Herschel Mission Status

HUG#5 meeting, ESAC, 6-7 September 2012 Göran Pilbratt, Herschel Project Scientist

Launch on 14 May 2009 ...

Launch on 14 May 2009 1000 days inflight on 8 February 2012

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 ... today OD#1212 commences!

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- Bulk reprocessing & improvements
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• Execution forecasts

`Must do' DDT

Post-Operations Phase intro

• Spacecraft 'disposal'







Observing status OD#600-1197



4 January 2011 – 22 August 2012



Total lost time from OD#170 to OD#1197 – all sources : ~671 hours (3.6%) Total lost time from OD#600 to OD#1197 – all sources : ~288 hours (2.6%)

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Observing status OD#600-1197



4 January 2011 – 22 August 2012



Last year (ODs#819-1182) average: 19.38 hr/OD science observations Last 6 months (ODs#1001-1182) average: 18.99 hr/OD science observations

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Observing programmes

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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...



Herschel Latest News

Status summary: Herschel was successfully launched together with Planck on 14 May 2009. Currently Herschel is conducting routine science phase operations. By the end of OD#1205 (31 August 2012), the approximate completion percentages were: >99% KPGT; >99% KPOT; 98% GT1, 92% OT1p1, 3.8% OT1p2, 75% GT2, and 56% OT2p1 (remember GT1 and GT2 are each roughly an order of magnitude smaller than any of KPGT, KPOT, OT1p1, and OT2p1).



Elapsed time since launch on 14 May 2009 at 13:12 (UTC).

• The KPs+OT1 have been "concluded", now mainly executing OT2.







Overall execution status

(Completion %-ages as of 31 August 2012 and #-ers as of 17 August 2012)

Completion of KP:

- KPGT 99.3% 14/21 programmes completed
- KPOT 99.9% 19/21 programmes completed

Completion of AO1:

- GT1 98.0% 31/33 programmes completed, all initiated
- OT1p1 92.2% 123/176 programmes completed, 174 initiated
- OT1p2 3.8% 4/53 programmes completed, 31 initiated

Completion of AO2:

- GT2 74.8% 15/32 programmes completed, 30 initiated
- OT2p1 55.9% 36/181 programmes completed, 145 initiated
 - OT2p2 0.5% 0/190 programmes completed, 19 initiated





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Calibration

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Calibration – PACS extended emission

Major collaborative work – PICC-NHSC-TR-034

DACC	Document:	PICC-NHSC-TR-034
FACS	Date:	April 2012
Herschel	Version:	1.0
		Page 1

Assessment analysis of the extended emission calibration for the PACS red channel

Roberta Paladini, Hendrik Linz, Bruno Altieri, Babar Ali











Figure 1: M31 maps. From left to right: MIPS data, PACS data processed with MADmap, PACS data processed with Scanamorphos.



Calibration – PACS extended emission

Crucial to compare carefully

- MIPS saturates at >50MJy/sr
- Agreement within 5-20% for <50MJy/sr







Calibration – HIFI band 2b H beam

Excellent telescope optics and optical model now confirmed using measurements down to -25dB of HIFI beam (on Mars) first side-lobe ring was detected for first time (~ -18 dB)

Band 2b H – 2D map – Sampling FWHM/5 (Run 3)



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Data & data products

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Herschel Science Archive





Herschel data products systematically generated by the Herschel Data Processing pipeline are made available to the users through the Herschel Science Archive (HSA) immediately after the pipeline processing is completed, typically 1-2 days after an observation has been executed. Following the completion of some basic quality control checks, something which may take from a few additional days to weeks, depending on the circumstances, notification e-mails are sent to the data owners that can then be informed about any quality issue affecting their observations.

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.

HSA Troubleshooting FAQ

HSA News

By using the HSA, astronomers can search, browse, select and retrieve Herschel data products according to the observations proprietary rights as explained in Chapter 1 of the Herschel Data Analysis Guide.

