



Announcement of Opportunity for Open Time (OT1)

Executive Summary

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Chapter 1. Executive summary

1.1. This document

Welcome to the Herschel Space Observatory (aka Herschel) first (of two) in-flight Announcement of Opportunity (AO) for Open Time (OT1) observing proposals!

The purpose of this document, the Executive Summary, is:

- to provide the essentials of the OT1 AO information in a brief easy-to-read document, and
- to act as a guide for further reading by pointing out what additional information is available.

This document will tell you where you will find the information you are looking for. It is recommended to print the PDF version of this document and to read it all before proceeding to the rest of the AO package.

Please note upfront that the Guaranteed Time part (GT1) of this AO has been performed. The OT1 process started on 20 May 2010 with the release of the AO package (including this Executive Summary), and the proposal submission deadline is 22 July 2010 at 12:00 UT.

There is one year's worth of observing time to be allocated in OT1: 6592 hours.

1.2. Herschel overview

Herschel is an ESA cornerstone observatory for the far infrared and submillimetre, covering roughly the 55-671 μm spectral range. Herschel has a 3.5 m diameter passively cooled low emissivity telescope, and a payload of three scientific instruments called HIFI, PACS, and SPIRE.

The instrument complement can perform imaging photometry in six broad bands, low- to medium resolution imaging spectroscopy, and very high resolution heterodyne spectroscopy across most of the Herschel spectral range. The instrument focal plane units are cryogenically cooled using a superfluid helium cryostat which gives the mission a finite lifetime.

More information about Herschel and its instruments can be found on the HSC website in general and in the five observers' manuals in the AO documentation package in particular.

1.3. Observing time

Herschel was launched on 14 May 2009, and was designed to provide the astronomical community with a facility to carry out routine astronomical observations for a period of three years. The current best estimate of the total mission lifetime (thus including the early mission phases up to and including the science demonstration phase) counting from the launch is in the range of 3.5-4 years.

The available observing time is divided into Guaranteed Time (GT) and Open Time (OT). In the nominal mission, providing 3 years of routine science phase operations, 19,776 hours of schedulable observing time is available, 32% is GT and the remainder is OT.

The GT is owned by contributors to the mission, primarily by the instrument Principal Investigator (PI) consortia. The OT is made available to the worldwide astronomical community, including the GT holders, through a standard competitive proposal procedure. The current AO is the second call for proposals, preceded by the Key Programmes AO in 2007, and to be followed by another AO in about a year.

1.4. The OT1 AO

1.4.1. The Concepts of 'Large' and 'Normal' Programmes

While the pre-launch AO was dedicated to Key Programmes (KPs) only, the in-flight AOs will not be restricted to a particular kind of proposal. The concept of KPs no longer applies to this call, however, the concepts of 'Large' and 'Normal' Programmes are introduced, LPs and NPs. An LP is an observing programme requiring in excess of 100 hours of observing time, all other observing programmes are NPs.

It is clear that the scientific motivation for an observing programme needing an especially large amount of observing time has to be particularly high and well justified. Since more than half of the total nominally available observing time for Herschel has already been allocated to LPs in the form of KPs (about 11,000 hours) this requirement is strongly emphasized in the current AO.

1.4.2. XMM-Newton observing time

By a joint agreement between Herschel and XMM-Newton there is up to 500 ks of XMM-Newton observing time in the current OT1 AO process, available for allocation by the HOTAC for joint Herschel/XMM-Newton observing programmes under certain conditions.

