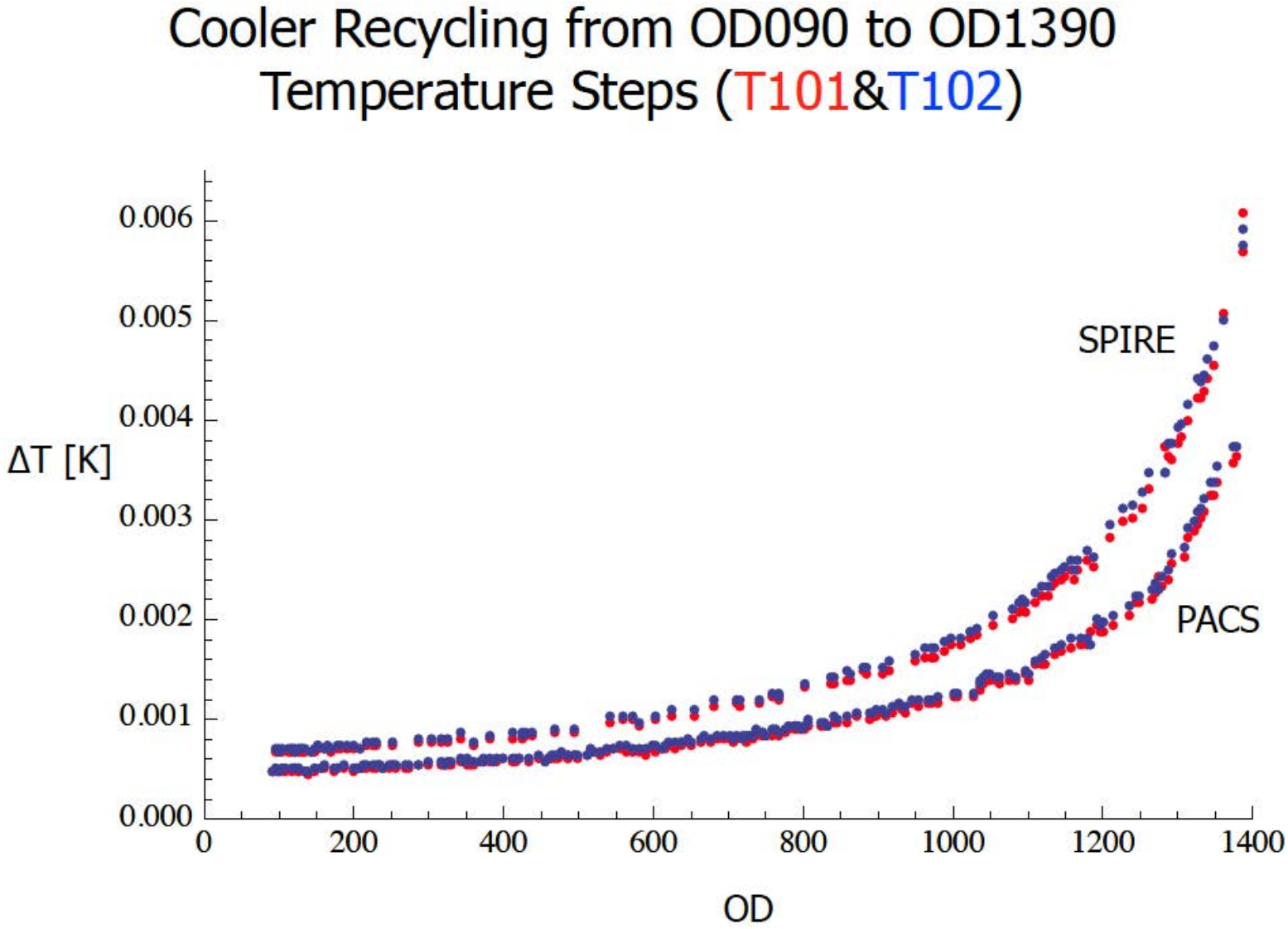
Workshops

- Mapmaking workshop held in January 2013 (SO's presentation)
- Calibration workshop held in March 2013 (APM's presentation)
- Herschel science workshop in October 2013 + HIPE Forum TBD date

HERSCHEL SPACE OBSERVATORY

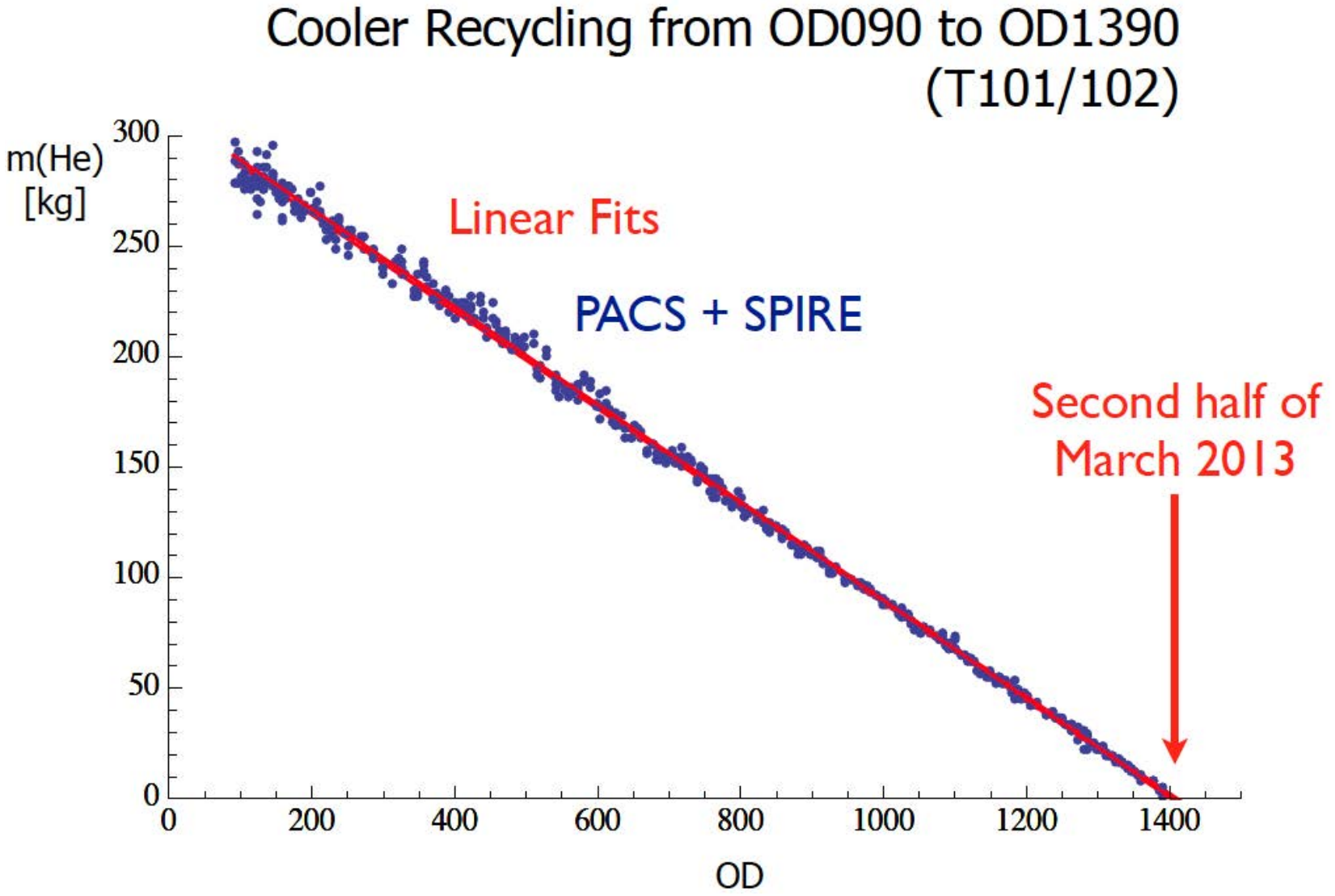
Bonus time!

Cryocooler analysis OD#90-1390

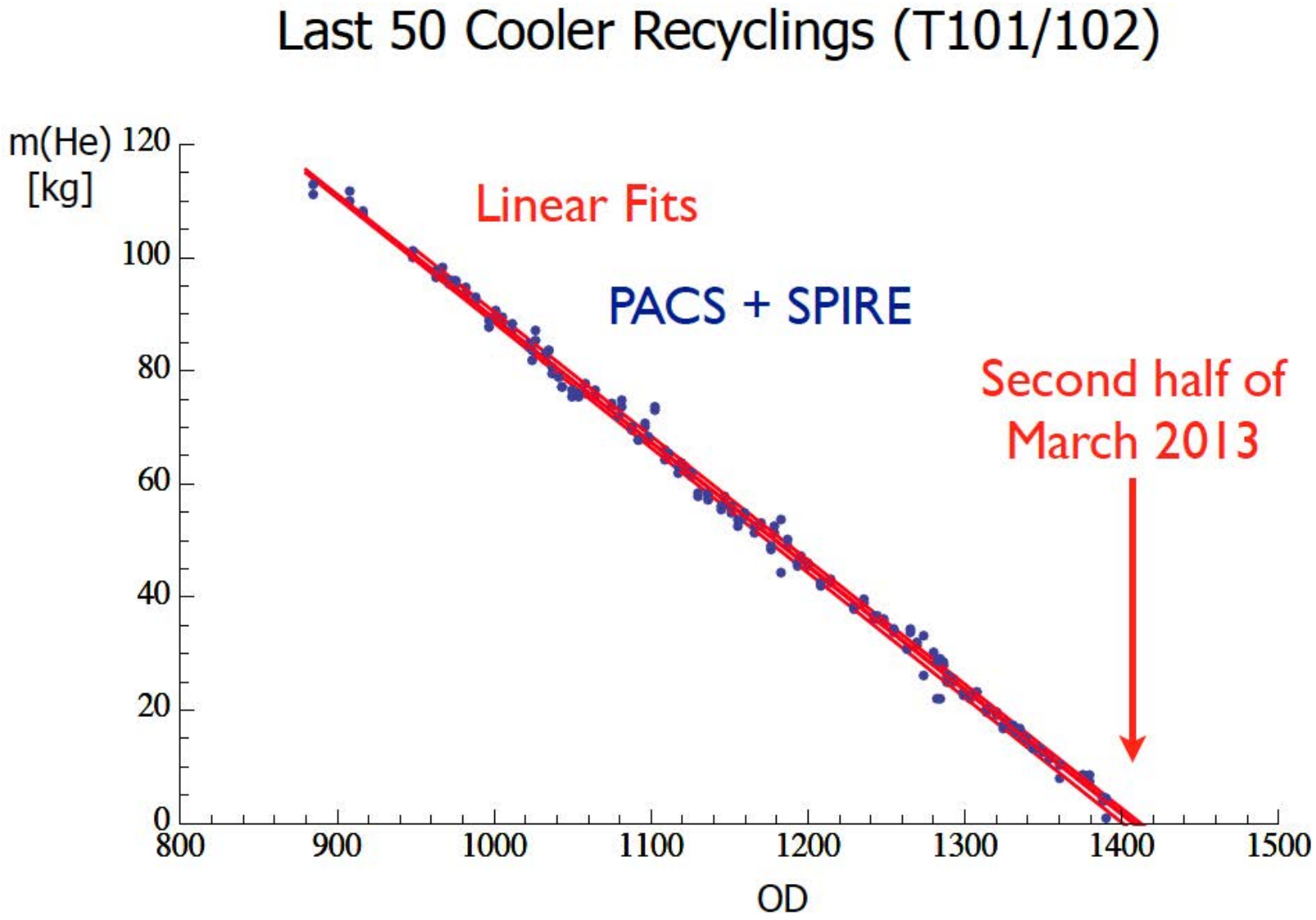


HERSCHEL SPACE OBSERVATORY

Cryocooler analysis OD#90-1390 (T101/T102)



Cryocooler analysis OD#90-1390 (T101/T102)



Cryocooler analysis predictions (OD)

Predictions made by MPE with data until OD#klmn

- **T101/T102 with extrapolated temp increase / forced linear fit: PACS & SPIRE**
- OD#0844: T101: Dec half1 / Apr early
- OD#0892/8: T101: Jan half2 – T102: Feb early / Mar late
- OD#0934: T101: Jan end – T102: Feb half1 / Mar late
- OD#1000: T101: Feb early – T102: Feb half1 / Mar half2
- OD#1095: T101: Feb half2 – T102: Feb end / Mar end
- OD#1159: T101: Feb half2 – T102: Mar early / 27/22 March & 16/17 March
- OD#1207: T101: Feb half2 – T102: Mar early / 26/23 March & 16/17 March
- OD#1280: T101: Mar early – T102: Mar half1 / 25/25 March & 16/17 March
- OD#1308: T101: Mar early – T102: Mar half1 / 25/25 March & 15/18 March
- OD#1340: T101: Mar early – T102: Mar mid / 25/24 March & 16/18 March
- OD#1370: T101: Mar half1 – T102: Mar mid / 24/24 March & 16/19 March
- OD#1390: T101: Mar mid – T102: Mar half2 / 24/24 March & 15/19 March

Remember the IOCR (July 2009) TMM prediction

- Nominal EOL (=EOHe): Feb half2 (large range: Nov mid – July half2)
  - With average stationary massflow 2.668 mg/s

Most probable prediction today

- MPE analysis: forced linear fit prediction "consistent" over long time
- Industry (14 Jan 2013) in line: PACS/ SPIRE / Comb: 31 Mar / 27 Mar / 2 Apr
- **=>EoHe in 2nd half March 2013, possibly towards end of March**

HERSCHEL SPACE OBSERVATORY

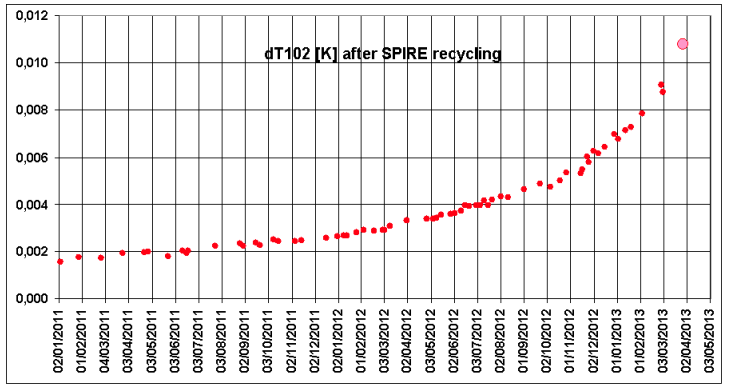
Industry predictions (18 Mar 2013)

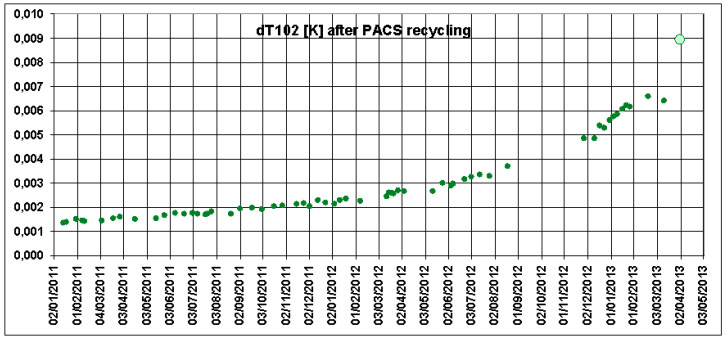
Using cooler recycling as of 15/03/2013
Current status for each 'kind' of recycling:

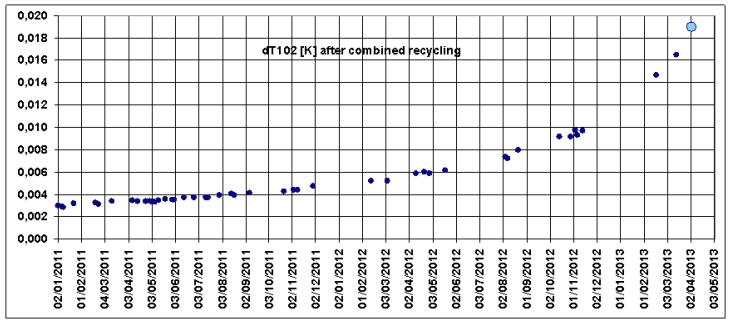
	SPIRE	PACS	COMBINED
mass flow [g/day]	224,3	223,5	223,3
Energy [J]	610,3	504,3	1085,4
Heat load [mW]	58,8	58,6	58,6
EOL	28/03/2013	02/04/2013	03/04/2013

=> Little difference compared to earlier

SPIRE recyclings are as expected. So are COMBINED ones. But the latest PACS recyclings are rather strange, especially the one on 12/03 which is particularly lower than expectation, see graphs right. =>
I'm keeping track, but I don't expect this will last long.
(Thales Alenia Space)







HERSCHEL SPACE OBSERVATORY

Industry predictions (25 Mar 2013)

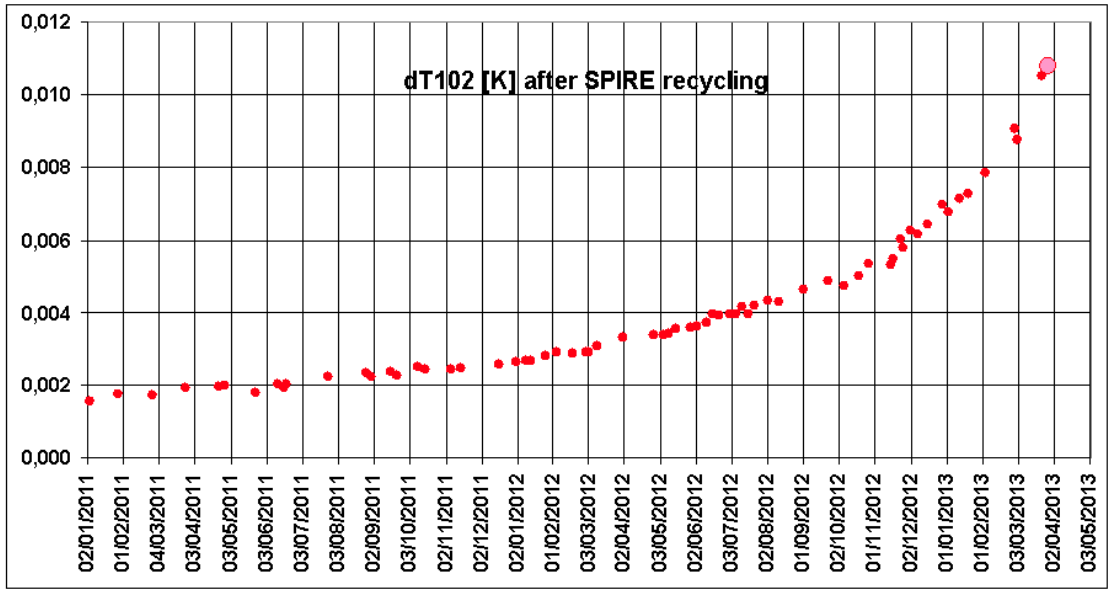
Using cooler recycling as of 23/03/2013

Dear all,

the latest SPIRE recycling that occurred last Saturday afternoon (23/03) is perfectly on the expected curve. See last red dot before the pink circle representing EOL on the attached drawing. =>

The forecast for EOL is therefore unchanged, and we are getting very close.