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SPIREPACS Spectral Scan Line Spectroscopy			
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Proposal Query Panel			8
Timing Constrains Query Panel			8

Spilbrat has logged in at 4:14:35 PM

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HSA and Bulk Reprocessing



- 'New technology' HSA v4 rolled out on 15 May 2012, now v4.2
 - New look, and much more capable & adaptable
- Standard products' available for download you can request reprocessing any time
- 'User Provided Data Products' for now 'outside' HSA

Bulk reprocessing throughput:

- Much improved, a big leap forward:
 - v2.x bulk reprocessing (~ 8 ODs/day)
 - v4.1 bulk reprocessing (< 4 ODs/day)
 - v6.1 bulk reprocessing (~ 20 ODs/day)
 - v8.2(3) bulk reprocessing completed, including L2.5 products
- Have moved to new GRID infrastructure for systematic DP
 - Achieved performance ~40 (peak ~60) ODs/day





PACS example:

Improvements in "photGlobalDriftCorrectionTask"



Hcss 8.3 Bulk reprocessing L2.5 MadMap data @70 microns Hcss 9.1 Next Bulk reprocessing L2.5 MadMap data @70 microns



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Bulk Reprocessing – soon w HIPE 9

SPIRE example:



HCSS 8







HERSCHEL OBSERVATORY

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HCSS 9

Key Programme wrap-up telecons



Conducting 'KP wrap-ups' underway – 19 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

Intention to conduct all 42 KP wrap-ups by Xmas 2012

SPACE

FRSCH

User provided data products – to date



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	
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	KINGFISH Key Insights on Nearby Galaxies: A Far-Infrared Survey with Herschel: Survey Description and Image Atlas (Kennicutt, R.C., et al., 2011, PASP, 123, 1347)	[18-Jul-2012]	
KPGT_soliver_1	HerMES	HerMES Release note	HerMES Data Release	HerMES related publications	[13-Apr-2012]	
KPOT_krame01_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	PACS and SPIRE photometer maps of M33: First results of the Herschel M33 extended survey (HerM33es) (Kramer et al. 2010) Dust Heating Sources in Galaxies: The Case of M33 (HERM33ES) (Boquien et al. 2011, AJ, 142, 111)	[2-Mar-2012]	
KPGT_dlutz_1	PACS Evolutionary Probe (PEP)	PEP Release Note	PEP public data releases	Lutz et al. 2011 A&A 532, A90	[28-Oct-2011]	
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]	

Basic guidelines on how to provide your user provided data products, catalogues and atlases are provided in the document "Herschel Data Products Contributor's Guide".







Publications

Göran Pilbratt | HUG#5 | ESAC | 6 September 2012 | vg #25

Publication tracking



Using ADS (last update on 28/08/2012):

- 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 485 papers
- A publication list in ADS format is being maintained on the HSC website

Research & Science Home	ESA Public Web Site	Sci-Tech Portal	Herschel Public Web Site	Herschel Sci-Tech Portal						
@esa		Herschel S	cience Centre	European Space Agency						
Astrophysics Missions	Planetary Exploration Missions	Solar Terrestrial Science Missions	Fundamental Physics Missions	Science Faculty						
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		Herschel Scientific Publications								
Herschel General Information	27									
Herschel Science Centre Home		Introd	uction							
Latest News										
Mission Overview +	The de facto way of communication	ng the scientific results based on Herse	chel observations is via publications	in the refereed scientific literature						
Science Instruments	which is very strongly encouraged	 This webpage provides a listing of p pubbers 	ublished refereed Herschel papers,	the applicable rules and guidelines						
Conferences/Workshops	for publishing can be found in else	ewnere.								
Press Releases		Herschel Pub	lication List							
e-News										
Herschel Science Team	The listing provided here is generated	ated by searching the ADS followed by	manual inspection of the 'hits' usin	g the criteria listed below. It is						
Herschel Users' Group +	maintained by the Herschel Project	ct Scientist, to whom feedback can be	provided.							
Herschel People]							
Useful links		Herschel Put	lication List							
Herschel Announcement of Opportunity (AO-2)		Thersener Pul								