1.4.3. OT1 AO schedule

The sequence of dates for the current first in-flight Announcement of Opportunity (AO) for Herschel Open Time (OT1) is as follows:

- 20 May 2010: The Herschel OT1 Announcement of Opportunity is issued. Phase 1 OT1 proposals can be submitted.
- 3-4 June 2010: A Herschel Observation Planning Workshop will be organised by the HSC in ESAC, Madrid, and simultaneously by the NHSC in IPAC, Pasadena.
- 22 July 2010 12:00 UT: Submission deadline for Phase 1 OT1 proposals. Start of technical and HOTAC evaluation process for these proposals.
- 2 August 2010: Submission deadline for NASA data exploitation funding for investigators based in the USA only.
- 11-15 October 2010: HOTAC meeting, after which the recommendation on OT1 proposals will be provided to ESA's Director of Science and Robotic Exploration (D/SRE) for approval.
- 1 November 2010: Announcement of approved proposals and start of Phase 2 data entry.

1.5. The AO package

The AO package consists of 'administrative' documentation, manuals, tools, and supporting documentation.

1.5.1. AO documentation

The following documents are provided:

- The Herschel Announcement of Opportunity for Open Time (OT1). This letter from the ESA Director of Science and Robotic Exploration is the formal Announcement of Opportunity to apply for the Herschel observing time.
- Executive Summary (this document). It describes the essentials of the call, summarises the AO and associated documents, tools, and services, providing the reader with a concise overview and

help on where to find what information.

- Policies and Procedures. This is the 'rules' document of the Announcement of Opportunity, providing all necessary information about the policies adopted and the procedures to be followed.
- Herschel Observers' Manual. It provides information about Herschel pertinent to using the observatory from the perspective of an observer.
- HIFI, PACS, SPIRE and SPIRE/PACS Parallel mode Observers' Manuals. They provide information about the HIFI, PACS, SPIRE instruments and the SPIRE/PACS parallel mode, and describe their use to perform observations. (There are four separate documents, one each for HIFI, PACS, SPIRE, and the SPIRE/PACS parallel mode.)
- HSpot Users' Guide. It provides information about the HSpot tool itself, and how to use it to plan Herschel observations. There is also a separate document giving information about 'known issues' with HSpot.
- Reserved Observations List (ROL). It contains the GT and OT Key Programme and GT1 reserved observations, which cannot be duplicated by to be submitted programmes.

1.5.2. AO tools

The AO package also includes the following tools:

- HerschelFORM LaTeX package: This is the LaTeX package to be used for OT1 proposal generation. Note that there are two versions: one version for LPs and another one for NPs.
- Herschel Reserved Observations Search Tool (HROST): This is a java-based web tool developed at the HSC to search the ROL.
- HSpot: This is the software tool for planning Herschel observations and submitting proposals. HSpot allows you to design, plan, and optimise an observation, and to determine how much time will be required to execute it.

1.5.3. Additional documentation

There is additional material formally not part of the 'core' AO documentation. The AO 'Latest News' webpage should be consulted on a regular basis, for possible updates, errata, etc, concerning all aspects of the AO.

1.6. The HSC webpages

The [Herschel Science Centre webpages](#) contain information about Herschel and the complete AO package as well as links to associated information and user services.

All information, documents, and tools related to the AO package can be found by clicking on the menu buttons under 'Herschel OT1 Announcement of Opportunity' heading in the menu on the left side of the HSC website. The names of the various buttons are intended to be self explanatory.

The Herschel User Services links are found further down on the left side menu buttons. The available services are Helpdesk, Proposal Handling, and Mailing lists. The 'Services Overview' button provides a description of these services.

Note that in order to enable us to support you in the best possible way you need to be a registered user, allowing you to use all the user services. You can register by clicking on the 'User Registration' button and following the instructions.

1.7. Proposed way forward

We suggest that you start working with the AO in the following way:

- Read the 'Executive Summary' (this document) for an overview, then
- consult the AO 'how-to' step-by-step webpage and follow the instructions there,
- the next step is to read the 'Policies and Procedures' document.

If you have not already done so, it is strongly encouraged that you to register as a 'Herschel user' right away, in the process you can set your notification levels so that we can offer you the best possible support via the Helpdesk.

Welcome to the Herschel Space Observatory!