(Thales Alenia Space)



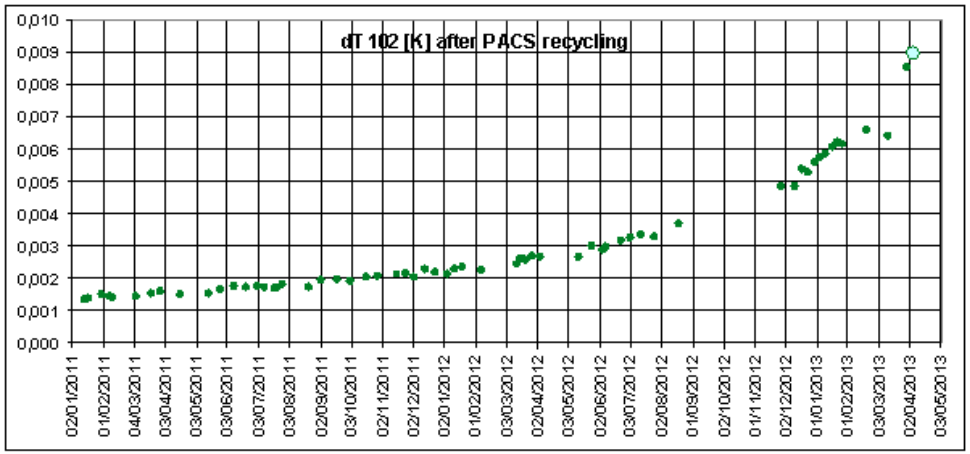
Industry predictions (2 Apr 2013)

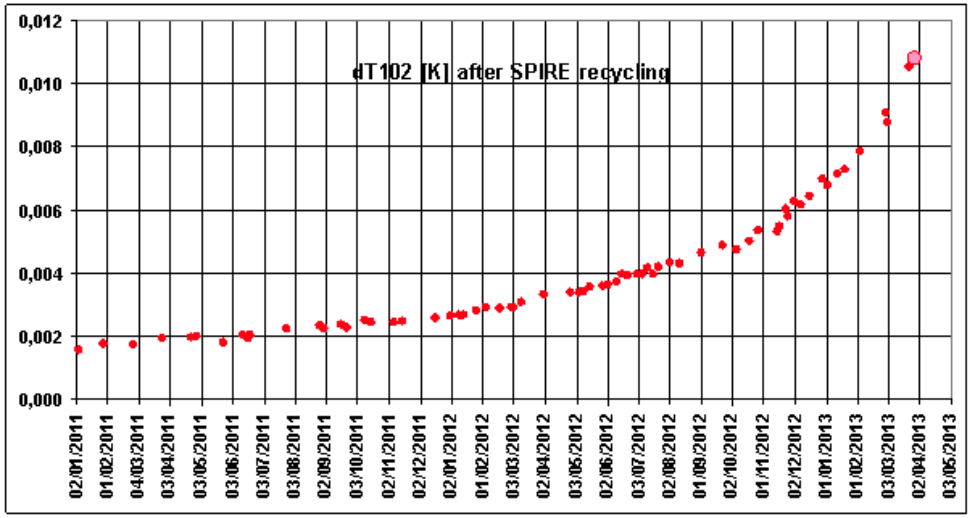
Using cooler recycling as of 31/03/2013

it is as I expected, since I made the computation with the latest data of PACS recycling (last Sunday, just got the TM).
The He temperature increase was 8.54mK, while the maximum expected is around 8.96mK.
This means that:
1) we have some extra time, with a new forecast around 6 Apr, with PACS data only.
2) I still fail to understand why the same computation with SPIRE data led to 28/03 (latest recycling on 23/03 showed +10.52mK for an expected max of 10.78).
3) cryogenics is definitely a school of patience.

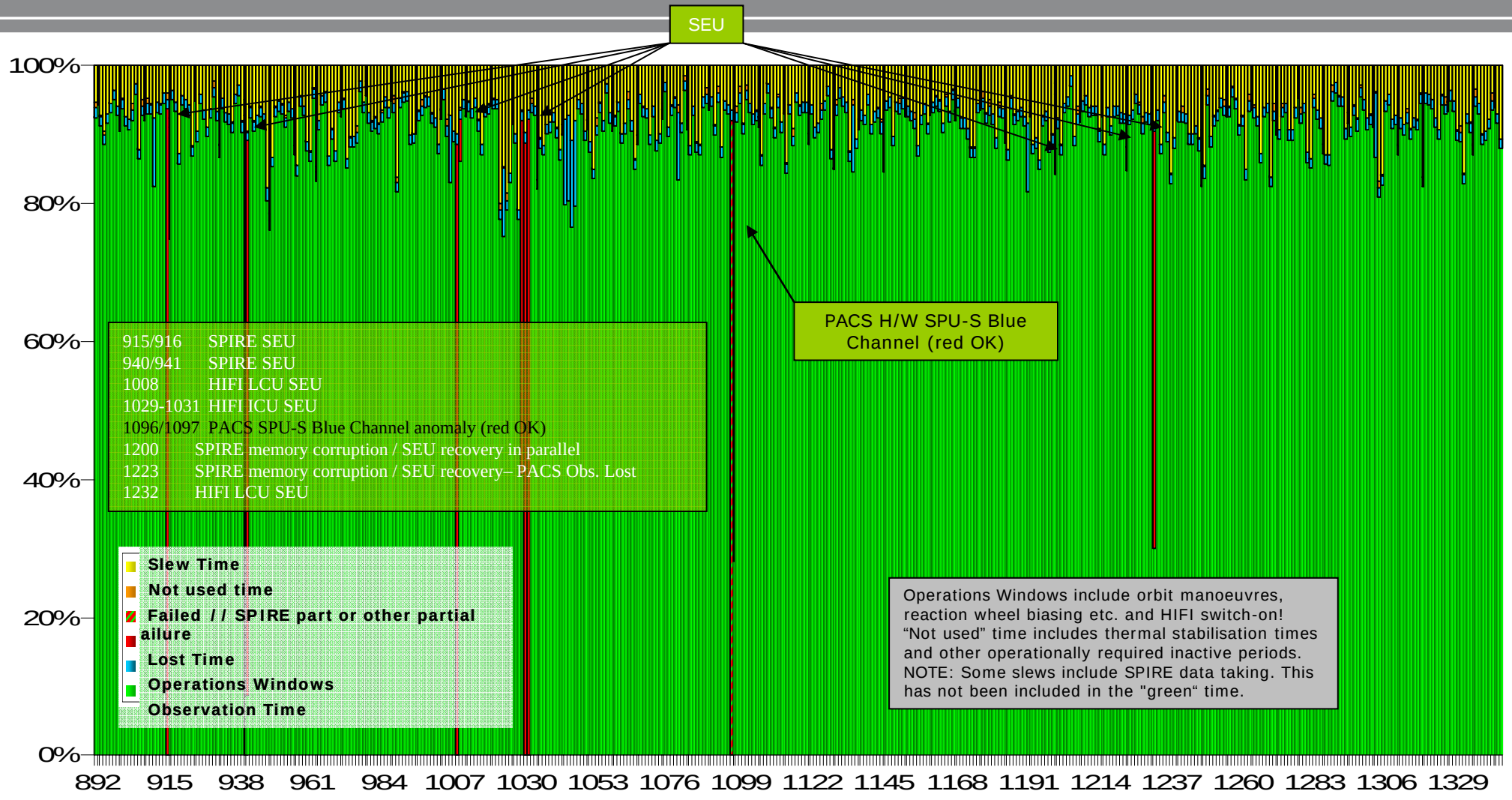
(Thales Alenia Space)

We are the "positive side" of the error bar!!



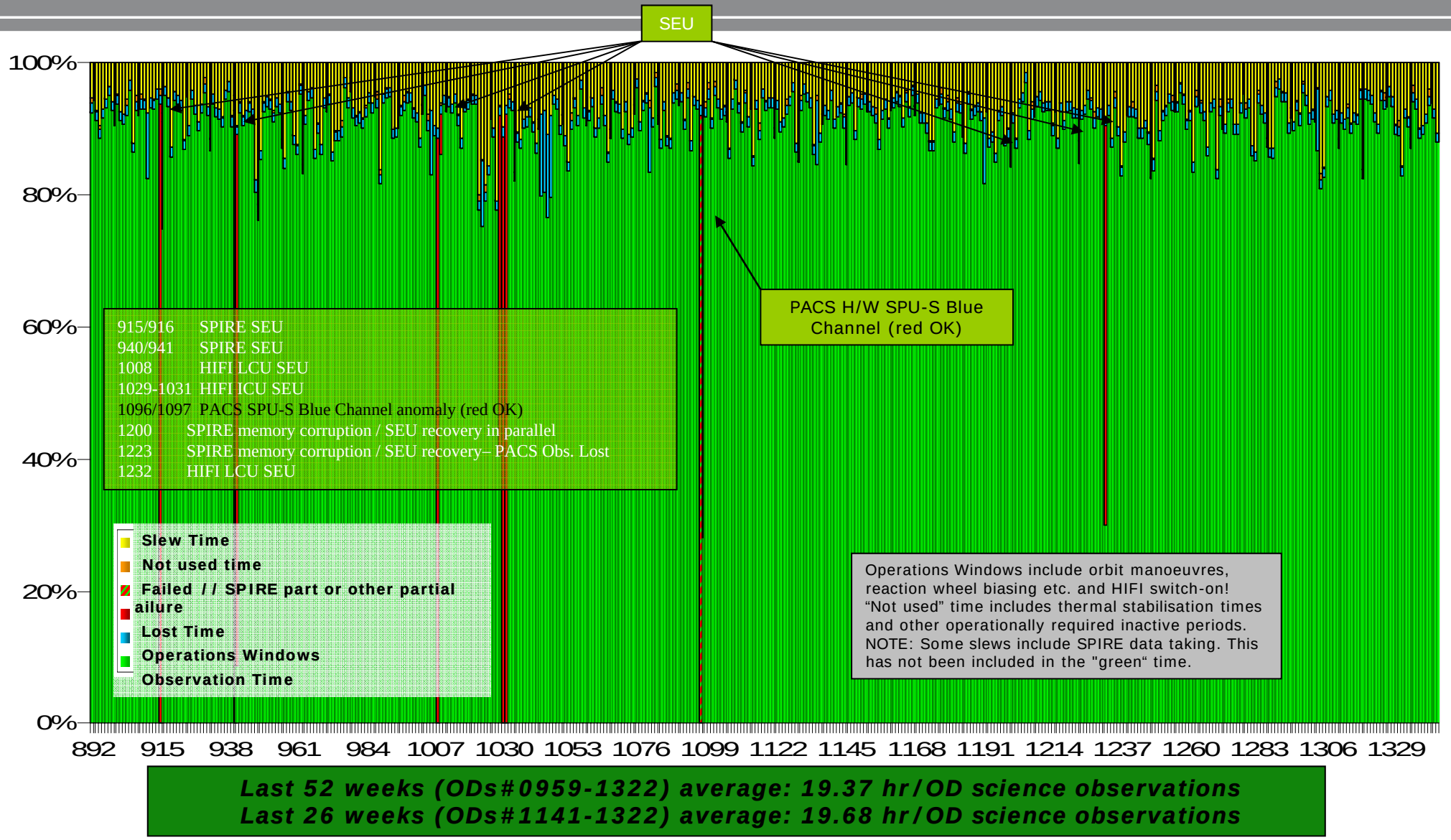


Observing status ODs#892-1343
(22 Oct.2011 – 15 Jan.2013)



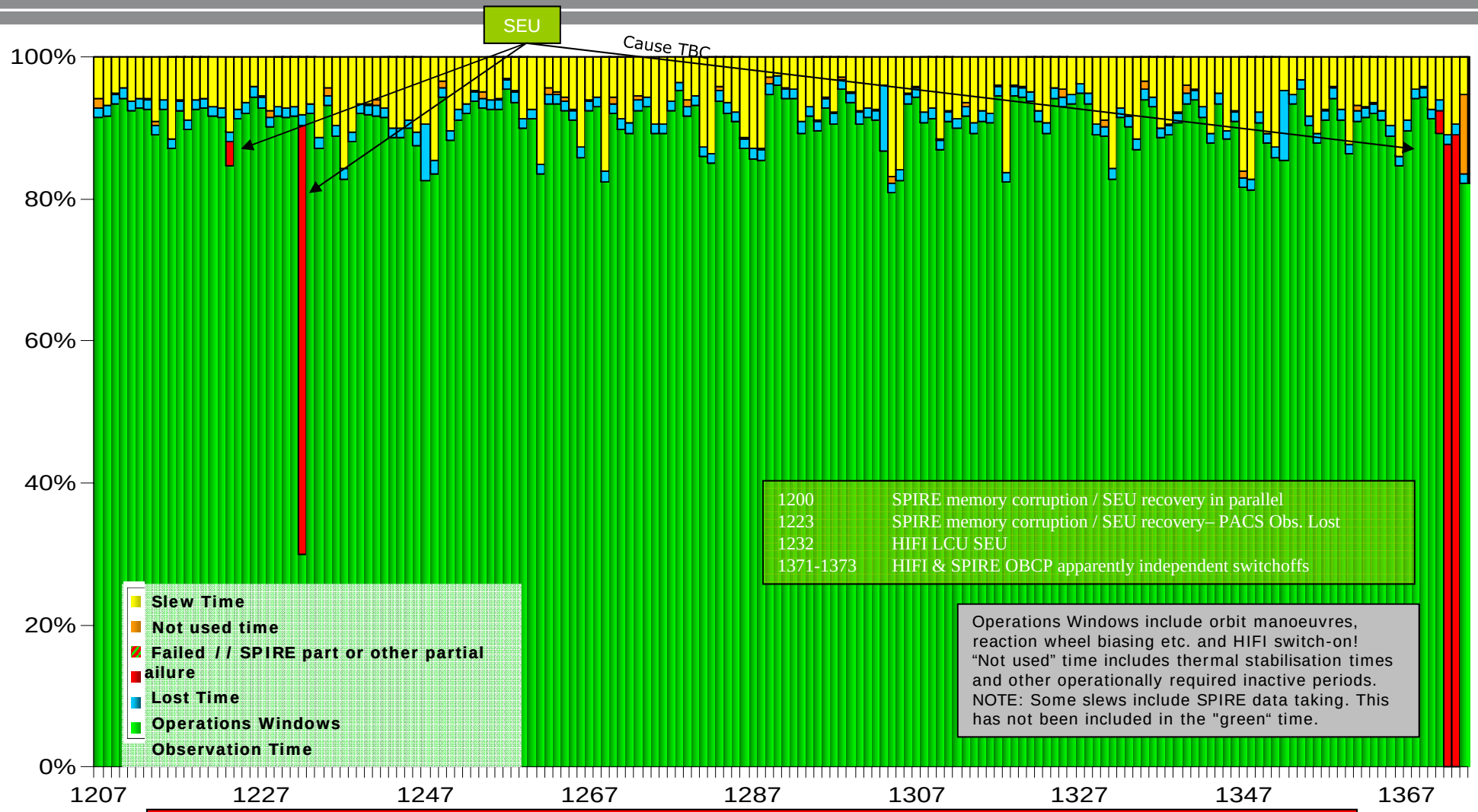
Total lost time from OD#170 to OD#1343 – all sources : ~700 hours (3.2%)
Total lost time from OD#892 to OD#1343 – all sources : ~205 hours (2.4%)

Observing status ODs#892-1343
(22 Oct.2011 – 15 Jan.2013)



