



AAS Miami, FL 24 May 2010

# Herschel Observer Support Overview

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# **NASA Herschel Science Center:**

## **The US Community's Herschel Support Center**



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## *Objective and Scope of the NASA Herschel Science Center*

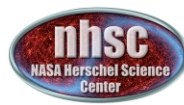
The NHSC has been established at the Infrared Processing and Analysis Center (IPAC) at the California Institute of Technology under support from NASA.

NHSC began operations in 2001 and will continue to operate throughout the lifetime of the Herschel Mission, including the post-cryogen archival phase.

The primary mission of the NHSC is to support the US-based astronomical community in exploiting the Herschel science opportunity, at a level equivalent to that provided to the European Community by ESA's Herschel Science Centre.



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## NHSC Charter

- Ensure the necessary resources and tools are available to the US scientific community to take advantage of the scientific capabilities of the observatory in a timely manner.
- Ensure availability of Herschel science data for US archival research on timescales equivalent to ESA.
- Act as an interface between the ESA Herschel Project and the US-based scientific user community.
- Advocate US community needs with the HSC and ESA Project.
- Provide the US astronomical community with technical support throughout all phases of the Herschel mission, from pre-launch through to the transition to archival phase.
- Manage the US data analysis funding for the US user community.

**In Summary: Provide the US-based astronomical community with support in its use of Herschel equivalent to that provided by the Herschel Science Centre in their support of the European Community.**



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## NHSC and the Herschel Project

**To fulfill its charter, the NHSC has established strong working ties with the ESA Herschel Science Centre and the Instrument Control Centres.**

The NHSC is participating in many activities to enhance our US community support, including:

- Providing critical support for HSpot.
- Participate directly in Instrument Control Centre activities.
- Participate in Data Processing system development.

NHSC has knowledge in all areas of Herschel science operations and data processing, stays up-to-date with frequent visits (both directions)





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## MAXIMIZING US COMMUNITY SUPPORT

Working with the Instrument Control Centres and HSC – **Improve our ability to provide knowledge to US-based observers.**

Acquire an intimate knowledge of calibration and data processing.  
Provide tools and support for observers that will maximize return from the observatory.

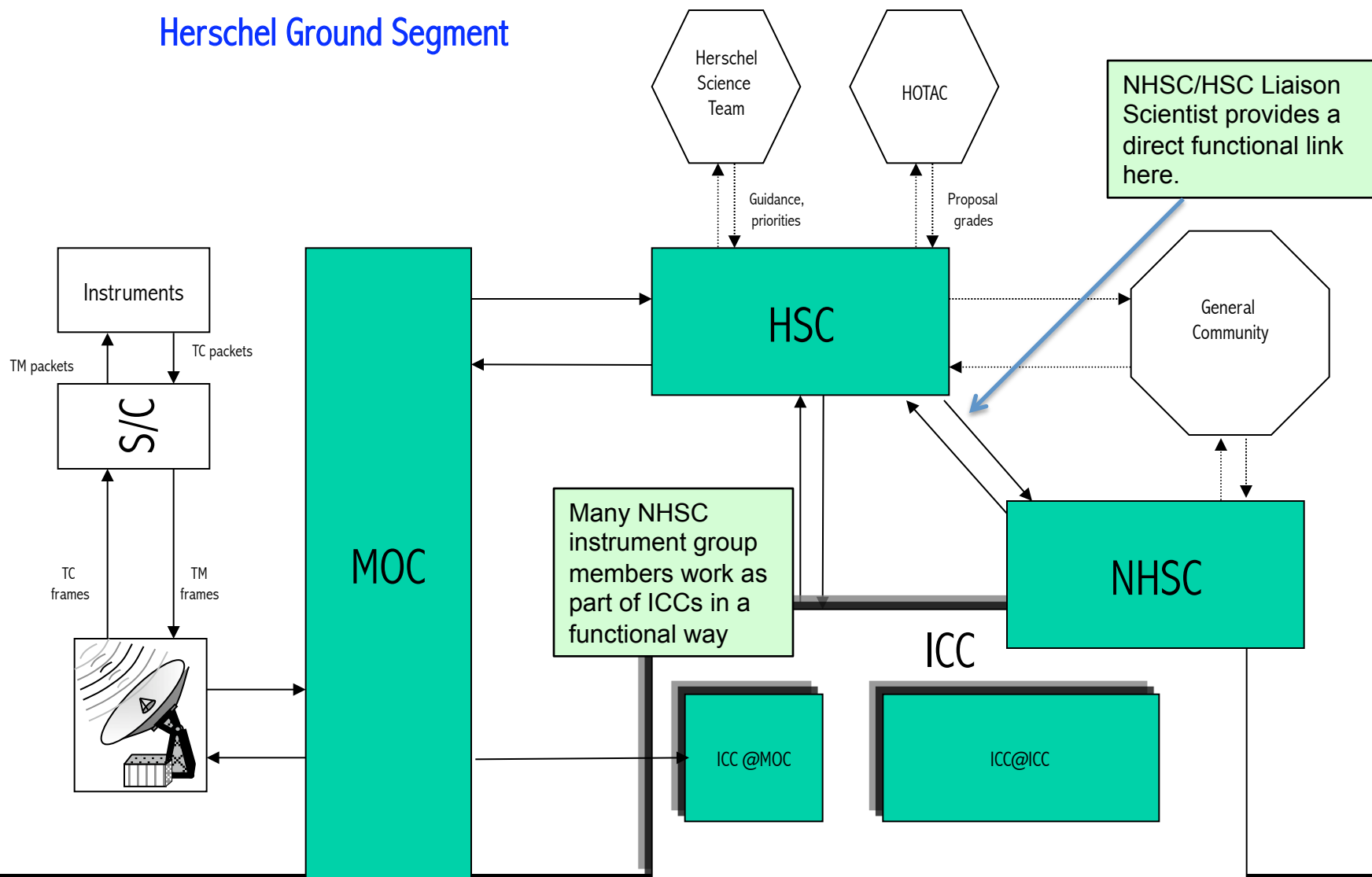
NHSC has knowledge in all areas of Herschel science operations and data processing.

