



#### **Announcement of Opportunity for Key Programmes**

### Herschel Observation Planning Tool (HSpot) Changes in Version 3.x

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## **Chapter 1. Introduction**

HSpot is a complex and evolving system to which improvements are being made through a series of planned new releases at key dates in the Herschel schedule. Many of these changes are essentially invisible to the vast majority of users (additional specialist functionality, cosmetic improvements, changes to the Spot core, improved characterisation of instruments, bug fixes, etc.), some though may have a significant impact on all users, particularly those related to time estimation.

The purpose of this document is to give a guide to the main changes that have been made in the Astronomical Observing Templates (AOTs) for each instrument since the release of the updated version for the Guaranteed Time Key Project was made (HSpot v3.0.7). HSpot users who have prepared previously observations with HSpot should be aware that there are a few small changes that will affect already prepared Astronomical Observation Requests (AORs); these are detailed in this document. Time estimates that were previously prepared with HSpot v3.0.7 should be recalculated.

Users are strongly recommended to read this document in conjunction with the relevant Observers' Manuals and the <u>HSpot Users' Guide</u>.

## **Chapter 2. General HSpot updates:**

This section describes the main updates to HSpot, relevant to all users, which have been made since the release of the updated version for the Guaranteed Time Key Project was made (HSpot v3.0.7). Users are strongly recommended to read this document in conjunction with the <u>HSpot Users' Guide</u>.

#### 2.1. Proposal submission changes

• The main change that users will notice since HSpot v3.0.7 is the change in proposal submission to a two-stage process. The user submits the proposal without having to run time estimation first. All the processing of the proposal is carried out after the initial submission. An initial acknowledgement is given that the proposal has been transmitted correctly to the Proposal Handling System. This is then followed by an email confirmation that the proposal has been processed correctly.

- Implication for user: Submission is now much faster and more reliable. However, at times of very heavy load the email acknowledgement may take up to several hours to arrive.

• Resubmisison is now blocked until a proposal has been retrieved from the database.

- Implication for user: A proposal must be retrieved at least once so that the Proposal ID field at the bottom of the Proposal Submission Tool window is not blank or null. If you normally load the file from disk, ensure that after retrieval you save it so that the Proposal ID information is saved for your next session.

#### **2.2. Time estimation changes**

• A series of improvements have been made to HIFI time estimation. This includes cacheing of sequencer parameters.

- Implication for user: HIFI time estimation is now much faster. If you re-run time estimation for HIFI AORs it will run between a factor of 2 and 5 faster the second (and successive times).

• HSpot performance under heavy load has been considerably improved. Previously, when there were several simultaneous users running time estimation and proposal submission, particularly of HIFI, system performance slowed considerably. Various modifications have been made in the underlying code to improve efficiency.

- Implication for user: Extensive tests have shown that there is a significant improvement in HSpot performance under light load, while under heavy load the improvement is more than an order of magnitude. However, when many threads are running simultaneously, some processes may still slow considerably.

• Changes have been made to time estimation in an attempt to discourage unnecessary processes when the system is under heavy load. The default option for time estimation has been changed to "Modified AORs". If a user wishes to recalculate all time estimates, a pop-up appears requesting confirmation and recommending that only modified AORs be recalculated. There have also been some small changes in the layout and wording of buttons.

- Implication for user: Minor. The aim is to avoid users calculating time estimates unnecessarily for very large numbers of AORs when the system is under heavy load.

# Chapter 3. PACS-related HSpot updates:

This section describes the main updates to HSpot that are relevant to PACS users that have been made since the release of the updated version for the Guaranteed Time Key Project was made (HSpot v3.0.7). PACS users are strongly recommended to read this document in conjunction with the <u>PACS Observers' Manual</u> and the <u>HSpot Users' Guide</u>.

#### **3.1. General changes to PACS AOTs**

• There is a small change in the turnaround time for Scan Maps.

# Chapter 4. SPIRE-related HSpot updates:

This section describes the main updates to HSpot, relevant to SPIRE users, which have been made since the release of the updated version for the Guaranteed Time Key Project was made (HSpot v3.0.7). SPIRE users are strongly recommended to read this document in conjunction with the <u>SPIRE Observers' Manual</u> and the <u>HSpot Users' Guide</u>.

#### 4.1. General changes to SPIRE AOTs

• There is a small change in the turnaround time for Scan Maps.

# Chapter 5. HIFI-related HSpot updates:

This section describes the main updates to HSpot that have been made, which are relevant to HIFI users, implemented since the release of the updated version for the Guaranteed Time Key Project was made (HSpot v3.0.7). HIFI users are strongly recommended to read this document in conjunction with the <u>HIFI Observers' Manual</u> and the <u>HSpot Users' Guide</u>.

#### **5.1. HSpot Front-end Changes**

• There is a small change in the turnaround time for On The Fly (OTF) Maps.

## Chapter 6. SPIRE PACS Parallel Mode-related HSpot updates:

This section describes the main updates to HSpot that have been made, which are relevant to SPIRE PACS Parallel Mode users, implemented since the release of the updated version for the Guaranteed Time Key Project was made (HSpot v3.0.7). Parallel mode users are strongly recommended to read this document in conjunction with the <u>SPIRE PACS Parallel Mode Observers' Manual</u> and the <u>HSpot Users' Guide</u>.

# 6.1. General changes to SPIRE PACS Parallel Mode AOTs

• There is a small change in the turnaround time for Scan Maps.