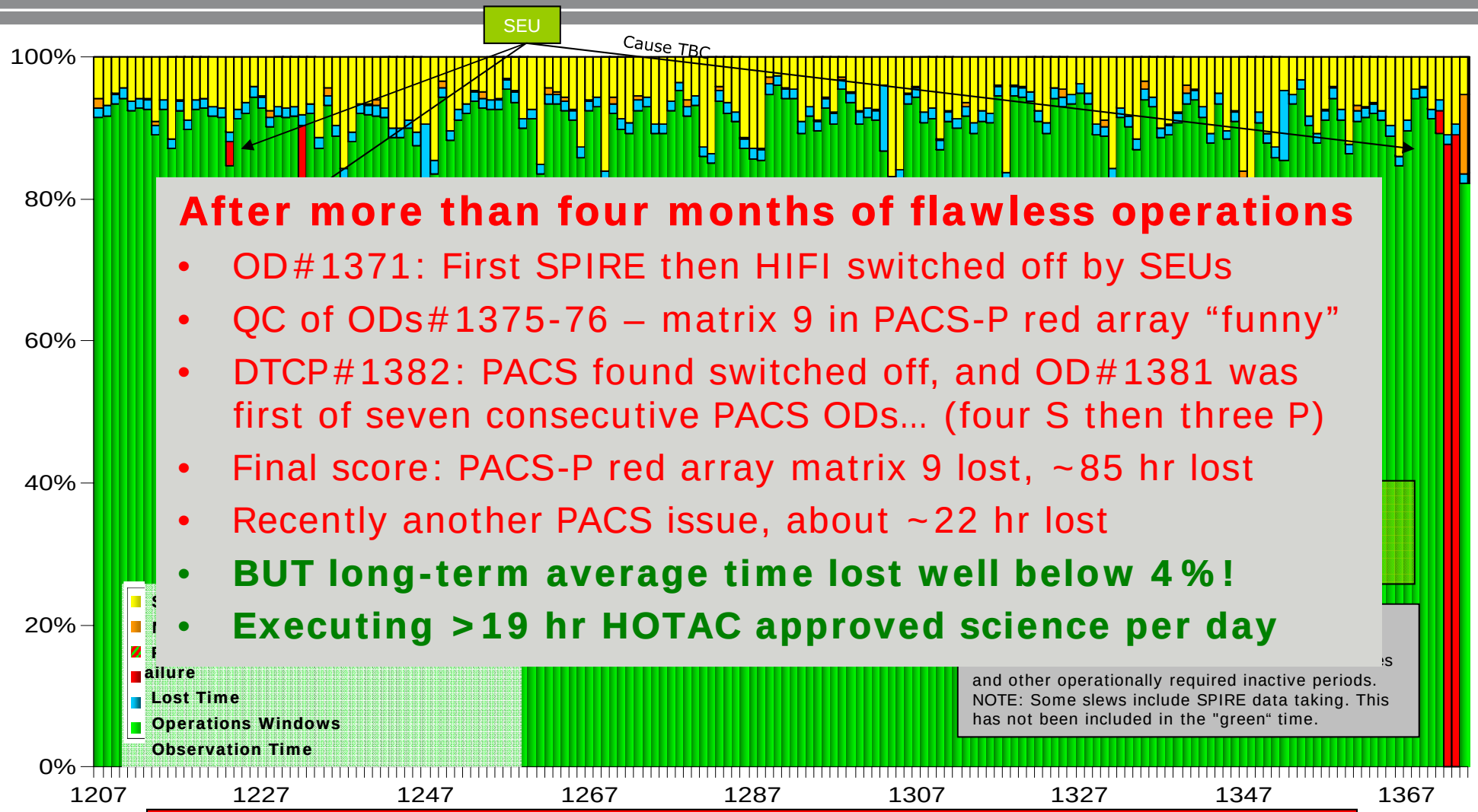
Last 52 weeks (ODs#0959-1322) average: 19.37 hr/OD science observations
Last 26 weeks (ODs#1141-1322) average: 19.68 hr/OD science observations

Observing status ODs#1207-1374
(1 September 2012 – 15 February 2013)



Total lost time from OD#170 to OD#1374 – all sources : ~744 hours (3.3%)
Total lost time from OD#1207 to OD#1374 – all sources : ~59 hours (1.8%)

Observing status ODs#1207-1374
(1 September 2012 – 15 February 2013)



After more than four months of flawless operations

- OD#1371: First SPIRE then HIFI switched off by SEUs
- QC of ODs#1375-76 – matrix 9 in PACS-P red array "funny"
- DTCP#1382: PACS found switched off, and OD#1381 was first of seven consecutive PACS ODs… (four S then three P)
- Final score: PACS-P red array matrix 9 lost, ~85 hr lost
- Recently another PACS issue, about ~22 hr lost
- **BUT long-term average time lost well below 4%!**
- **Executing >19 hr HOTAC approved science per day**

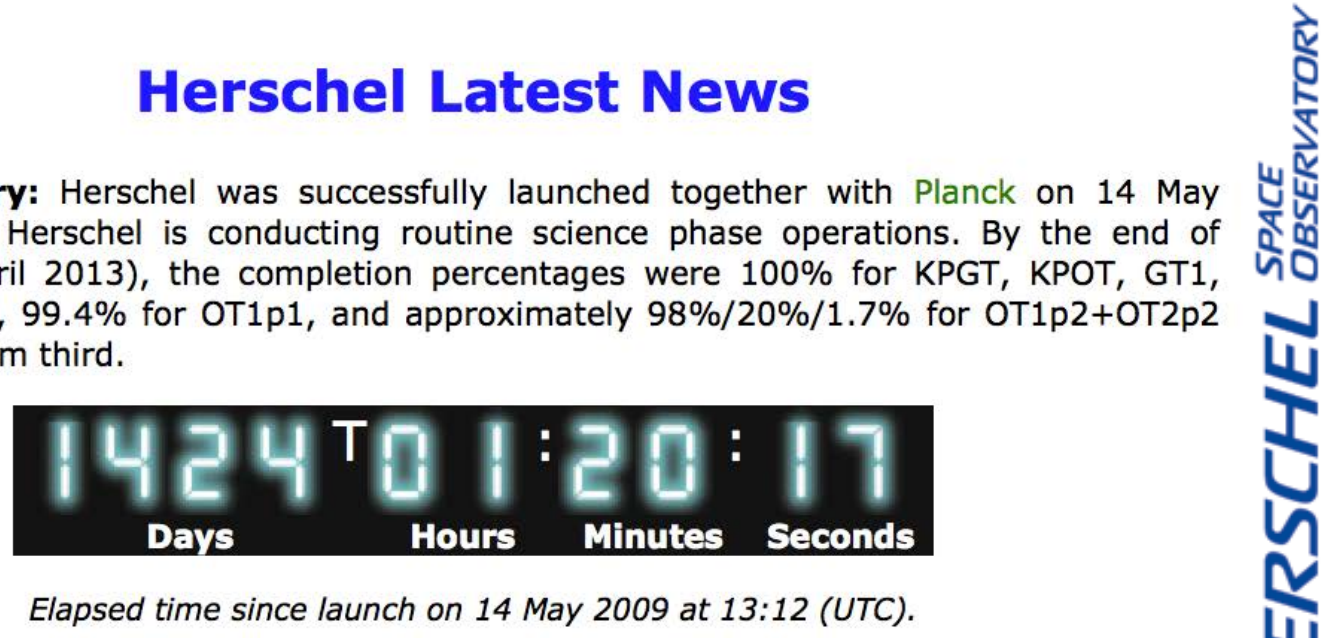
Total lost time from OD#170 to OD#1374 – all sources : ~744 hours (3.3%)
Total lost time from OD#1207 to OD#1374 – all sources : ~59 hours (1.8%)

Observing programmes

Overall execution status

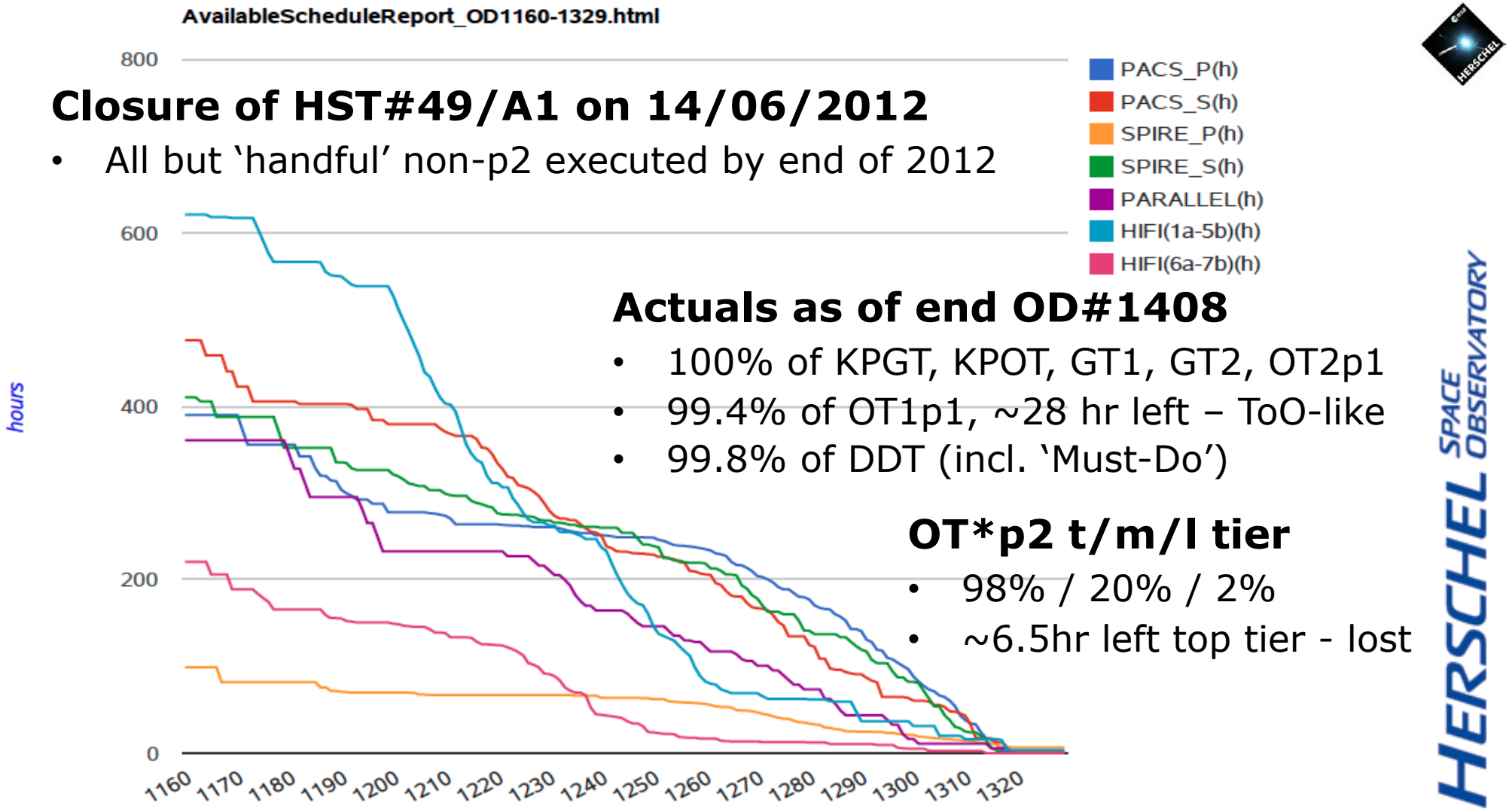
Herschel works well and delivers good data

- Status weekly updated on the HSC website under 'Latest News'. Also available are 'Observing Log' and 'Observing Schedule' (scheduled but not yet executed observations). Also HSA of course…



- The KPs+GT*+OT*p1 have been "concluded", now executing OT*p2.

Observing – execution status



Closure of HST#49/A1 on 14/06/2012

- All but 'handful' non-p2 executed by end of 2012

Actuals as of end OD#1408

- 100% of KPGT, KPOT, GT1, GT2, OT2p1
- 99.4% of OT1p1, ~28 hr left – ToO-like
- 99.8% of DDT (incl. 'Must-Do')

OT*p2 t/m/l tier

- 98% / 20% / 2%
- ~6.5hr left top tier - lost

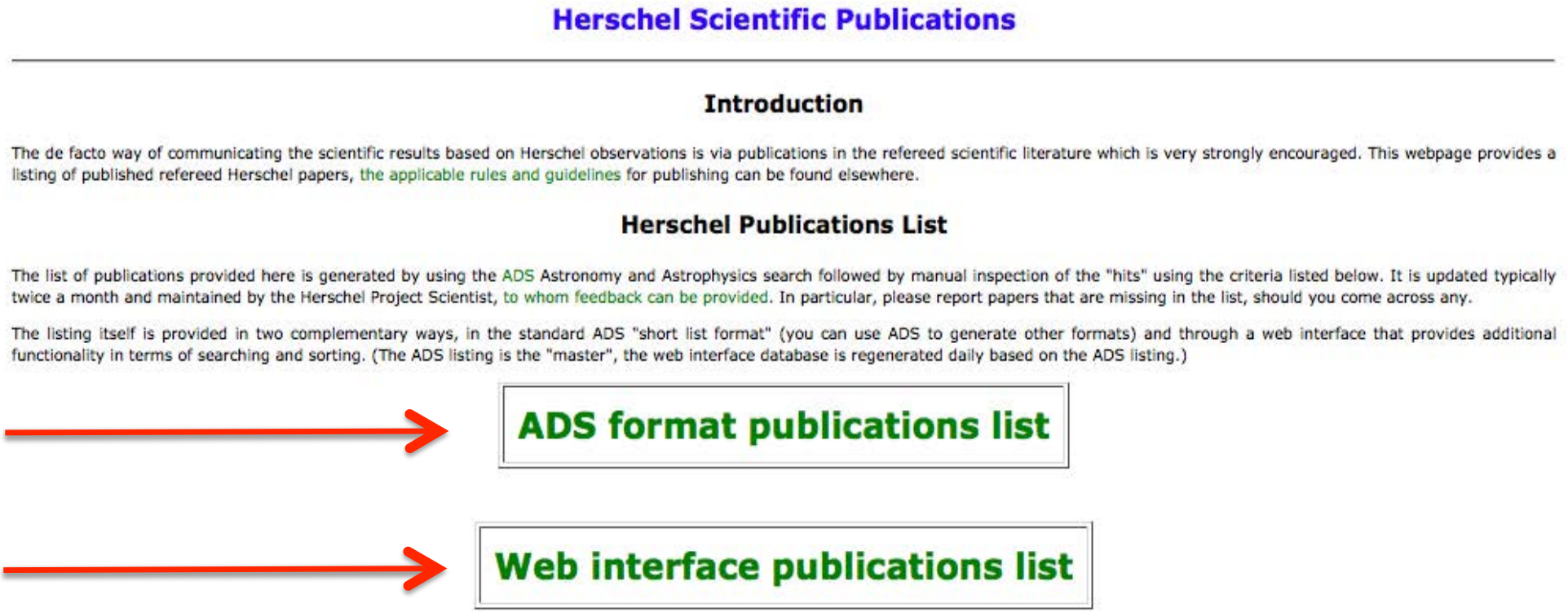
HERSCHEL SPACE OBSERVATORY

Publications

Publication tracking

Using ADS (last update on 5/04/2013):

- From 07/2010 (publ date of A&A vol 518 Herschel Special Issue)
- Abstract should include (and/or): Herschel, PACS, SPIRE, HIFI
- All refereed articles, after checking ('weeding'/adding) **now 644 papers**
- Publication lists in ADS format & web interface are being maintained



Herschel Scientific Publications

Introduction

The de facto way of communicating the scientific results based on Herschel observations is via publications in the refereed scientific literature which is very strongly encouraged. This webpage provides a listing of published refereed Herschel papers, the applicable rules and guidelines for publishing can be found elsewhere.

Herschel Publications List

The list of publications provided here is generated by using the ADS Astronomy and Astrophysics search followed by manual inspection of the "hits" using the criteria listed below. It is updated typically twice a month and maintained by the Herschel Project Scientist, to whom feedback can be provided. In particular, please report papers that are missing in the list, should you come across any.

The listing itself is provided in two complementary ways, in the standard ADS "short list format" (you can use ADS to generate other formats) and through a web interface that provides additional functionality in terms of searching and sorting. (The ADS listing is the "master", the web interface database is regenerated daily based on the ADS listing.)

ADS format publications list

Web interface publications list

Publication list – ADS format

SAO/NASA Astrophysics Data System (ADS)

Private Library HerschelPapers **(Refereed papers based on Herschel inflight measurements, last modified 05-Apr-2013) for gpilbratt@rssd.esa.int**

Go to bottom of page

(Note: the link on the library name is a public link to this library)

Selected and retrieved **644** abstracts.