### **Co-location**

The NHSC has been posting resident liaisons to the three Instrument Control Centres during initial checkout to the start of routine operations. Constant contact will be maintained throughout mission.

The **NHSC has posted a resident liaison to the HSC at ESAC** in Spain for the duration of the cryogenic mission.

## Herschel Ground Segment





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# Herschel Science Opportunities:

## AOs and Calls for Proposals





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## Announcements of Opportunity

- **GT1 process**

- 31 March 2010 – 14 May 2010
- About 550 hours; selected programs in Reserved Observations List

- **OT1 process**

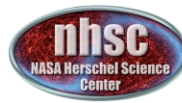
- Offer 1 year of observations (~6600 hours of telescope time)
- Release: 20 May 2010 (both large and 'normal' proposals)
- AKARI FIS and IRC compact source catalogues will be incorporated in HSpot v5.0
- **Submission deadline: 22 July 2010, 12:00 UT**
- Technical checking: until end September 2010
- Announcement of results: 1 November 2010
- Final AOR updating by successful proposers: November 2010
- OT1 AORs available for scheduling: from November 2010

- **GT2 & OT2**

- About a year later – exact dates TBD



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## Announcements of Opportunity (2)

### AO documentation:

- Herschel Announcement of Opportunity
- Executive Summary
- Policies and Procedures
- Herschel Observers' Manual
- HIFI Observers' Manual
- PACS Observers' Manual
- SPIRE Observers' Manual
- SPIRE/PACS Parallel Mode Observers' Manual

### AO tools:

- HerschelFORM PDFLaTeX package
- Reserved Observations Search Tool & Duplications Policy
- HSpot Observing Planning Tool

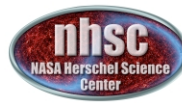
### Plus:

- ESLAB presentations & A&A papers on astro/ph

**HSC webpages - [herschel.esac.esa.int](http://herschel.esac.esa.int)**



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## Announcements of Opportunity (3)

### **NASA Call for Funding Proposals from US-Based Community:**

This Call for Proposals invites investigators at U. S. institutions to submit Herschel Data Analysis funding proposals in support of observing time awarded by ESA.

Proposals should be submitted only if investigators are seeking NASA funding support. Eligible OT1 investigators must respond to this call for proposals if they expect NASA funding for their investigation.