Publication list





28	-Aug-2012) for gpilbratt@rssd.es	sa.int	papers bas	ed on Hersch	iel infligi	nt measurement	s, last modified		<u>Co to bottom or</u> page
(No	te: the link on the library name is a public link lected and retrieved 485 abstracts.	to this libr	ary)				(Sort options	;)
#	Bibcode Authors	Score Title	Date	List of Links	i rol Help				
1	2012AdSpR50843D Decin, Leen	1.000 Late sta	10/2012 ges of stellar	<u>AZE</u> evolution - Hers	chel's cont	<u>R</u> ributions	<u>U</u>		
2	2012MNRAS.425.1320I Ivison, R. J.; Smail, Ian; Amblard, A.; Arumugam, V.; De Breuck, C.; Emonts, B. H. C.; Feain, I.; Greve, T. R.; Haas, M.; Ibar, E.; and 7 coauthors	1.000 Gas-rich PdBI an	09/2012 n mergers and d Herschel	<u>AZEF</u> feedback are ub	X Diquitous a	<u>R</u> C mongst starbursting	<u>U</u> radio galaxies, as r	revealed by	the VLA, IRAM
3	 2012MNRAS.425763G Galametz, M.; Kennicutt, R. C.; Albrecht, M.; Aniano, G.; Armus, L.; Bertoldi, F.; Calzetti, D.; Crocker, A. F.; Croxall, K. V.; Dale, D. A.; and 11 coauthors 	1.000 Mappin	09/2012 g the cold dus	<u>AZEF</u> t temperatures a	X and masses	R of nearby KINGFI	U SH galaxies with He	erschel	
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Bib Code		OD range	=>			
Title				1		
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HIPE version	-					
Comments						

485 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	
2012PhRvD85d3015A	DONE	Amplitudes of thermal and kinetic Sunyaev-Zel'dovich signals from small-scale CMB anisotropies	Archidiacono, de Bernardis, Cooray, Melchiorri, Amblard, Pagano, Serra	Physical Review D	02/2012	0	8	Sell'
2012P&SS661920	DONE	Thermal and shape properties of asteroid (21) Lutetia from Herschel observations around the Rosetta flyby	O'Rourke, Müller, Valtchanov, Altieri, González-Garcia, Bhattacharya, Jorda, Carry, Küppers, Groussin, Altwegg, Barucci, Bockelee-Morvan, Crovisier, Dotto, Garcia-Lario, Kidger, Llorente, Lorente, Marston, Sanchez Portal, Schulz, Sierra, Teyssier, Vavrek	Planetary and Space Science	06/2012	4	<u>11</u>	AND I
2012Natur.488349M	PENDING	A massive, cooling-flow-induced starburst in the core of a luminous cluster of galaxies	McDonald, Bayliss, Benson, Foley, Ruel, Sullivan, Veilleux, Aird, Ashby, Bautz, Bazin, Bleem, Brodwin, Carlstrom, Chang, Cho, Clocchiatti, Crawford, Crites, de Haan, Desai, Dobbs, Dudley, Egami, Forman, Garmire, George, Gladders, Gonzalez, Halverson, Harrington, High, Holder, Holzapfel, Hoover, Hrubes, Jones, Joy, Keisler, Knox, Lee, Leitch, Liu, Lueker, Luong-van, Mantz, Marrone,	Nature	08/2012	0	0	AND I

Journal distribution of papers – PubTool based on 485 papers





Science area distribution of papers – PubTool based on 485 papers





Instrument distribution of paper AORs CSA – PubTool based on 418 papers



Time distribution of papers – PubTool based on 485 papers



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ESA missions – Feb 2012



ASTRONOMY:

		<2003	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
IUE	1978	3570	70	89	31	21	_	_	_	_	_	3781
Hipparcos	1989	1343	143	117	113	136	97	61	_	_	_	2010
HST	1990	4013	605	607	674	687	724	695	667	727	785	10184
ISO	1995	961	130	123	108	67	36	33	33	29	10	1530
XMM-Newton	1999	185	233	342	300	327	331	285	317	321	341	2982
INTEGRAL	2002	_	48	23	70	98	85	84	96	84	67	655
Herschel	2009	_	_	_	_	_	_	_	_	227	96	323
Planck	2009	_	_	_	_	_	_	_	_	13	50	63

SOLAR SYSTEM:

		<2003	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Ulysses	1990	1113	99	67	51	36	46	47	35	24	_	1518
SOHO	1995	1395	295	332	330	272	374	332	324	257	281	4193
Cassini-Huygens	1997	228	61	120	223	216	221	223	309	365	211	2177
Cluster/DS	2000	63	65	128	186	147	130	201	180	195	213	1508
SMART-1	2003	_	_	_	35	14	14	12	_	_	_	75
Mars Express	2003	_	_	17	63	87	70	79	79	101	80	576
Rosetta	2004	_	_	15	14	18	52	19	50	25	17	210
Venus Express	2005	_	_	_	_	17	32	63	37	32	80	261
PROBA-2	2009	_	_	_	_	_	_	_	_	_	9	9

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NASA missions – Dec 2011











Helpdesk

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Heldpesk overall

- About 5 tickets per working day
- Slow decrease, irregular time distribution

Open tickets

- At HUG#2 ~ 200
- At HUG#3 ~ 160
- At HUG#4 ~ 110
- Last week ~ 160
- Currently (<1 hr ago) the most recent ticket is #5733

Instant Response System activited (IRS)

- Tries to match your question to already existing FAQ in real time
- User can stop, or decide to still submit question
- Good FAQ good for user, and less workload for staff
- May "hide" some questions











Helpdesk Home | View Tickets | Submit a Ticket | Frequently Asked Questions | Herschel Mailing News



Cesa	Herschel Science Centre	European Space Agency
		05 Sep
> Submit a Ticket		> My Account [Log
If you can't find a solution to your problems in our FAQ,	, you can submit a ticket by selecting the appropriate department belo	bw. Logged In: Göran Pilbratt
Select Department General HSpot HIFI PACS SPIRE SPIRE FTS Harren FTS		Search Search Search Search Search Search
 Reserved Observations and Duplications SPIRE PACS Parallel Mode Policies and Procedures DDT/ToO requests Proposal updates Data Processing Data Access / Herschel Science Archive HOTAC Observing Schedule User Provided Data Products OT2 Phase 2 Communications/Outreach 		
Communications/Outreach "Must-Do" suggestions Next » Reset		

Helpdesk Home | View Tickets | Submit a Ticket | Frequently Asked Questions | Herschel Mailing News



@esa		Herschel	Science Centre		uropean Space Agency	05 Sep 2012
> Submit a Ticket					> My Account	[Logout]
If you can't find a solution to your pr	oblems in our FAQ, you can	fill the fields below with as	detailed information as	possible and send it to	Logged In: Göran F	Pilbratt
our support technicians.					> Search	
General Information						Search
Priority:	Low				Entire Support S	Site 📩
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FAQ Suggestions There were some possible answers	to your question in our FAQ), Please review the sugges	tions below before subm	nitting the ticket.		
 I have one last AOR to comp Relevance: 100.00% How can I check the status of Relevance: 76.10% When will my Priority 2 obse Relevance: 51.29% 	lete my programme that I f my proposal after subm rvations be scheduled?	has not been scheduled ission to the HSC?	yet. Is there a problem	n with it?		



Cesa	Herschel Science Centre	European Space Agency	05 Sep 201	
I have one last AOR to comple	ete my programme that has not been scheduled y	et. Is there a > My Account	Logout	
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Added		PDF Version		
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Article ID: 36	Created On: Wed, 29 Aug 2012 15:27	Add to Favorites	Add to Favorites	
🖞 This answer was helpful	7 This answer was not helpful	***		
User Comments		Add a Comment		

Help Desk Software By Kayako eSupport v3.00.32





Communications



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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 will initiate process applying for resources
- Web-page providing information still to come...