Sort options

#	Bibcode Authors	Score Title	Date	List of Links Access Control Help
1	2013MNRAS.430.1566L López-Caniego, M.; González-Nuevo, J.; Massardi, M.; Bonavera, L.; Herranz, D.; Negrello, M.; De Zotti, G.; Carrera, F. J.; Danese, L.; Fleuren, S.; and 22 coauthors	1.000 Mining the Herschel-Astrophysical Terahertz Large Area Survey: submillimetre-selected blazars in equatorial fields	04/2013	A Z E F R U
2	2013ApJ...767L...3N Neufeld, David A.; Tolls, Volker; Agúndez, Marcelino; González-Alfonso, Eduardo; Decin, Leen; Daniel, Fabien; Cernicharo, José; Melnick, Gary J.; Schmidt, Miroslaw; Szczerba, Ryszard	1.000 Herschel/HIFI Search for H_2^{17}O and H_2^{18}O in IRC+10216: Constraints on Models for the Origin of Water Vapor	04/2013	A Z E F X R U
3	2013ApJ...767...81M Monje, R. R.; Lis, D. C.; Roueff, E.; Gerin, M.; De Luca, M.; Neufeld, D. A.; Godard, B.; Phillips, T. G.	1.000 Hydrogen Chloride in Diffuse Interstellar Clouds along the Line of Sight to W31C (G10.6-0.4)	04/2013	A Z E F X R U
4	2013ApJ...767...73R Rujopakarn, W.; Rieke, G. H.; Weiner, B. J.; Pérez-González, P.;	1.000 Mid-infrared Determination of Total Infrared Luminosity and Star Formation Rates of Local and High-redshift Galaxies	04/2013	A Z E F R U

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Publication list – web interface

Publication List

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Publications per page 50

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

BibCode	Status	Title	Authors	Journal	Date	Citations	#Obs
2013RAA....13..179L	PENDING	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	0
2013P&SS...75..136T	DONE	Constraints on Titan's middle atmosphere ammonia abundance from Herschel/SPIRE sub-millimetre spectra	Teanby N. A., Irwin P. G. J., Nixon C. A., Courtin R., Swinyard B. M., Moreno R., Lellouch E., Rengel M., Hartogh P.	Planetary and Space Science	01/2013	0	5
2013Natur.495..344V	PENDING	Dusty starburst galaxies in the early Universe as revealed by gravitational lensing	Vieira J. D., Marrone D. P., Chapman S. C., De Breuck C., Hezaveh Y. D., Weiß A., Aguirre J. E., Aird K. A., Aravena M., Ashby M. L. N., Bayliss M., Benson B. A., Biggs A. D., Bleem L. E., Bock J. J., Bothwell M., Bradford C. M., Brodwin M., Carlstrom J. E., Chang C. L., Crawford T. M., Crites A. T., de Haan T., Dobbs M. A., Fomalont E. B., Fassnacht C. D., George E. M., Gladders M. D., Gonzalez A. H., Greve T. R., Gullberg B., Halverson N. W., High F. W., Holder G. P., Holzapfel W. L., Hoover S., Hrubes J. D., Hunter T. R., Keisler R., Lee A. T., Leitch E. M., Lueker M., Luong-van D., Malkan M., McIntyre V., McMahon J. J., Mehl J., Menten K. M., Meyer S. S., Mocanu L. M., Murphy E. J., Natoli T., Padin S., Plagge T., Reichardt C. L., Rest A., Ruel J., Ruhl J. E., Sharon K., Schaffer K. K., Shaw L., Shirokoff E., Spilker J. S., Stalder B., Staniszewski Z., Stark A. A., Story K., Vanderlinde K., Welikala N., Williamson R.	Nature	03/2013	1	0
2013Natur.493..644B	DONE	An old disk still capable of forming a planetary system	Bergin E. A., Cleeves L. I., Gorti U., Zhang K., Blake G. A., Green J. D., Andrews S. M., Evans N. J., II, Henning T., Oberg K., Pontoppidan K., Qi C., Salyk C., van Dishoeck E.	Nature	01/2013	0	1
2013MNRAS.430.1566L	PENDING	Mining the Herschel-Astrophysical Terahertz Large Area Survey: submillimetre-selected blazars in equatorial fields	López-Caniego M., González-Nuevo J., Massardi M., Bonavera L., Herranz D., Negrello M., De Zotti G., Carrera F. J., Danese L., Fleuren S., Hardcastle M., Jarvis M. J., Klöckner H.-R., Mauch T., Procopio P., Righini S., Sutherland W., Auld R., Baes M., Buttiglione S., Clark C. J. R., Cooray A., Dariush A., Dunne L., Dye S., Eales S., Hopwood R., Hoyos C., Ibar E., Ivison R. J., Maddox S., Valiante E.	Monthly Notices of the Royal Astronomical Society	04/2013	0	0
2013MNRAS.429.3230H	PENDING	Inferring the mass of submillimetre galaxies by exploiting their gravitational magnification of background galaxies	Hildebrandt H., van Waerbeke L., Scott D., Béthermin M., Bock J., Clements D., Conley A., Cooray A., Dunlop J. S., Eales S., Erben T., Farrah D., Franceschini A., Glenn J., Halpern M., Heinis S., Ivison R. J., Marsden G., Oliver S. J., Page M. J., Pérez-Fournon I., Smith A. J., Rowan-Robinson M., Valtchanov I., van der Burg R. F. J., Vieira J. D., Viero M., Wang L.	Monthly Notices of the Royal Astronomical Society	03/2013	0	0
2013MNRAS.429.2407H	PENDING	Herschel-ATLAS/GAMA: a difference between star formation rates in strong-line and weak-line radio galaxies	Hardcastle M. J., Ching J. H. Y., Virdee J. S., Jarvis M. J., Croom S. M., Sadler E. M., Mauch T., Smith D. J. B., Stevens J. A., Baes M., Baldry I. K., Brough S., Cooray A., Dariush A., De Zotti G., Driver S., Dunne L., Dye S., Eales S., Hopwood R., Liske J., Maddox S., Michałowski M. J., Rigby E. E., Robotham A. S. G., Steele O., Thomas D., Valiante E.	Monthly Notices of the Royal Astronomical Society	03/2013	0	0

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2013Natur.493..644B	DONE	An old disk still capable of forming a planetary system	Bergin E. A., Cleeves L. I., Gorti U., Zhang K., Blake G. A., Green J. D., Andrews S. M., Evans N. J., II, Henning T., Oberg K., Pontoppidan K., Qi C., Salyk C., van Dishoeck E.	Nature	01/2013	0	1
2013MNRAS.430.1566L	PENDING	Mining the Herschel-Astrophysical Terahertz Large Area Survey: submillimetre-selected blazars in equatorial fields	López-Caniego M., González-Nuevo J., Massardi M., Bonavera L., Herranz D., Negrello M., De Zotti G., Carrera F. J., Danese L., Fleuren S., Hardcastle M., Jarvis M. J., Klöckner H.-R., Mauch T., Procopio P., Righini S., Sutherland W., Auld R., Baes M., Buttiglione S., Clark C. J. R., Cooray A., Dariush A., Dunne L., Dye S., Eales S., Hopwood R., Hoyos C., Ibar E., Ivison R. J., Maddox S., Valiante E.	Monthly Notices of the Royal Astronomical Society	04/2013	0	0
2013MNRAS.429.3230H	PENDING	Inferring the mass of submillimetre galaxies by exploiting their gravitational magnification of background galaxies	Hildebrandt H., van Waerbeke L., Scott D., Béthermin M., Bock J., Clements D., Conley A., Cooray A., Dunlop J. S., Eales S., Erben T., Farrah D., Franceschini A., Glenn J., Halpern M., Heinis S., Ivison R. J., Marsden G., Oliver S. J., Page M. J., Pérez-Fournon I., Smith A. J., Rowan-Robinson M., Valtchanov I., van der Burg R. F. J., Vieira J. D., Viero M., Wang L.	Monthly Notices of the Royal Astronomical Society	03/2013	0	0
2013MNRAS.429.2407H	PENDING	Herschel-ATLAS/GAMA: a difference between star formation rates in strong-line and weak-line radio galaxies	Hardcastle M. J., Ching J. H. Y., Virdee J. S., Jarvis M. J., Croom S. M., Sadler E. M., Mauch T., Smith D. J. B., Stevens J. A., Baes M., Baldry I. K., Brough S., Cooray A., Dariush A., De Zotti G., Driver S., Dunne L., Dye S., Eales S., Hopwood R., Liske J., Maddox S., Michałowski M. J., Rigby E. E., Robotham A. S. G., Steele O., Thomas D., Valiante E.	Monthly Notices of the Royal Astronomical Society	03/2013	0	0

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Publication list – web interface

Publication List

Last update: 2013.04.05 T 18:24:30 CEST

Filter

Publication criteria

Bib Code
Title
Author Surnames
Affiliation
Journal: Any
Min citations
Publication Date =>
Observation Ids
Status: Any
User Reduced Data: Spectra, Catalog, Images
HIPE version
Comments

Observation criteria

OD range =>
Target
Proposal
AOT / Instrument / SubInstrument: HifiFS, HifiMapping, HifiPoint, PacsLineSpec | PACS, SPIRE, PARALLEL, HIFI | P_SPEC, P_PHOT, P_ENG, S_SPEC
Duration (min/max) =>
Start/End Times =>
Science Area & Category: Solar System, Interstellar Medium/Star Formati, Stars & Stellar Evolution, Galaxies/AGNs | Active galaxies/ULGs/QSOs, Asteroids, Brown Dwarfs/Very Low-Mass St, Circumstellar/Debris disks

Search publications | Clear

Publications per page: 50

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

BibCode	Status	Title	Authors	Journal	Date	Citations	#Obs
2013RAA....13..179L	PENDING	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	0
2013P&SS...75..136T	DONE	Constraints on Titan's middle atmosphere ammonia abundance from Herschel/SPIRE sub-millimetre spectra	Teanby N. A., Irwin P. G. J., Nixon C. A., Courtin R., Swinyard B. M., Moreno R., Lellouch E., Rengel M., Hartogh P.	Planetary and Space Science	01/2013	0	5
2013Natur.495..344V	PENDING	Dusty starburst galaxies in the early Universe as revealed by gravitational lensing	Vieira J. D., Marrone D. P., Chapman S. C., De Breuck C., Hezaveh Y. D., Weiß A., Aguirre J. E., Aird K. A., Aravena M., Ashby M. L. N., Bayliss M., Benson B. A., Biggs A. D., Bleem L. E., Bock J. J., Bothwell M., Bradford C. M., Brodwin M., Carlstrom J. E., Chang C. L., Crawford T. M., Crites A. T., de Haan T., Dobbs M. A., Fomalont E. B., Fassnacht C. D., George E. M., Gladders M. D., Gonzalez A. H., Greve T. R., Gullberg B., Halverson N. W., High F. W., Holder G. P., Holzapfel W. L., Hoover S., Hrubes J. D., Hunter T. R., Keisler R., Lee A. T., Leitch E. M., Lueker M., Luong-van D., Malkan M., McIntyre V., McMahon J. J., Mehl J.,	Nature	03/2013	1	0

HERSCHEL SPACE OBSERVATORY

Journal distribution of papers
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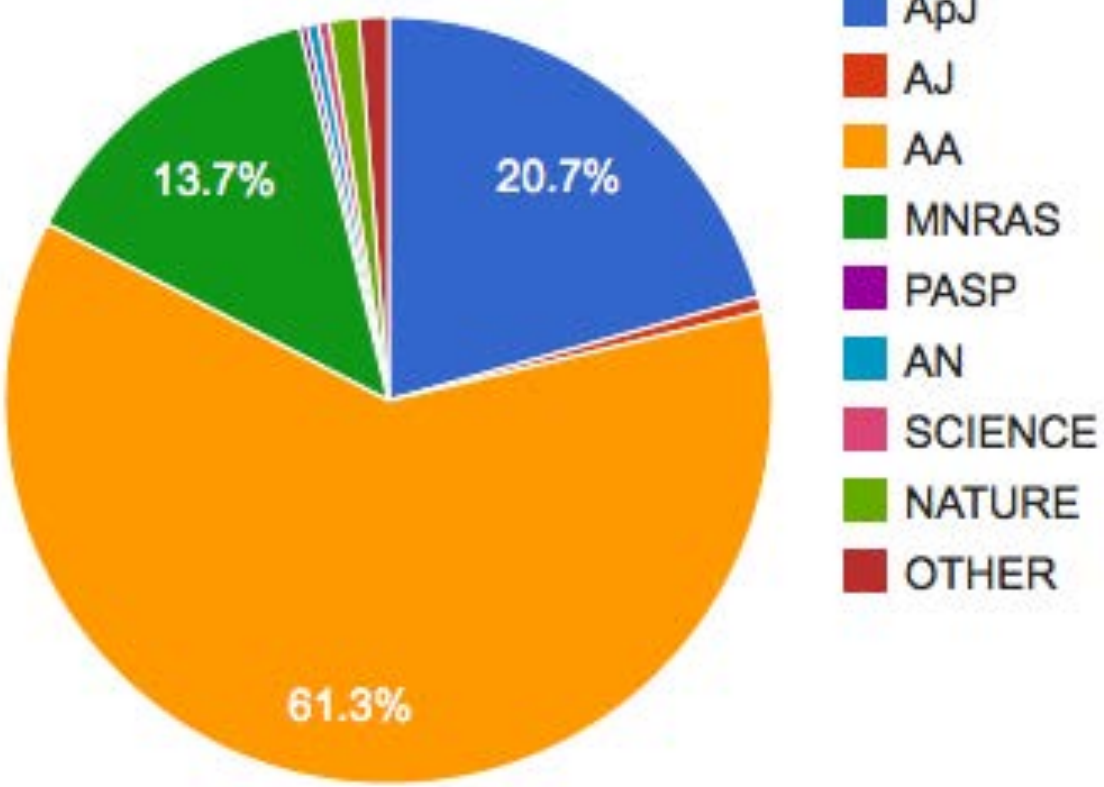
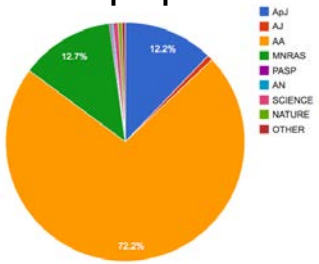
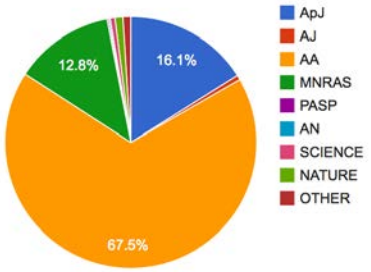


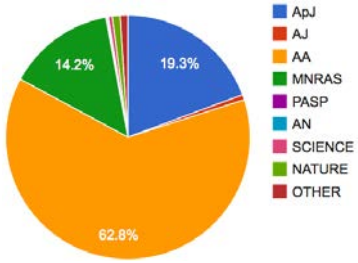
418 papers



492 papers

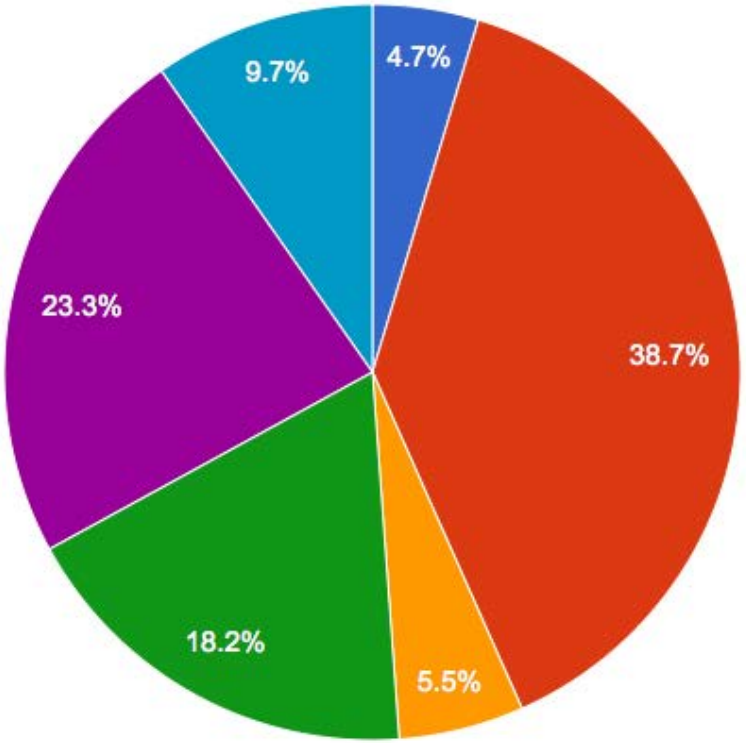


584papers



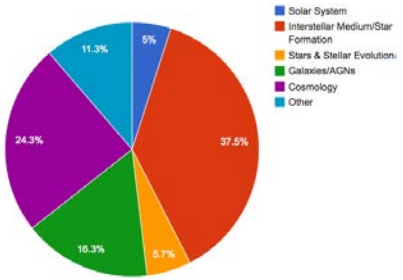
HERSCHEL SPACE OBSERVATORY

Science area distribution of papers
– PubTool based on 644 papers

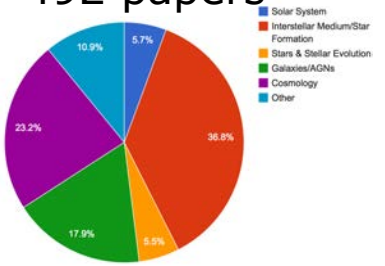


- Solar System
- Interstellar Medium/Star Formation
- Stars & Stellar Evolution
- Galaxies/AGNs
- Cosmology
- Other

418 papers



492 papers



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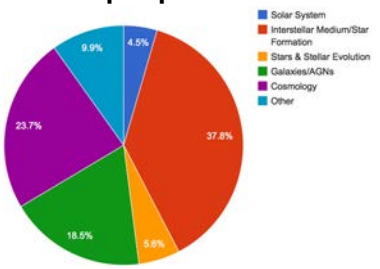

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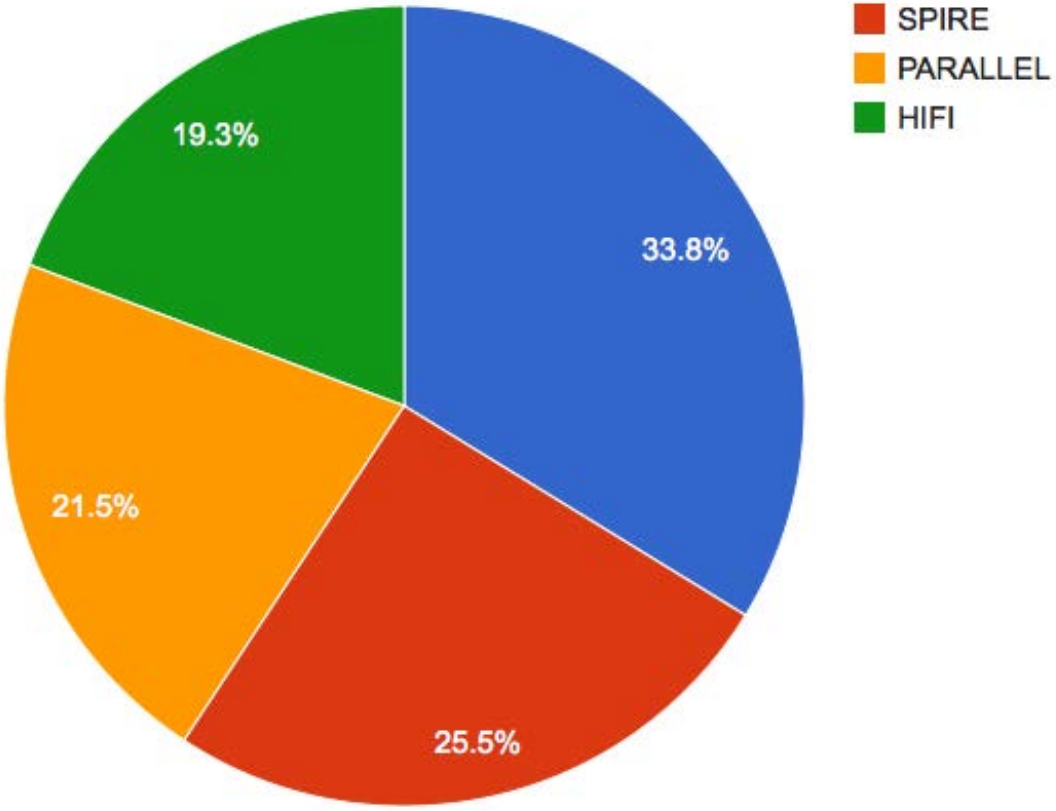
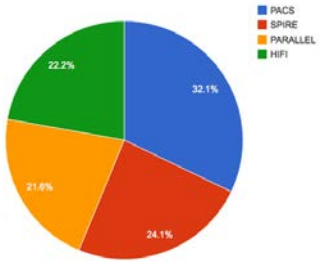
Instrument distribution of paper AORs
– PubTool based on 644 papers