**NASA FUNDING PROPOSAL DEADLINE: AUGUST 2, 2010, 5.00pm PDT**

NHSC webpages - <https://nhscsci.ipac.caltech.edu/sc>





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## Some NHSC activities leading up to and in support of AO1

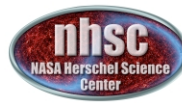
- OT1 AO Issued 20 May 2010
  - AAS w/NHSC booth (Miami) 23-27 May 2010
  - NHSC Observation Planning Workshop (Pasadena) 2/4 June 2010
  - NHSC DP School (Pasadena) 23 – 25 June 2010 (PACS)  
28 – 30 June 2010 (HIFI/SPIRE)
  - OT1 Proposals Due 22 July 2010
  - NASA Funding Proposals Due 2 August 2010
- Ongoing activities:
- NHSC Visitor Support for Obs Planning and DP Nearly continuous, limited scope
  - NHSC eNewsletters Monthly March-July
  - NHSC Helpdesk Always available

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## ESA HERSCHEL OBSERVER SUPPORT

The **ESA Herschel Science Centre (HSC)** manages the Herschel Science Mission

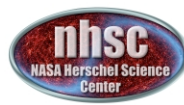
- ✓ Proposals will be submitted to the HSC with the Herschel Proposal Submission Tools.
- ✓ Official Herschel Documentation is provided by the HSC.
- ✓ All proposals will be evaluated by the Herschel Observatory Time Allocation Committee (HOTAC).
- ✓ Scheduling and execution of all observations will be done via the HSC.
- ✓ Initial data processing and data archiving will be done by the HSC and observer data will be released by the Herschel Archive administered by the HSC.

HSC webpages - [herschel.esac.esa.int](http://herschel.esac.esa.int)





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## NHSC OBSERVER SUPPORT

US-based Proposers/Observers will be supported by the NASA Herschel Science Center (NHSC).

NHSC services include:

- NASA Herschel Science Center Help Desk for inquiries of all types.
- WWW information: [www.herschel.caltech.edu](http://www.herschel.caltech.edu)
- Administration of data analysis grants for US-based observers.
- Preparation and support of Herschel-specific data reduction software.
- Technical support for US-based astronomers include:
  - Observation planning support, including workshops and AOR revisions
  - Support in the submission of observing proposals
  - Program tracking and data retrieval
  - Support in the use of Herschel-specific software, and data processing workshops
  - In house visits for personal data processing support (limited number)

**Contact us first – We work closely with HSC**



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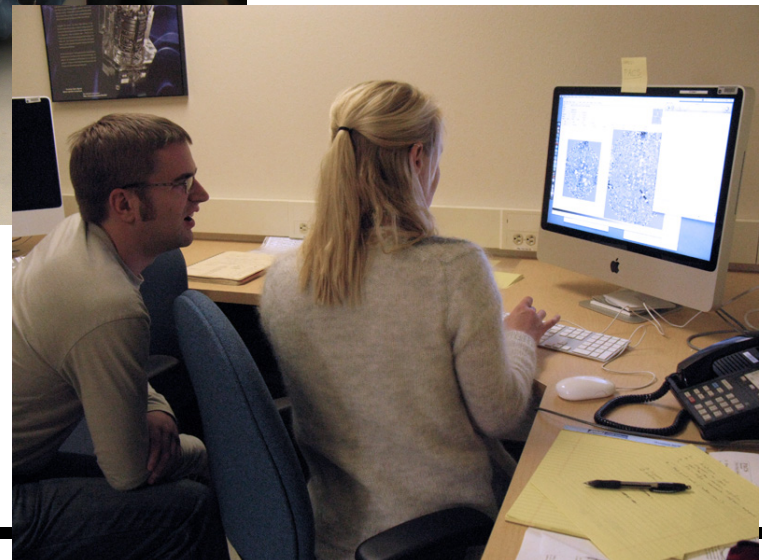


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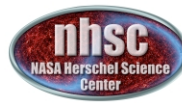
NHSC Data  
Processing  
Workshop 2009

Visitors to NHSC  
getting personal  
assistance with early  
data processing





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***Please visit the NHSC Booth for more information  
and/or get demos of some Herschel Tools, such as:***

***HSpot*** – The Herschel Observation Planning Tool.

- It is the primary way proposers and observers interact with the Herschel Space Observatory
- It has the “Look and Feel” of the now well-known Spitzer Tool with many features identical or improved.

***HIPE*** – The Herschel Data Processing Tool Set

- **HIPE = Herschel Interactive Processing Environment**
- Provides the astronomers with tools for all three instruments to possibly improve on automated pipeline processing
- Includes processing identical to that of the automated pipelines in addition to interactive analysis and advanced processing.