



## "Must-Do" observations - potential important missing Herschel science?

### **Background and introduction**

As we all know sometime in early 2013 Herschel will run out of helium cryogen, and all observing will come to an end. After Herschel there will be no similar observing capability available for the foreseeable future. It is therefore prudent to ask the question whether - for any reason - there is even a remote possibility that observations that "must" be done by Herschel have been "missed out", i.e. are not at present among the approved to-be-executed observing programmes.

All available Herschel observing time has been allocated in the three AOs (KP, AO-1, AO-2) already conducted, thus there is no more observing time to allocate. However, there exists the possibility to award a limited amount of Director's Discretionary Time (DDT) to such hypothetical critical but "missed out" observations, should they exist. These hypothetical observations will herein be referred to as "Must-Do" observations.

I have brought up this issue for discussion in both the Herschel Science Team (HST) and in the Herschel Users' Group (HUG). The HST endorsed the idea and suggested to involve the community in a "light" way, while the HUG concluded that the exercise should be conducted, also noting that a similar activity took place for Spitzer.

### **The "Must-Do" activity**

I now therefore announce that an activity will be conducted which will consist of two tasks:

- A review of the current approved to-be-executed observing programmes with the objective to identify potential "gaps" that could and should be filled by conducting "Must-Do" observations, and
- soliciting input from the community in a "light way".

This activity should be concluded by the end of June 2012 ensuring that the entire sky would be available for observing. Based on the discussions in the HST and HUG a total amount of order 200 hr of observing time would be a reasonable maximum; this equals ~1% of the total amount of Herschel science observing time.

The first part of the activity is underway, conducted by the Herschel Mission Scientists. The purpose of this letter is twofold: to inform and to get the second part underway by soliciting input from the community.

*It is important to realize that this is **not** an additional AO!* It is a community service and I want to emphasize the following:

- This is not an AO, no observing time will be awarded to any particular investigator.
- All eventually selected "Must-Do" observations will be performed in "community service" mode by the HSC staff, the data and standard ("pipeline") products will be made available through the Herschel Science Archive without any proprietary time.
- There will be no systematic feedback in response to any individual suggestion(s), although there may be questions as necessary. The complete list of the to be performed "Must-Do" observations will be made public, without any discussion of the "origin" or "credit" of any individual observation(s).



### **Invitation to participate**

*You are cordially invited to participate in the process!* It is crucially important to realize that every hour of "Must-Do" observing will mean one hour less of priority 2 observing. Consequently we are not looking for "more of the same" or somebody's "favourite" source, line, or science, we are looking for fundamental "gaps", for "new" and "different" ideas, possibly more speculative ones.

### **Responding**

This is the way to respond, and provide your input. You are asked to raise a Helpdesk ticket in the "'Must-Do' suggestions" department. Please provide your input as a *1-page* free format PDF file, attached to the ticket. It should have a *succinct title*, provide the *scientific rationale*, and a *description of the suggested observation(s)*. You are encouraged to attach AOR(s), but it is not strictly compulsory. (Do not attempt to submit anything through HSpot directly.)

*The deadline is noon 12:00 UT on Thursday 14 June 2012.*

### **What happens next?**

The suggestions received will be evaluated in the context of the outcome of the review of the current approved to-be-executed observing programmes. The full "Must-Do" programme will be posted on the HSC webpage and communicated through a Helpdesk mailing in early July 2012.

Looking forward to your ideas!

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