418 papers



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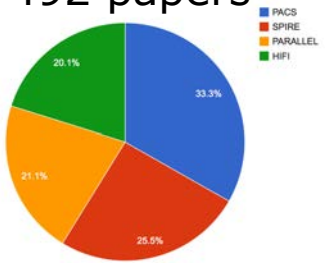

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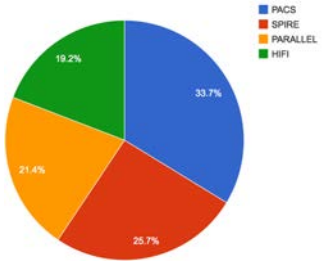
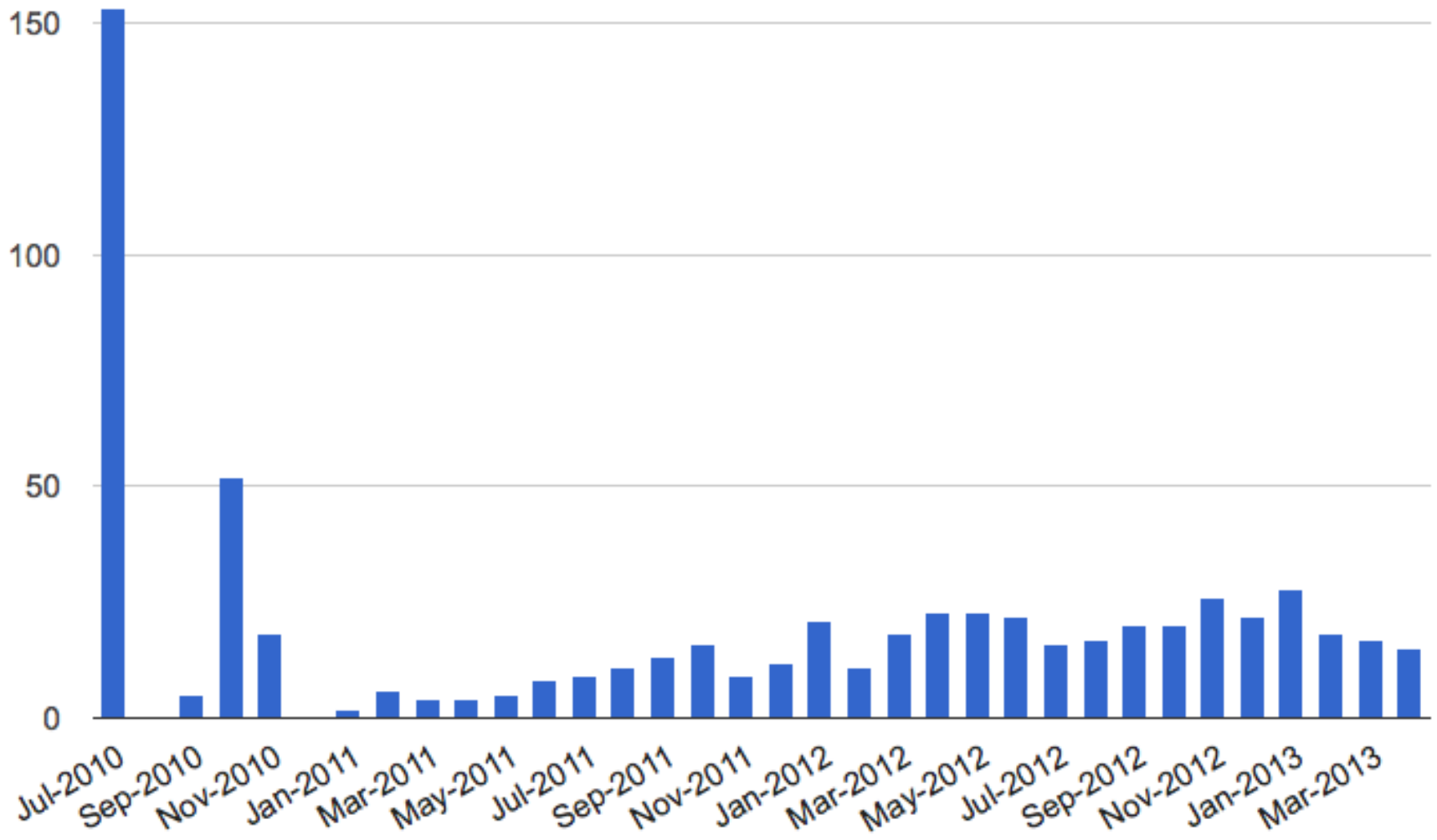


HERSCHEL SPACE OBSERVATORY

Time distribution of papers
– PubTool based on 644 papers



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Time distribution of papers
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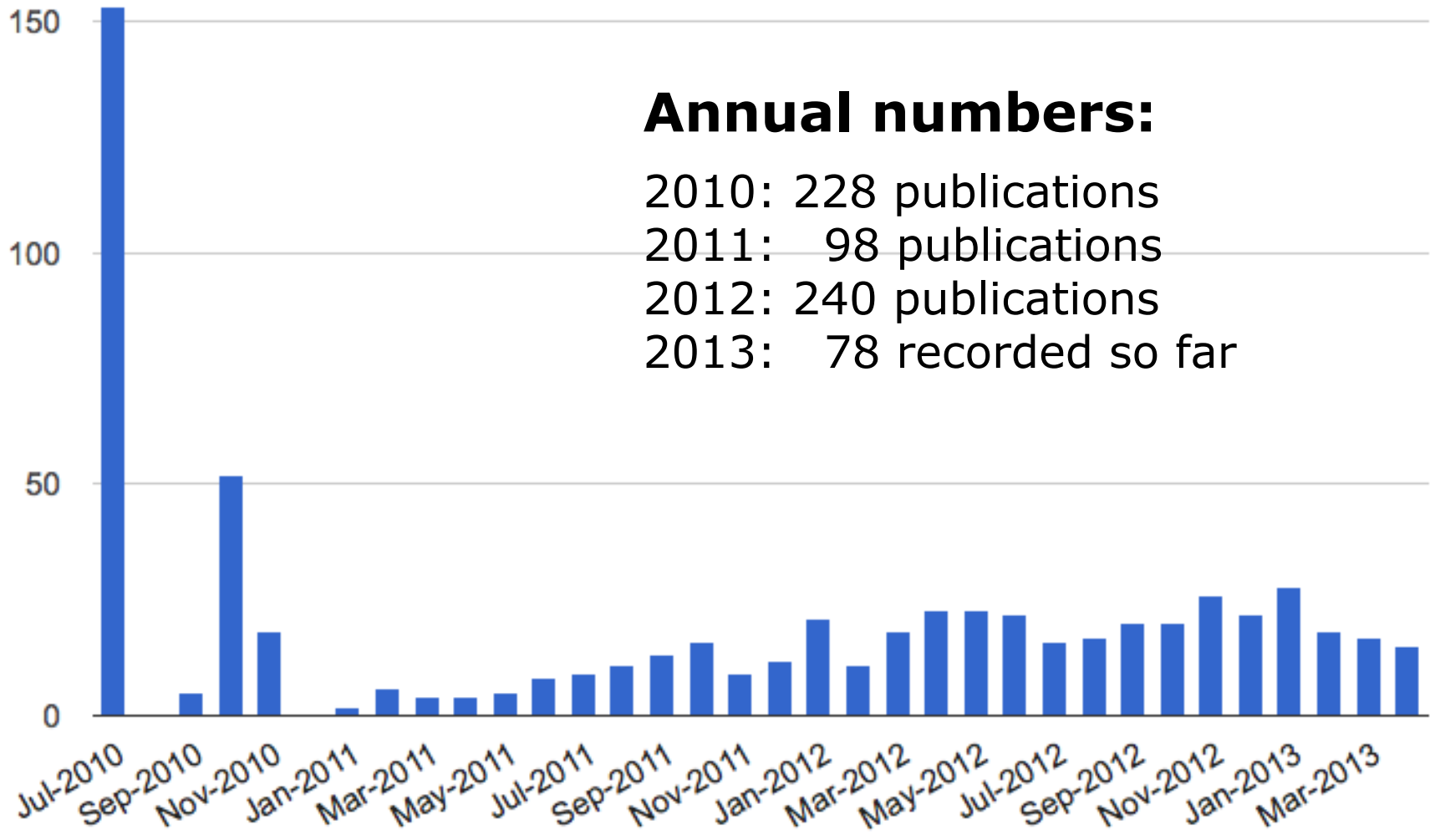


Annual numbers:

2010: 228 publications
2011: 98 publications
2012: 240 publications
2013: 78 recorded so far

HERSCHEL SPACE OBSERVATORY

Data & data products

Herschel Science Archive (HSA)

Access to Herschel Data

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

Start the HSA User Interface using Java Web Start

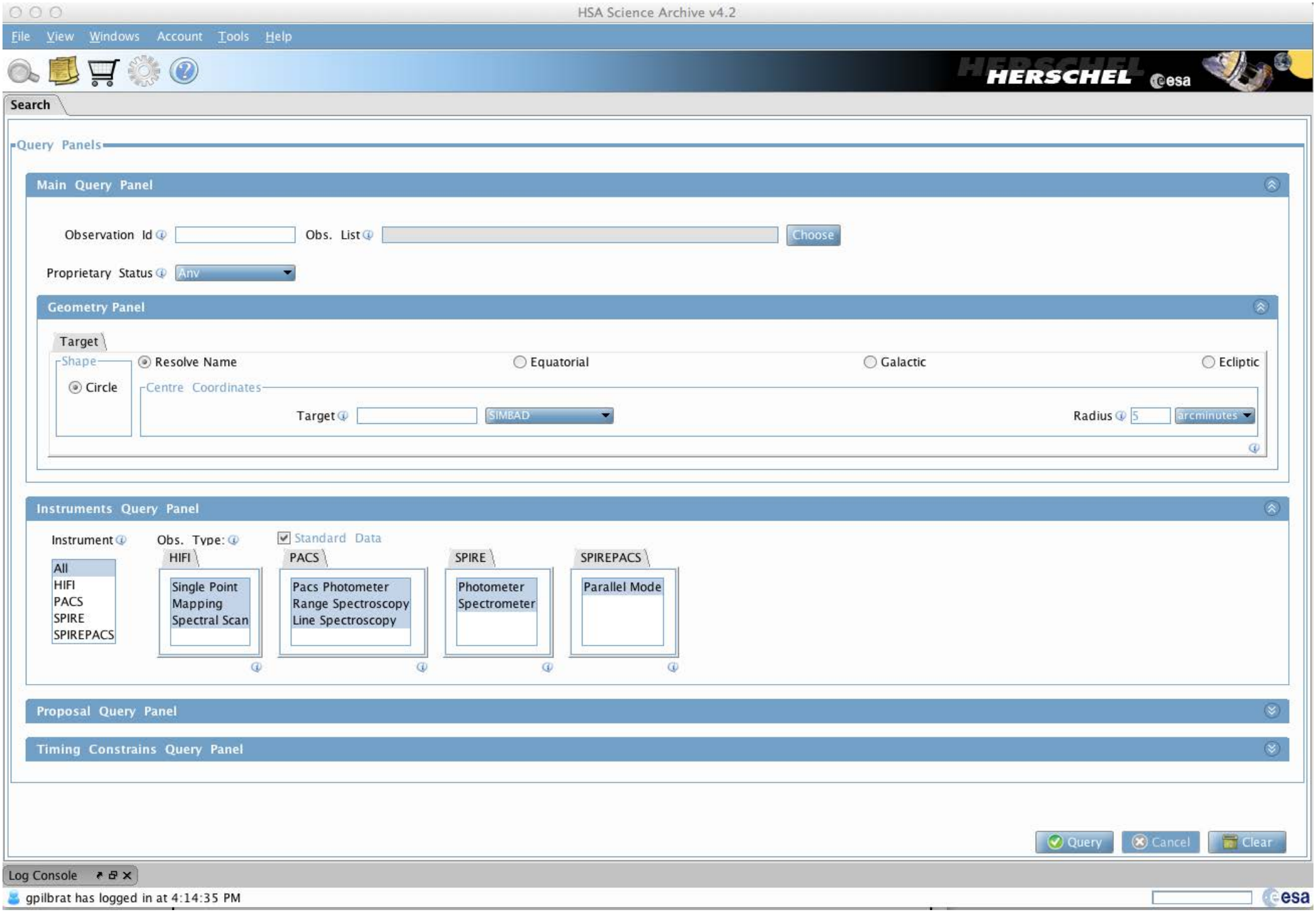
To run the HSA as a desktop application, you must have Java Web Start enabled.
First time you launch a Java Web start application? Please follow these instructions.
More details on what Java Web Start is can be found here.

To access the HSA data **directly** through the Archive InterOperability System (HAIO) please use:

HAIO web interface

HSA Troubleshooting FAQ **HSA News**

HERSCHEL SPACE OBSERVATORY


HSA Science Archive v4.2
File View Windows Account Tools Help
HERSCHEL esa
Search
Query Panels
Main Query Panel
Observation Id
Obs. List
Choose
Proprietary Status
Any
Geometry Panel
Target
Shape
Circle
Resolve Name
Equatorial
Galactic
Ecliptic
Centre Coordinates
Target
SIMBAD
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arcminutes
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
Proposal Query Panel
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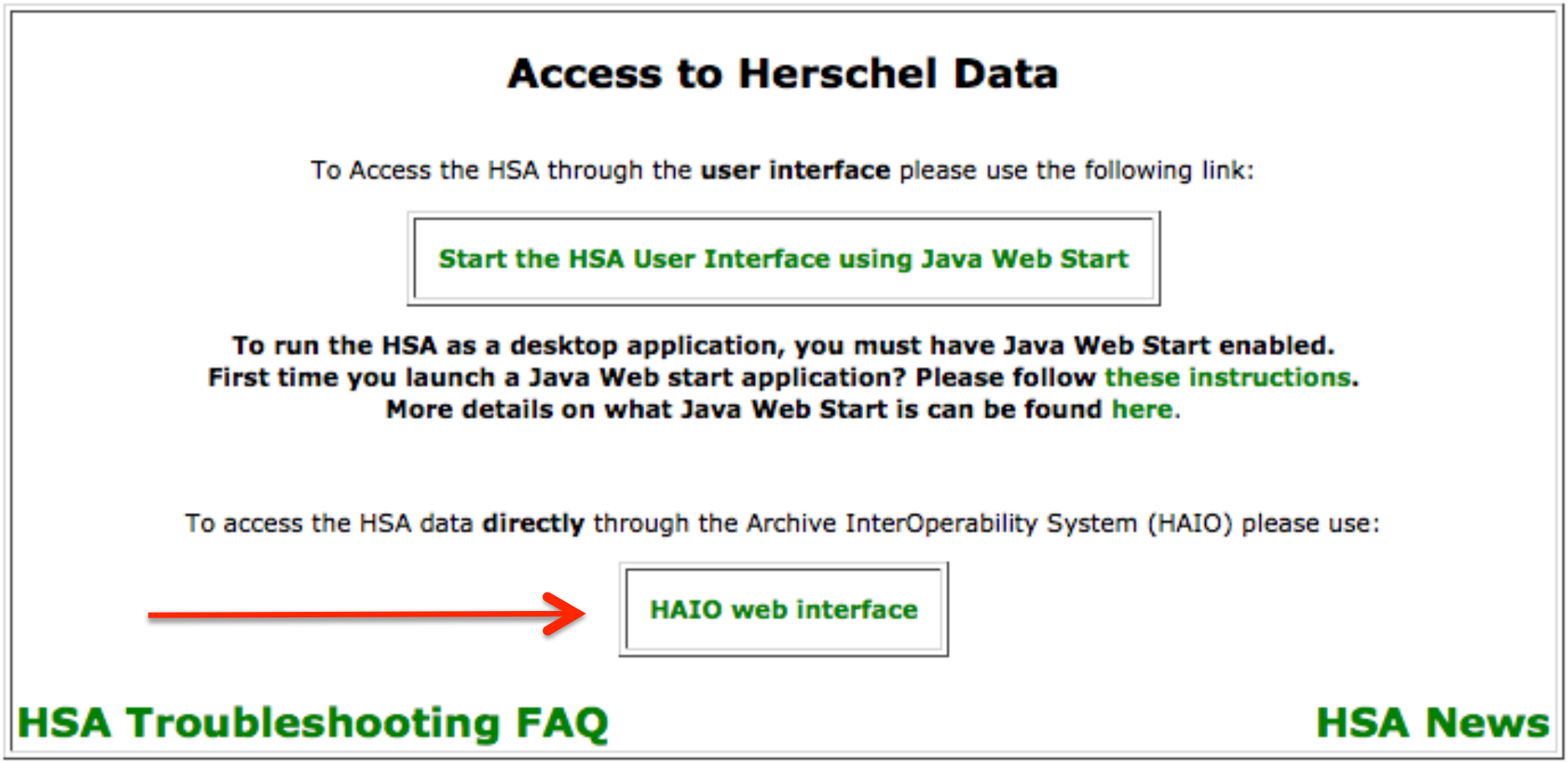
Query
Cancel
Clear
Log Console
gpilbrat has logged in at 4:14:35 PM
esa

Herschel Science Archive (HSA)



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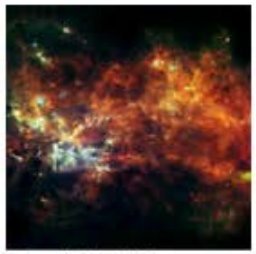
Archive InterOperability Subsystem (HAIO)

SAT VO Science Archives & VO Team

HAIO Home | HSA Home | HSC Home | ESA Archives | Contact | Username | Password | Go



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- Herschel Science Centre
- Herschel SciTech
- Herschel Portal

Tools

- Herschel Archive Data Search
- Postcard Gallery

How To

- HAIO Usage
- Metadata Request
- Data Requests
- User Manual

HSA 4.0: First re-engineered version of the Herschel Science Archive

The new version (4.0) of the Herschel Science Archive (HSA) has totally new look and feel and a new re-engineered server layer. This new version released by the Science Archives Team (SAT) is more stable, faster and it is making use of state of the art technology.