PR aka Communica



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

ESA wants to commu

- Provides expertise/res
- Provides the channels
- All material can be use
- Wants to create win-wi

Possibilities

- Web-releases Portal
- Exceptionally fully fled
 - Press reps invited i
 - Done in connection

Project Scientist is yo

- PS will initiate process
- Web-page providing in



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









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(i) Thermal modelling, and (ii) He mass measurements TMM calculation at IOCR TMM uncertainty RP-0011 lss. 6 300 Pre-launch measurement ۸ 1st DLCM measurement 25.11.2009 2nd DLCM measurement 02.11.2010 3rd DLCM measurement 24.05.2011 250 HTT Helium contents [kg] 200 ominal EOL: 23.02.2013 arly EOL: 14.11.2012 ate EOL: 26.07.2013 150 100 50 31-12-12 02-07-09 31-12-09 02-07-10 31-12-10 02-07-11 01-01-12 01-07-12 02-07-13

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Cryocooler analysis OD#90-1095 (T102) Cesa



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Cryocooler analysis OD#90-1095 (T101/102)



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Cryocooler analysis predictions (OD)





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

- PACS analysis: forced linear fit prediction "solid", the extrapolated temp increase fit prediction "creeping" towards the forced linear one
- GLP expects an (almost) linear curve (driven by CVV temp)
 - "Rule of thumb": 1 K 1 month (for entire mission!), the "physical extrapolation" seems to "over-compensate"

Herschel survives February, EoHe 2nd half of March 2013!?

Execution prediction end 2012



HERSCHEL OBSERVATORY



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Overall execution actual numbers



Non-priority 2 observations yet to be done (~end May 2012):

- Preliminary calcs done in real time in meeting!
- Left to execute: KPGT+KPOT+GT1+OT1p1+GT2+OT2p1: 3842 hr
 - About 72% of this is OT2p1
- 19 (19.5) hr per day => 202 (197) days
- Use 30.5 days per month => 6.62 (6.46) months

=> done by 2nd half of December 2012!

DDT (`must-do' observations!) not taken into account

Priority 2 observations

- OT*p2 observations ~5109 hr
 - OT1p2 observations ~1032 hr (`left' after OT2 process)
 - OT2p2 observations ~4077 hr
- Some p2 will have been observed in 2012, `now' ~1%
- As 'scalable' example: 75 days x 19 (19.5) hr = 1425 (1462) hr
- => fraction of OT*p2 observed 28% (29%)







'Must do' DDT

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SPACE DBSERVATOI FRSTH

`Must do' DDT – original idea (HUG#4)

Background

- All Herschel observing time has been allocated
- except there is 'room' for some DDT
- Has something important been overlooked?
- 'Necessary' follow-up only Herschel can do?
- Want to create win-win situation for observatory community

Idea/suggestion

- Assess totality of allocated time for 'gaps' (small committee)
- Could consider asking for suggestions from community
- If `must do' observations are identified
 - Assign DDT as 'community service' observations
 - All such observations would have no proprietary rights

Devil probably in the details

- Details not yet worked out
- Feedback from the HUG invited



`Must do' DDT – as implemented

Two parallel activities

- Herschel Mission Scientists assessed total programme
- The community was invited to provide suggestions
 - Massmail circulated on 25 May 2012 58 received

Shortlisting

- Meeting held in ESTEC on 25-26 June 2012
- Shortlist produced later trimmed down further
- Final list submitted as formal request for DDT
 - 7 'programmes' 6 community & 1 MS suggestion
 - Total ~106 hours (~0.5% of Herschel time, ~20% of DDT)
- Currently final technical checking of AORs ongoing
- Expect to release in couple of weeks
- All data will be public

Unrelated, but... additional HST (ultra-)deep fields?

- Want to coordinate with 'others' e.g. Herschel
- Massmail to work on science case circulated on 27 July 2012 Göran Pilbratt | HUG#5 | ESAC | 6 September 2012



ERSCH





Post-Operations Phase – End observing ≠ End of mission

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Beyond EoHe: Post-Operations Phase



End of observing is <u>not</u> end of Herschel mission

- Post-operations 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

Beyond POP – the Legacy Science Phase

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

Beyond EoHe: Post-Operations Phase

End of observing is not end of Herschel mission

Post-operations phase – 3-5 years

Beyond POP – the Legacy Science Phase

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Spacecraft "disposal" aka "de-orbiting"

- Four options: •
 - Heliocentric orbit
 - Geocentric orbit
 - Earth impact •
 - Lunar impact
- Heliocentric orbit default
- Lunar impact a science-driven proposal has been received for evaluation
- Do you have an opinion?