Feed of Herschel Archive InterOperability Subsystem

Welcome to the Herschel Science Archive

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Archive InterOperability Subsystem (HAIO)

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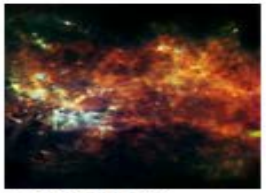
HAIO Home | HSA Home | HSC Home | ESA Archives | Contact | Username | Password | Go



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HAIO METADATA SERVICE

Simple Search | Advanced Search

Main Query Panel

Observation Id

e.g 1342178512

Instrument Name

- [x] ALL
- [ ] HIFI
- [ ] PACS
- [ ] SPIRE

Proprietary Status

All

- [ ] Include Non Standard Data

Proporsal Query Panel

Observer

Proposal ID

AOR

Timing Constraints Query Panel

OD Number

Observation Start/Stop Time

Start Date **End Date**

Results Display Panel

Open in a new Window

- [ ] VOTABLE
- [ ] HTML

Search Clear

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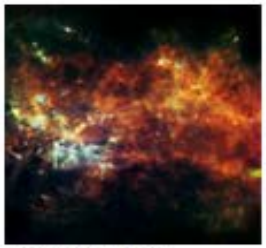

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- Postcard Gallery

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- HAIO Usage
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- Data Requests
- User Manual

SEARCH RESULTS

Total records: 1 << first < prev 1 next > last >> 100 Show / Hide Columns

		Obs. ID	Target Name	RA(deg)	DEC(deg)	Instrument	Observing Mode	OD
☐	▸	1342178512	m51	13h29m59s	47d9m43s	PACS	PacsPhoto	32

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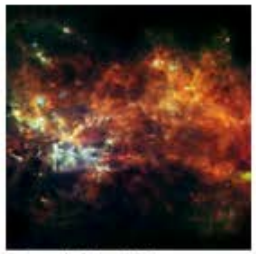
Archive InterOperability Subsystem (HAIO)

SAT VO Science Archives & VO Team

HAIO Home | HSA Home | HSC Home | ESA Archives | Contact | Username | Password | Go



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- Postcard Gallery

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Archive InterOperability Subsystem (HAIO)

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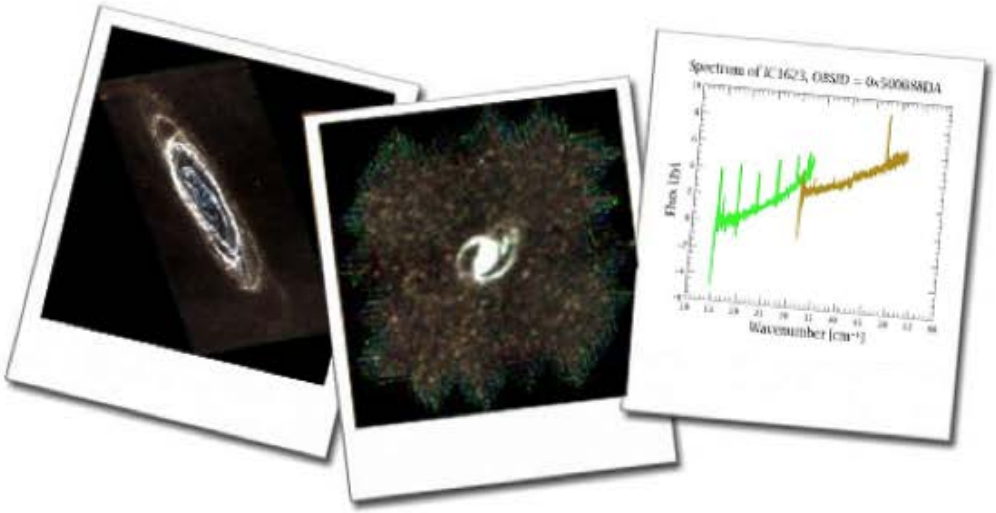
SEARCH

e.g.: M31, 13h30m02s 47d09m58s,
Orion Nebula 1m, 1342224023..

Welcome to the Herschel Postcard Gallery

You can perform Postcard searches simply by inserting the name of your preferred target or its coordinates into the "Search Box".



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Orion Nebula 1m, 1342224023..

OBSERVATION_ID=1342178512

« Prev | 1 | Next »

Observation: 1342178512
Instrument: PACS
Mode: PacsPhoto
Target: m51

« Prev | 1 | Next »

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HERSCHEL

Archive InterOperability Subsystem (HAIO)

SAT VO Science Archives & VO Team

HAIO Home | HSA Home | HSC Home | ESA Archives | Contact | Username | Password | Go

SEARCH m16

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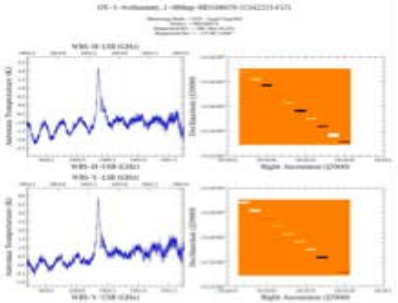
Orion Nebula 1m, 1342224023..

TARGET=m16 RADIUS=5m

« Prev | 1 | 2 | 3 | Next »



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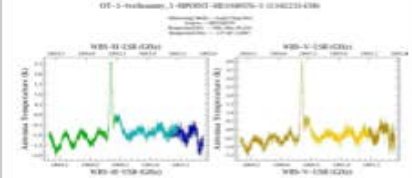
Target: HD168076



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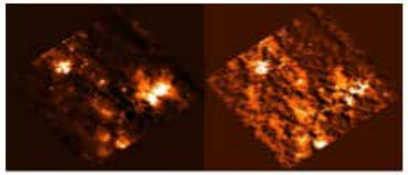

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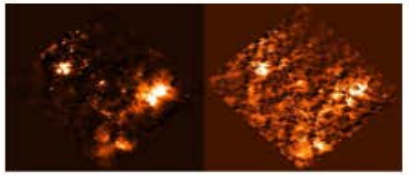
Instrument: PACS
Mode: SpirePacsParallel
Target: Field 17_0



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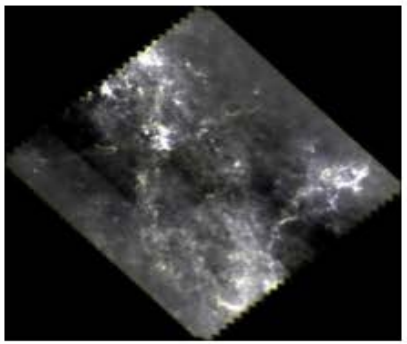

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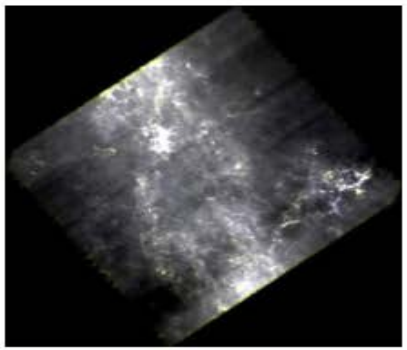
Mode: SpirePacsParallel



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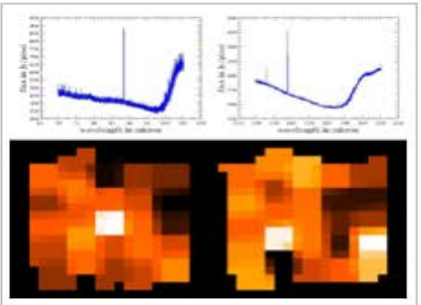

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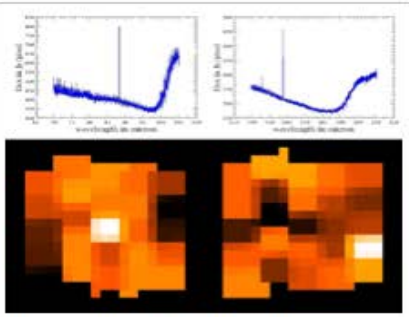
Instrument: PACS
Mode: PacsRangeSpec
Target: M16-finger1-1



Observation: 1342206978
Instrument: PACS
Mode: PacsRangeSpec
Target: M16-finger5-1

Key Programme wrap-up telecons

Conducting 'KP wrap-ups' – 41 done so far

KP_propId	Date/Time	KP Participants
KPGT_seales01_1	16 March 2012@09:30h	S.Eales+M.Smith(+M.Griffin)
KPOT_delbaz_1	16 March 2012@11:00h	D.Elbaz+M.Dickinson
KPOT_mmeixner_1	16 March 2012@16:00h	M.Meixner
KPGT_dlutz_1	20 April 2012@10:00h	D. Lutz
KPOT_ceiroa_1	20 April 2012@11:30h	C. Eiroa
KPGT_soliver_1	27 April 2012@11:30h	S. Oliver + M. Griffin (TBD)
KPOT_wlanger_1	7 May 2012@17:00h (08:00h PDT)	W. Langer + T. Velusamy
KPGT_cwilso01_1	14 May 2012@15:30 (09:30h EDT)	Ch. Wilson
KPOT_eegami_1	14 May 2012@18:00 (09:00h PDT)	E. Egami + M. Rex + T. Rawle
KPGT_okrause_1	25 May 2012@11:30	O.Krause
KPOT_smolinar_1	1 Jun 2012 @ 10:00	S.Molinari
KPGT_vbujarra_1	1 Jun 2012 @ 11:30	V.Bujarrabal+J.Alcolea
KPGT_kmeisenh_1 (imaging)	4 Jun 2012@16:00	K.Meisenheimer
KPOT_nevans_1	18 Jun 2012@16:30 (10:30h Chile)	N. Evans
KPOT_kmeisenh_1 (spec)	20 Jun 2012@10:00	K.Meisenheimer+E.Sturm
KPOT_pvanderw_1	22 Jun 2012@09:30	P. van der Werf
KPOT_rkennicu_1	22 Jun 2012@11:00 (05:00 Massachussets)	R.Kennicutt+D.Calzetti
KPOT_cmarti01_1	28 Jun 17:00h (=08:00 PDT)	Ch.Martin+V.Tolls+K.Tchernyshyov
KPGT_pandre_1	29 Jun 2012@10:00	Ph.Andre+V.Könyves

Objectives

- KP status & overview, observations, data proc, results, problems, etc
- Clarify and agree on KP deliveries, schedule, contacts
  - Data products, explanatory documentation, etc, future updates?
  - Potential SW deliveries, scripts, methods, etc
- Bottlenecks, problems, data proc, calibration, HSC/SGS help?
- Outreach opportunities

All 42 KPs were to be wrapped-up by mid February 2013…

HERSCHEL SPACE OBSERVATORY

Communications

PR aka Communications

ESA wants to communicate your results

- Provides expertise/resources – science writers, image making
- Provides the channels – websites, mailing lists, etc
- All material can be used by others
- Wants to create win-win situation

Possibilities

- Web-releases – Portal and/or SciTech
- Exceptionally fully fledged press release
  - Press reps invited in person
  - Done in connection with 'First Results Symp' in May 2010

Project Scientist is your contact point

- PS must initiate process – applying for resources
- Web-page providing information in place
- Submitted one yesterday – know about more to come

ESA News & Press Releases related

Hunting high-mass stars with Herschel
ESA Space Science News - also in-depth on ESA SciTech News
27 March 2013

Herschel gets to the bottom of black-hole jets
ESA SciTech News
12 March 2013

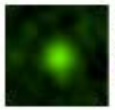
Herschel to finish observing soon
ESA Space Science News - also in-depth on ESA SciTech News
5 March 2013

A cool discovery about the Sun's next-door twin
ESA Space Science News - also in-depth on ESA SciTech News
20 February 2013

Stars can be late parents
ESA Space Science News - also in-depth on ESA SciTech News
30 January 2013

Cool Andromeda
ESA Space Science - Image of the Week
28 January 2013

Betelgeuse braces for a collision
ESA Space Science News
22 January 2013



Herschel intercepts asteroid Apophis
ESA Space Science News
9 January 2013

A Cradle of Stars
ESA Space Science - Image of the week
7 January 2013

Herschel and Keck take census of the invisible Universe
ESA Space Science News - also in-depth on ESA SciTech News
4 December 2012

Do missing Jupiters mean massive comet belts?
ESA Space Science News - also in-depth on ESA SciTech News
27 November 2012

Fine-tuning galaxies with Herschel and Spitzer
ESA Space Science - Image of the week
19 November 2012

Life and death in a star-forming cloud
ESA Space Science News - also in-depth on ESA SciTech News
14 November 2012

Large water reservoirs at the dawn of stellar birth
ESA Space Science News - also in-depth on ESA SciTech News
9 October 2012

Comet crystals found in a nearby planetary system
ESA Space Science News - also in-depth on ESA SciTech News
3 October 2012

Flying along the Vela ridge
ESA Space Science News - also in-depth on ESA SciTech News
9 July 2012

Blowing bubbles in the Carina Nebula
ESA Space Science News - also in-depth on ESA SciTech News
4 June 2012

Cygnus-X: the cool swan glowing in flight
ESA Space Science News - also in-depth on ESA SciTech News
10 May 2012

The most powerful black holes quenched their galaxy's star formation
ESA SciTech News
9 May 2012

Herschel spots comet massacre around nearby star
ESA Space Science News - also in-depth on ESA SciTech News
11 April 2012

The dark heart of a cosmic collision
ESA Space Science News - also in-depth on ESA SciTech News
4 April 2012

Herschel's new view on giant planet formation
ESA SciTech News
13 March 2012

Fledgling stars flicker in the heart of Orion
ESA Space Science News - also in-depth on ESA SciTech News
29 February 2012

A New View of an Icon
ESA Space Science News - also in-depth on ESA SciTech News
17 January 2012

ESA News & Press Releases related

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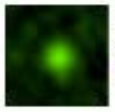

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Comms Requests 2010 to date

- 2010: 18 releases (9 on 6 May…)
- 2011: 13 releases
- 2012: 15 releases
- 2013: 9 releases so far…
- …and more in the pipeline

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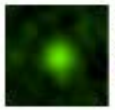

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- …and more in the pipeline
- Question of “penetration”/”effectiveness”
- I have the feeling sometimes NASA versions are the ones picked up
- I have “reported” this

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29 February 2012

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17 January 2012

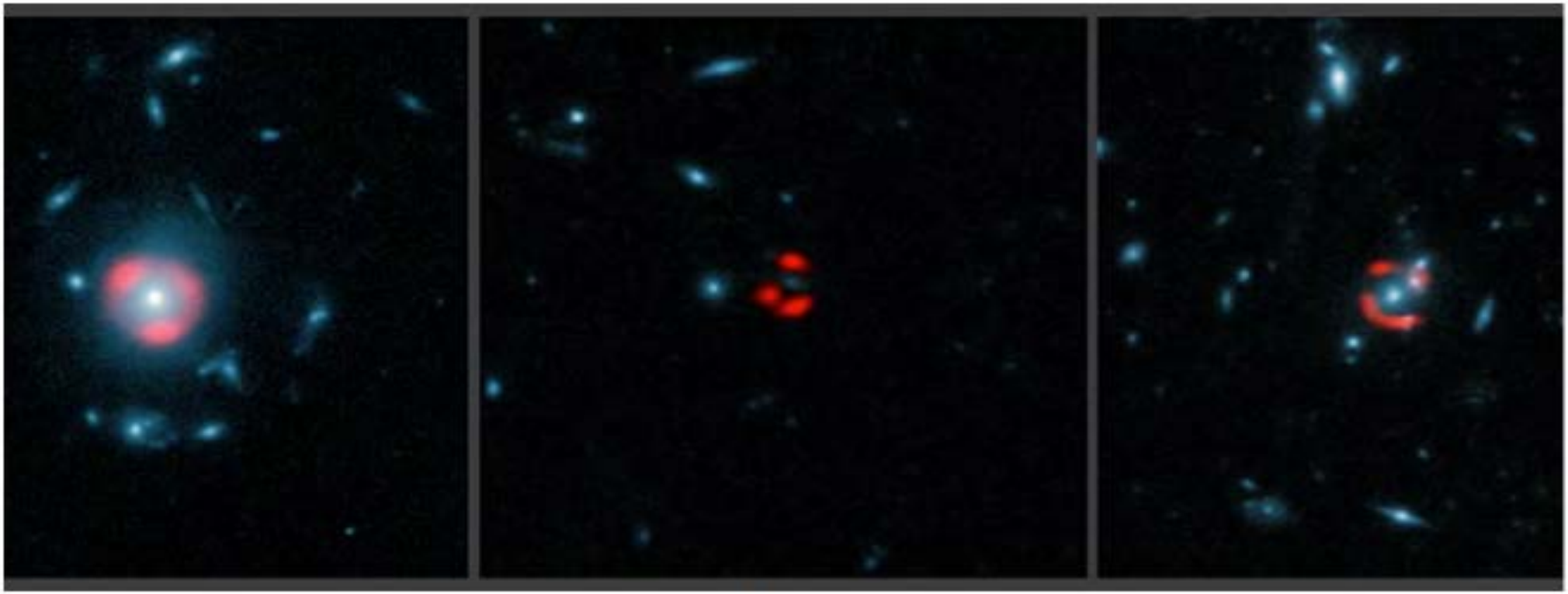
eso1313 — Science Release

Choose your language:

ALMA Rewrites History of Universe's Stellar Baby Boom

Record-breaking haul of distant galaxies includes most distant detection of water published to date

13 March 2013



Click to Enlarge

Observations with the Atacama Large Millimeter/submillimeter Array (ALMA) show that the most vigorous bursts of star birth in the cosmos took place much earlier than previously thought. The results are published in a set of papers to appear in the journal Nature on 14 March 2013, and in the Astrophysical Journal. The research is the most recent example of the discoveries coming from the new international ALMA observatory, which celebrates its inauguration today.

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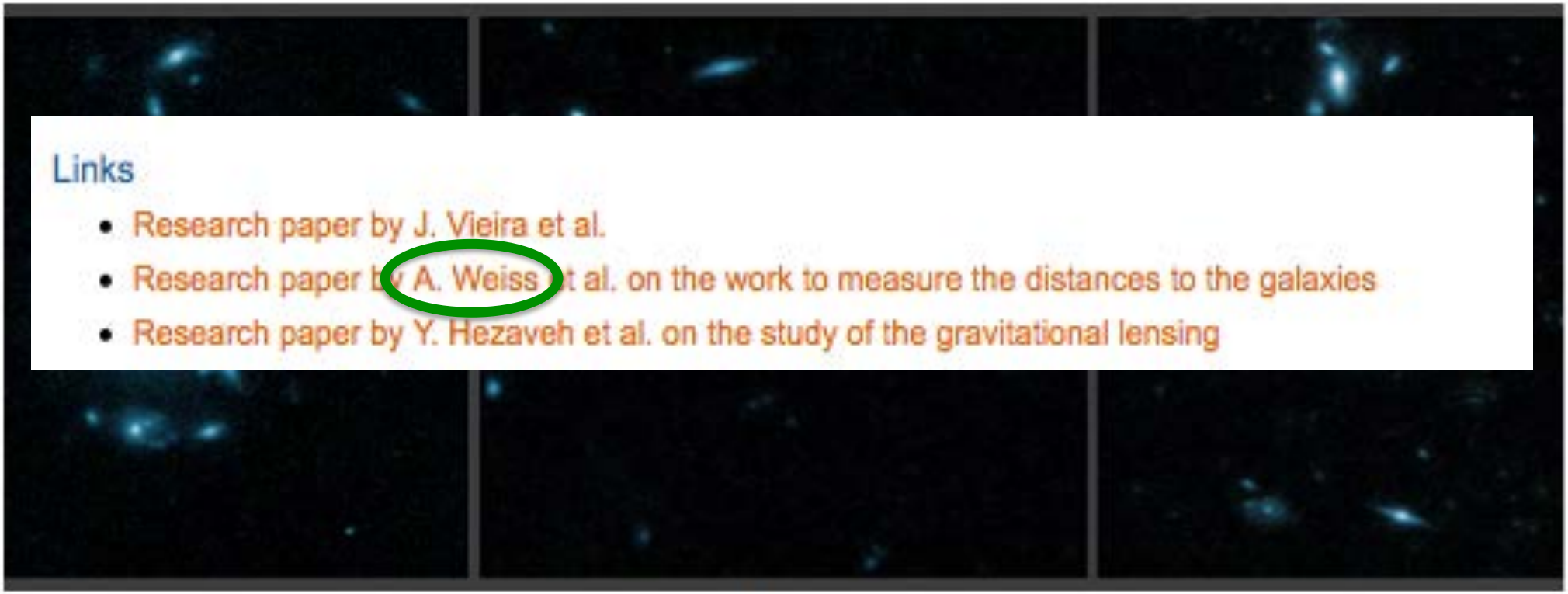

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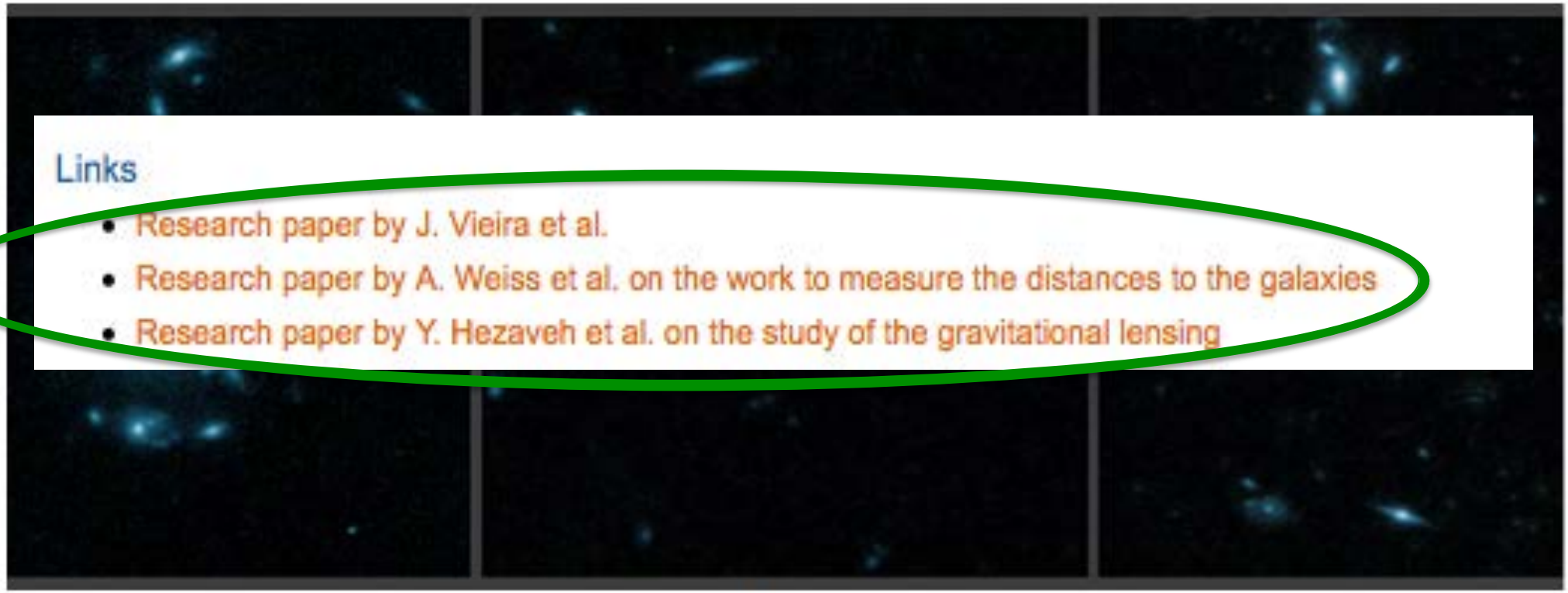

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Herschel's Legacy

HERSCHEL SPACE OBSERVATORY

Herschel's Legacy

Not sure we can say today

- We'll have to look back 5, 10, 20 years from now

HERSCHEL SPACE OBSERVATORY

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Technical achievements

- Telescope (SiC, passive, alignment, contamination?,…), instruments, spacecraft, launch, cryo-cover opened, operations, … We did it!

HERSCHEL SPACE OBSERVATORY

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People

- "The providers" – the people who made the mission possible
- "The users" – the scientific community

HERSCHEL SPACE OBSERVATORY


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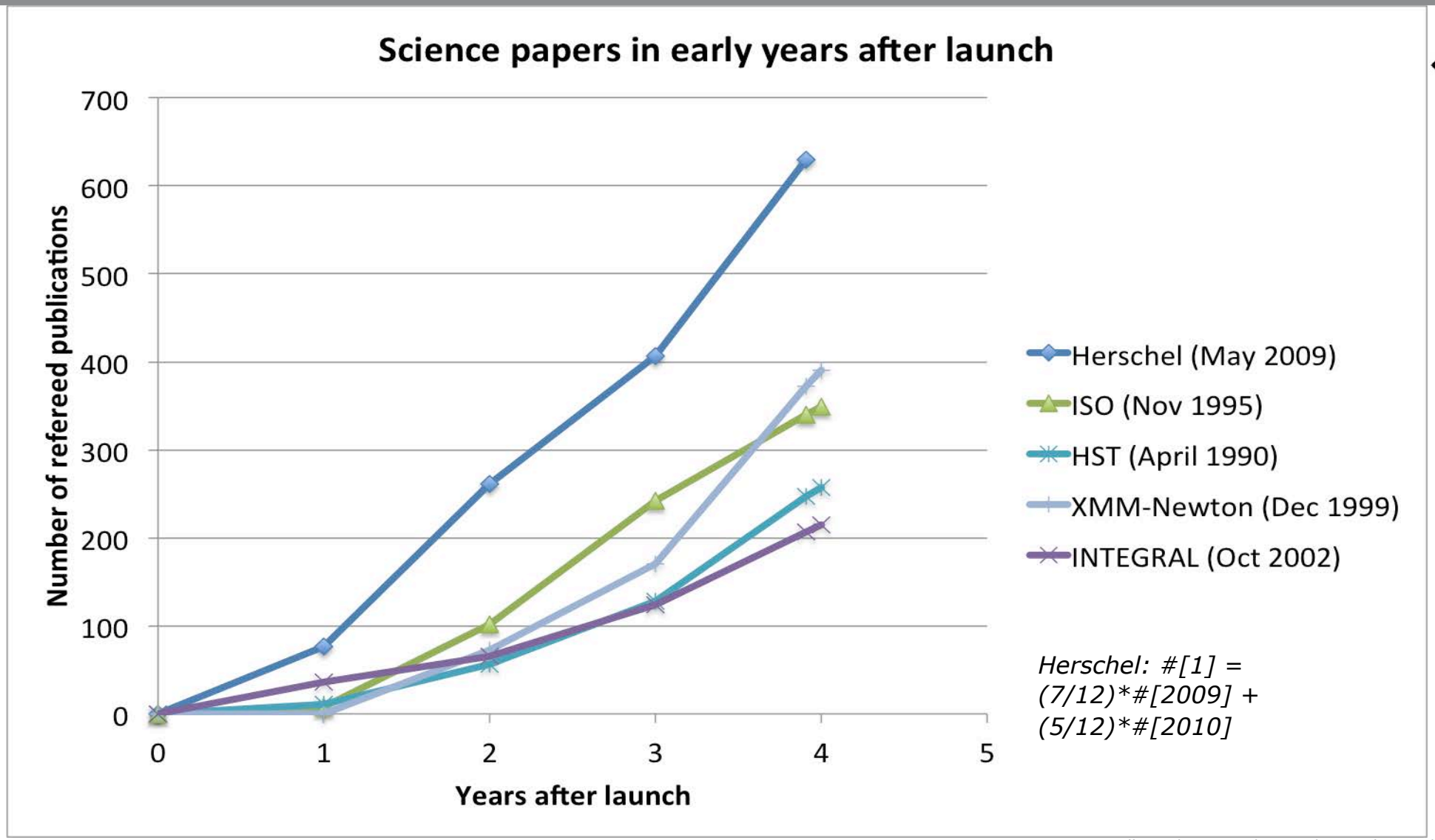
Scientific results – to date & future

- Last update of publications list 644 papers

HERSCHEL SPACE OBSERVATORY

Herschel pub stats – good start...



HERSCHEL SPACE OBSERVATORY

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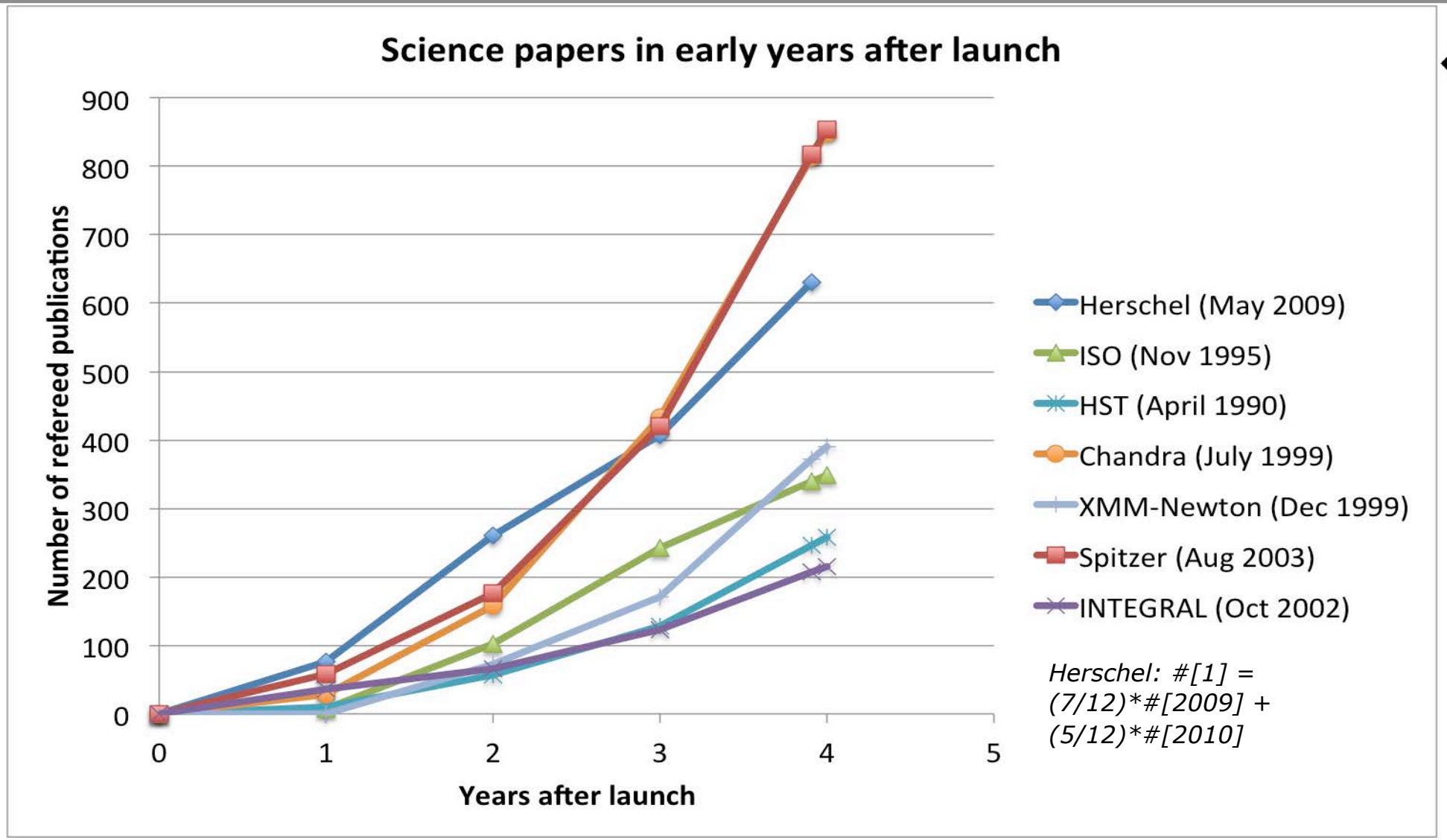

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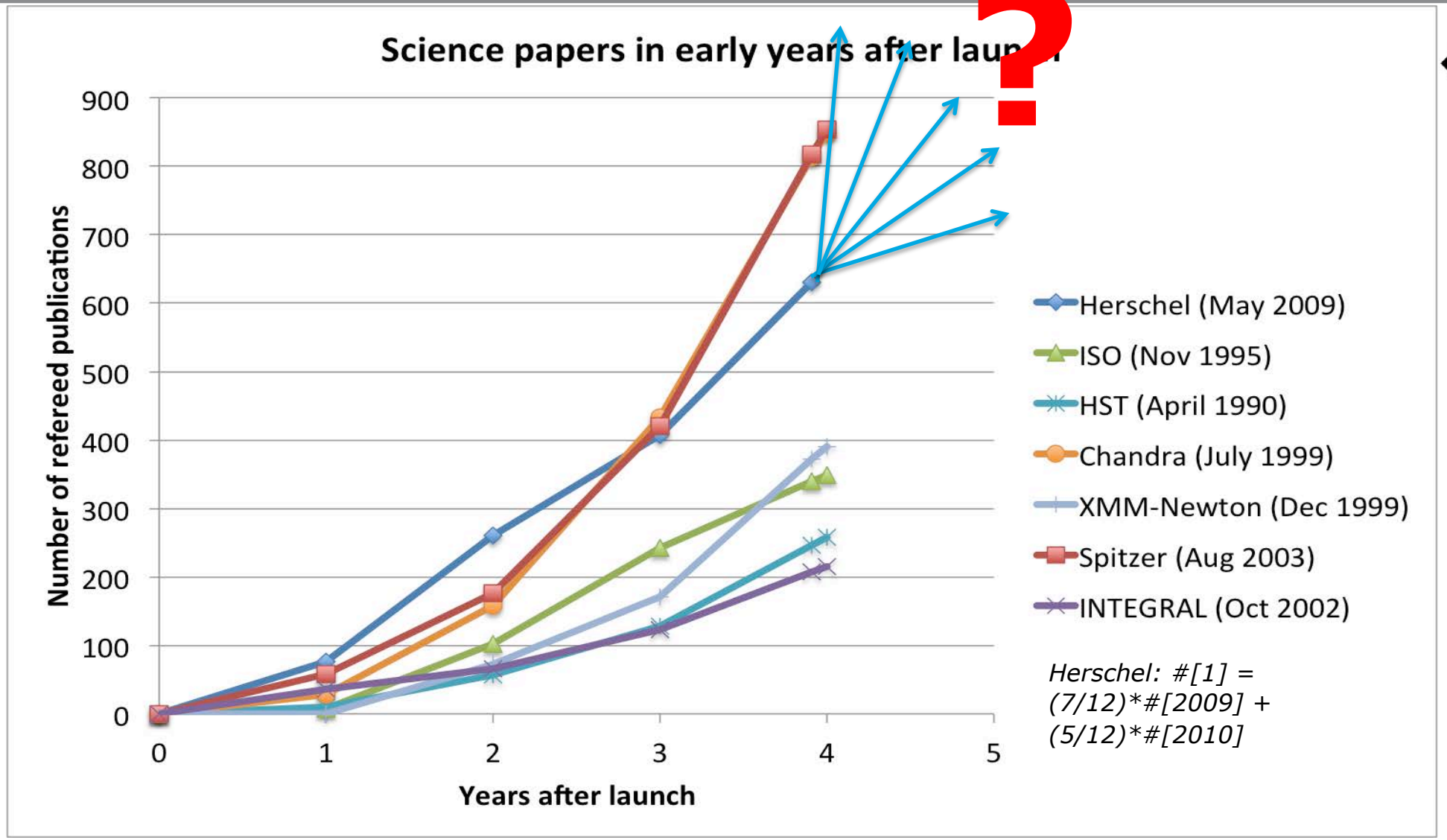

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People

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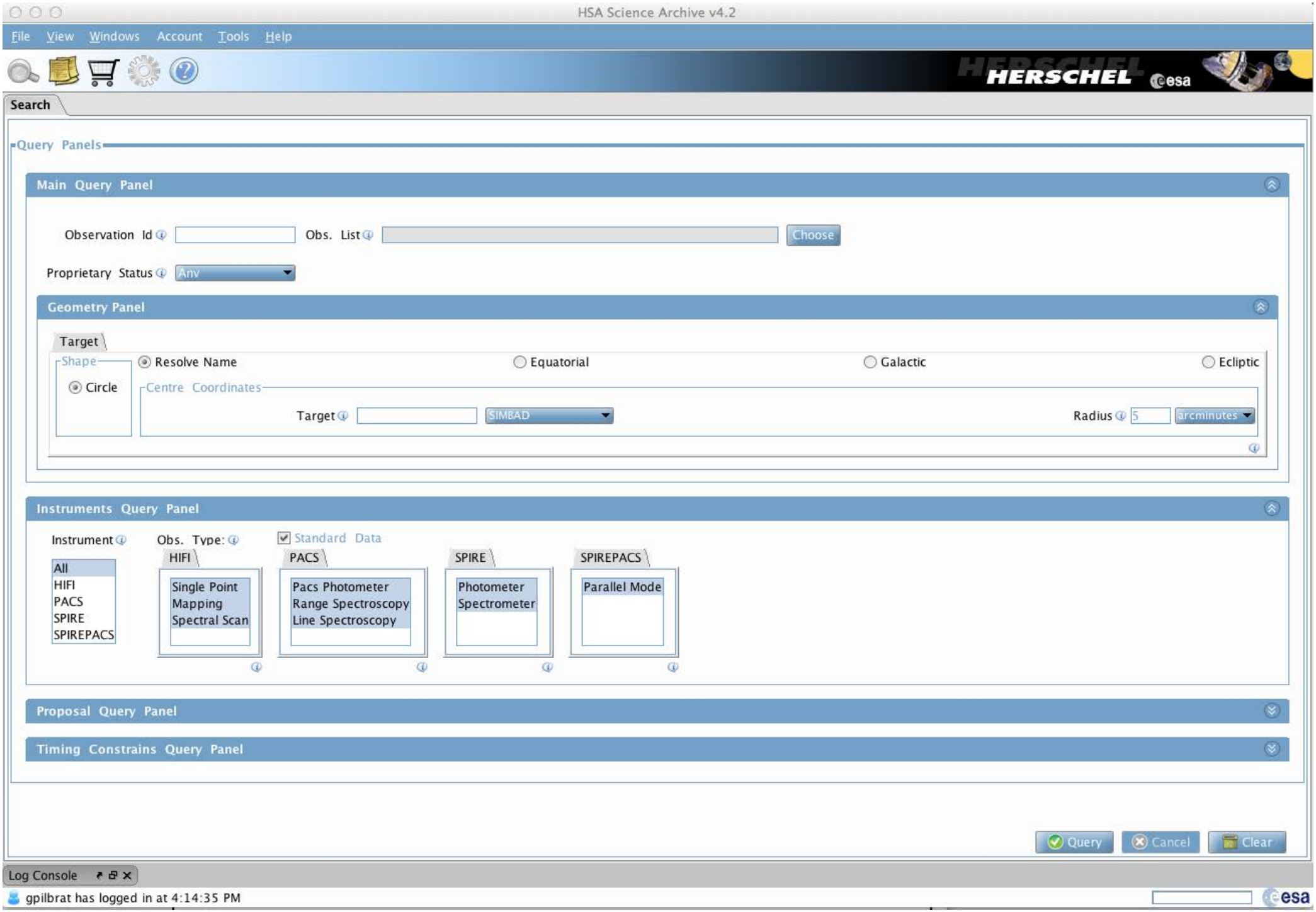
Scientific results – to date & future

- **How can we facilitate increasing science output!?**

Herschel Legacy Archive

- The Herschel Science Archive we will leave behind
- The data, data products, calibration, software & methods, documentation, value-adding features, …

HERSCHEL SPACE OBSERVATORY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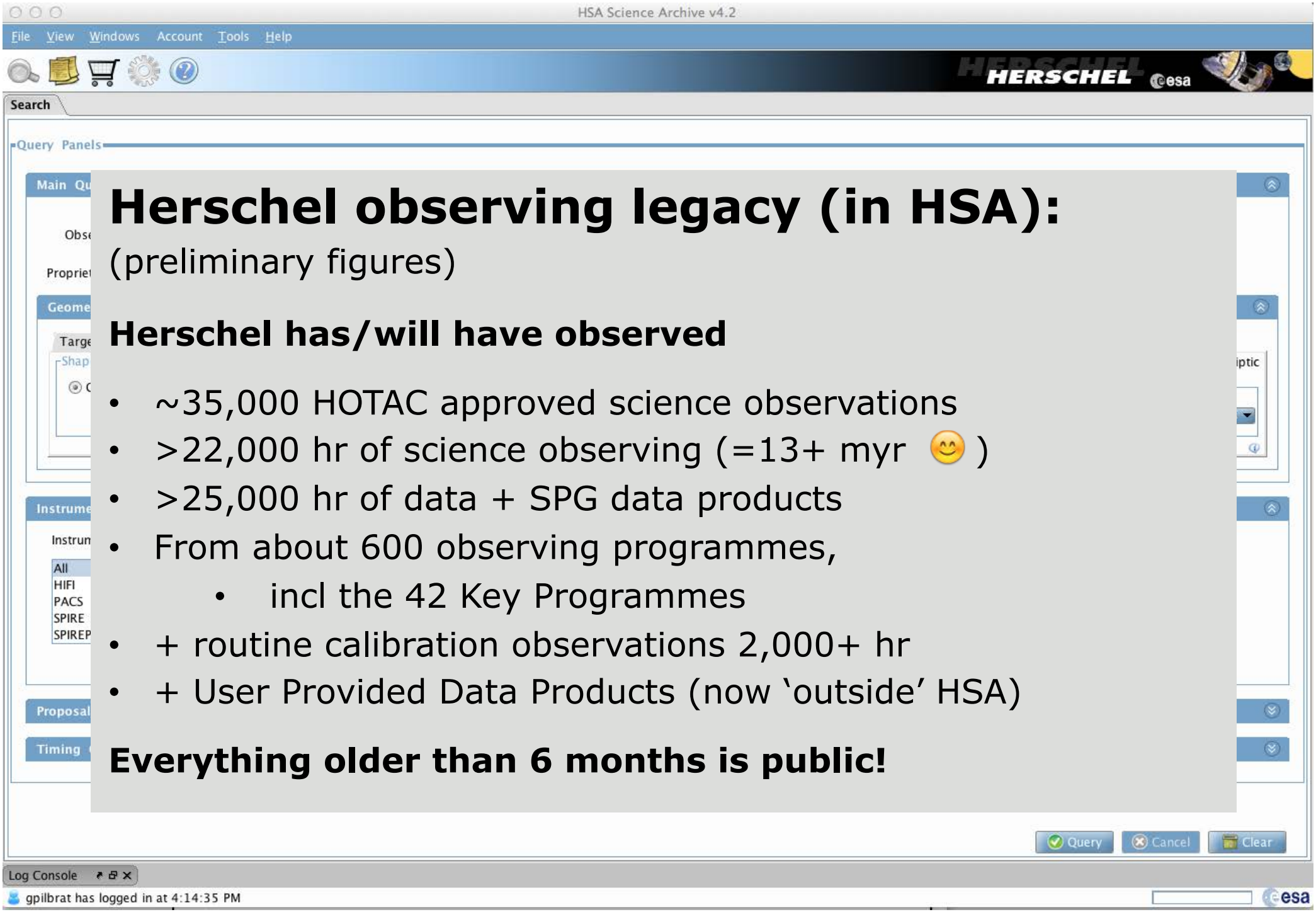

Herschel observing legacy (in HSA):

(preliminary figures)

Herschel has/will have observed

- ~35,000 HOTAC approved science observations
- >22,000 hr of science observing (=13+ myr 😊)
- >25,000 hr of data + SPG data products
- From about 600 observing programmes,
    - incl the 42 Key Programmes
- + routine calibration observations 2,000+ hr
- + User Provided Data Products (now 'outside' HSA)

Everything older than 6 months is public!

User Provided Data Products – to date

Proposal ID	Proposal Name	Release Note	User Provided Data Products Repository	Related Publications	Latest update
OT1_pharve01_3	The Auriga-California Molecular Cloud: A Massive Nearby Cloud With Powerful Diagnostics For Early Stages of Star Formation.	Harvey et al. 2013	Data Repository	Harvey et al. 2013	[11-Mar-2013]
KPGT_dlutz_1	PACS Evolutionary Probe (PEP)	PEP Release Note (PACS data) PEP Release Note (SPIRE data)	PEP public data releases	Lutz et al. 2011 PEP related publications	[01-Mar-2013]
KPGT_vbujarra_1	HIFISTARS: The physical and chemical properties of circumstellar environments around evolved stars	HIFISTARS Release Note	HIFISTARS Data Repository	Bujarrabal et al. 2012	[16-Nov-2012]
KPGT_cwilso01_1	Physical Processes in the Interstellar Medium of Very Nearby Galaxies	VNGS Release note	VNGS Data release	Bendo et al. 2012	[27-Sep-2012]
KPOT_delbaz_1	The Great Observatories Origins Deep Survey : far-infrared imaging with Herschel (GOODS)	GOODS-Herschel release documentation	GOODS-North Data GOODS-South Data	GOODS-Herschel related publications	[12-Sep-2012]
KPOT_rkennicu_1	Key Insights on Nearby Galaxies: a Far Infrared Survey with Herschel (KINGFISH)	KINGFISH Data Products Delivery - DR2 User's Guide	KINGFISH Data Products (DR2) repository	Kennicutt et al. 2011	[18-Jul-2012]
KPGT_soliver_1	HerMES	HerMES Release note	HerMES Data Release	HerMES related publications	[13-Apr-2012]
KPOT_ckrame01_1	Herschel M33 extended survey (HerM33es)	HerM33es : Herschel M33 extended survey - SPIRE Data Products Delivery User's Guide HerM33es: Herschel M33 extended survey - PACS Data Products Delivery User's Guide	HermesPublicData	Kramer et al. 2010 Boquien et al. 2011	[2-Mar-2012]
KPOT_mjuvela_1	Galactic Cold Cores: A Herschel survey of the source populations revealed by Planck	ColdCores Release Note	ColdCores Data Repository	Juvela et al. 2010, 2011	[8-Sep-2011]
KPOT_jdavie01_1	The Herschel Virgo Cluster Survey (HeViCS)	Data Reduction for HEVICS Public Data Release of 2 Scan DatA	The first HeViCS public data release	The HeViCS papers	[2-Sep-2011]
KPOT_seales01_2	H-ATLAS	First data release of the Herschel ATLAS	H-ATLAS SDP images and files H-ATLAS SDP catalogue	PACS maps (Ibar et al. 2010) SPIRE maps (Pascale et al. 2010) 5-band source catalogue (Rigby et al. 2010)	[24-Oct-2010]

User Provided Data Products – to date

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OT1_pharve01_3	The Auriga-California Molecular Cloud: A Massive Nearby Cloud With Powerful Diagnostics For Early	Harvey et al. 2013	Data Repository	Harvey et al. 2013	[11-Mar-2013]
KPGT_dlutz_1					[01-Mar-2013]
KPGT_vbujarra_1					[16-Nov-2012]
KPGT_cwilso01_1					[27-Sep-2012]
KPOT_delbaz_1					[12-Sep-2012]
KPOT_rkennicu_1					[18-Jul-2012]
KPGT_soliver_1					[13-Apr-2012]
KPOT_ckrame01_1					[2-Mar-2012]
KPOT_mjuvela_1					[8-Sep-2011]
KPOT_jdavie01_1					[2-Sep-2011]
KPOT_seales01_2				catalogue (Rigby et al. 2010)	[24-Oct-2010]

KP 'wrap-up' telecons:

- Held with all but one of the 42 KP consortia
- Expecting User Provided Data Products to be delivered in significant quantities in the coming 6+ months.
- 'Integration' of UPDPs into the HSA
  - HSA 5 this summer
- 'Advertising' through other channels
  - E.g. IRSA, ViZier, …
- **How can we aid improving products?**

Legacy in the Making

HERSCHEL SPACE OBSERVATORY

Beyond EoHe: Post-Operations Phase

End of observing is not end of the Herschel mission

- **"End-of-helium", "end-of-observing", "end of in-flight ops", …**

Post-Operation Phase – 3-5 years

- Community support for ongoing data exploitation
- Create, advertise, and deliver the Herschel Legacy
- Derive lessons learned and items for future use
- Enable personnel to perform their own science exploitation
- **In summary: Produce and provide added value**

Beyond POP – the Legacy Science Phase

- **The Herschel legacy archive will be maintained indefinitely**
- No 'Herschel-specific' activities are funded

HERSCHEL SPACE OBSERVATORY

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Now is the time!!

HERSCHEL SPACE OBSERVATORY

Post-Operations Phase (POP) – Overview across Centres for Herschel POP:

	Management	Non-DP S/W Maint.	Calibration	Community Support	Data Processing	H/W Support & Archive		
	myr	myr	myr	myr	myr	myr		myr
HSC	12.35	8.58	29.5	20.25	34.0	12.0		**116.7**
HIFI	0.5		23.7	3.7	15.8			**43.7**
PACS	4.0		17.5	27.0	24.0			**72.5**
SPIRE	2.1		7.0	5.9	25.5			**40.5**
NHSC	9.2		13.0	11.4	14.0			**47.6**
	28.15	**8.56**	**90.7**	**68.25**	**113.3**	**12.0**		**321**

- **GLP comment: HSC looks very to-heavy in terms of "management" compared to other elements**
- **"5x2 = 10 myr refers to LM and GLP, we perform non-managerial functional tasks!**

Post-Operations Phase (POP) –
Top-level HSC Manpower Profile for POP

Operations role	2011	2012	**2013**	**2014**	**2015**	**2016**	**2017**	Total (myr)
	(fte)							
Management and Administration	4.75	3.75	2.60	2.50	2.50	2.50	2.25	**12.35**
Software Maintenance	7	5.4	2.88	2.50	1.60	0.80	0.80	**8.58**
Instrument & Calibration	8	8	8.00	7.00	5.50	5.25	3.75	**29.50**
Community Support (incl. Archive Sci.)	8	8	7.00	4.50	3.50	3.00	2.25	**20.25**
Data Processing (incl. Q)	14.7	13.8	12.75	8.50	7.25	4.5	1.00	**34.00**
Computer / Hardware Support	3	3	2.00	1.50	1.50	1.50	1.00	**7.50**
Science Archives Team (SAT)	3	3	2.00	1.00	0.50	0.50	0.50	**4.50**
Total Manpower	**48.5**	**45**	**37.23**	**27.5**	**22.35**	**18.05**	**11.55**	**116.7**

- **Manpower profiles – globally** (bottom row) **and per main task area**
- **There exists for HSC a breakdown of manpower per detailed WP for > 160 WPs**
- **Some manpower sharing with other projects already in place and fundamental to expertise management and retention in the phase. Administrative flexibility for this increased as a result of Herschel / Rosetta / other agreements.**

This meeting – a few points

Calibration always considered important

- HCalSG effort initiated many years before launch by HST …
  - Initially led by Ana Heras (Leiden 2004, Madrid 2008)
- … and has been high priority ever since
  - Taken over by Tony Marston, and intensified during inflight ops
- Herschel overall has good calibration at this point

HSA products – top level objective "best possible"

- Standard products (by SPG), UPDP, HPDP (not yet)
- SPG: Is there a science need or not for "tailored" products?
- Value adding features – e.g. cross-links with papers & other archives
- HSA will be maintained "indefinitely" by SAT

Maintaining HIPE as a tool

- No identified "heir" at this point – encapsulate in virtual machine?
- No "corporate" resources to maintain – cf. HSA

Information/documentation

- Web, documentation, HIPE helpfiles – needed beyond HIPE itself?

Herschel's Legacy

Not sure we can say today

- We'll have to look back 5, 10, 20 years from now

Technical achievements

People

Scientific results – to date & future

Herschel Legacy Archive

- The Herschel Science Archive we will leave behind
- The data, data products, calibration, software & methods, documentation, value-adding features, …

Not sure we can say today

- … but time will tell!

We can still influence! Need to make priorities!
HUG feedback welcome!!

Invitation: Herschel workshop 2013

Herschel ESLAB workshop May 2010

HERSCHEL SPACE OBSERVATORY

vg #72

The Universe Explored by Herschel

An international conference dedicated to presenting, discussing, and taking stock of the scientific breakthroughs from the Herschel Space Observatory to date, and with a view towards the future

ESTEC Conference Centre, Noordwijk, 15-18 October 2013

First Announcement (8 November 2012)

Second Announcement & Call for Papers (25 January 2013)

Herschel ESLAB workshop May 2010

HERSCHEL SPACE OBSERVATORY

Hennemann et al. 2012
A&A 543, L3