

RESULTS FROM THE HUG QUESTIONNAIRE

After the completion of the OT2 selection, the HUG felt the time was appropriate to gauge the reception of the community to *Herschel*. The objective of the survey was to assess whether it was necessary to invite HSC effort to improve any aspects of (instrument) documentation, data archiving, HelpDesk functionalities, or data reduction, in light of the upcoming end of active-phase mission (due to end of cryogen), estimated to occur in March, 2013. Hence, we organized a simple questionnaire that was hosted by Google:

(<https://docs.google.com/spreadsheet/viewform?formkey=dHN1aHo4UnJVLW1IWkxSZnVBYzFTYXc6MQ>).

The questionnaire consisted of 17 questions covering the observing modes, relevant documentation, relevant web pages, the *Herschel* science archive (HSA), the HSC Helpdesk, NHSC resources, reduction software, and HIPE. 4 of the 17 questions were focused on HIPE only. Answers were given as ratings (from 1="very bad" to 5="very good"), not applicable (rating 0), and a few optional text boxes for additional comments. The invitation to respond was sent to 338 PIs of accepted proposals (KPGT, KPOT, OT1, OT2), and the questionnaire response took place from 30 May to 31 July 2012. Because of Google format constraints, the questionnaire had to be filled in once for each instrument. This was a source of complaint for some users, despite the short time (1-2 minutes) it took to rate each functional category.

At the 5th HUG meeting, 6-7 September 2012, we presented the results of this questionnaire.

Results

The questionnaire was answered by roughly 30% of the proposers; this corresponds to a total of 103 observers, most of which were PIs, but there were also some graduate students and post-docs. 51 were participants in KPOTs, 42 in KPGTs, 57 in OT1, and 72 in OT2. These statistics do not correspond to unique programs because some responses regarded several proposals, and for each proposal multiple responses were necessary to cover different observing modes. This ambiguity arises from the desire to make the questionnaire anonymous; the HUG did not trace, nor is able to trace, the specific identity of the respondents.

Table 1 gives the mean ratings and their standard deviations of the five observing modes covered by the questionnaire. The values in parentheses in Columns 2-6 give the number of users who responded to the specific observing mode. Mean ratings are shown graphically in Figs. 1-4. Also shown in these figures are the global mean and standard deviation of the ratings over the 13 non-HIPE questions: 3.92 ± 0.47 . The mean HIPE rating by itself (averaged over the 4 relevant questions) is significantly lower: 3.07 ± 0.42 .

Although 30% is a relatively high percentage for questionnaire response, this fraction is spread among five observing modes. Hence, some of the observing modes or categories of responses (e.g., workshops/webinars) may suffer from small-number statistics. Nevertheless, the overall impression is that users are generally satisfied. In particular:

- ✓ Documentation (handbook-like pdfs and website) could use improvement, but users are generally rather satisfied (see Fig. 1);

Table 1. Questionnaire results: mean ratings, standard deviations (number of responders)

Question	SPIRE imaging	SPIRE spectroscopy	PACS imaging	PACS spectroscopy	HIFI (including mapping mode)
(1) Documentation	4.00 0.79 (20)	4.10 0.99 (10)	4.19 0.60 (21)	3.80 0.83 (20)	3.87 0.78 (30)
(2) Instrument-specific web pages	3.75 0.97 (20)	3.80 1.14 (10)	4.14 0.65 (21)	3.50 0.76 (20)	3.77 0.82 (30)
(3) HSA ease of handling	3.75 1.16 (20)	3.50 1.27 (10)	3.65 1.04 (20)	3.75 0.97 (20)	4.33 0.84 (30)
(4) HSA pipeline quality	3.95 0.91 (19)	3.60 0.84 (10)	3.19 1.03 (21)	3.44 0.98 (18)	4.03 0.76 (30)
(5) HSC ticketing system	4.33 0.82 (15)	4.56 0.53 (9)	4.06 0.87 (18)	4.12 1.02 (16)	4.50 0.75 (28)
(6) HSC ticket reply speed	4.27 1.16 (15)	4.25 1.39 (8)	4.05 1.03 (19)	3.81 1.05 (16)	4.39 0.92 (28)
(7) HSC ticket reply quality	4.33 0.62 (15)	4.50 0.76 (8)	4.37 0.68 (19)	4.19 0.66 (16)	4.48 0.74 (29)
(8) ICC user support	3.88 1.55 (8)	4.71 0.49 (7)	4.40 0.70 (10)	3.90 0.99 (10)	4.11 0.96 (18)
(9) Quality of video tutorials	4.00 0.89 (6)	5.00 – (1)	3.88 0.83 (8)	3.00 1.00 (5)	3.60 1.14 (5)
(10) HSC workshops/webinars	3.67 1.03 (6)	4.50 0.71 (2)	4.00 0.00 (8)	3.75 0.50 (4)	3.42 1.07 (19)
(11) US-based NHSC resources	4.20 1.10 (5)	– – (0)	3.33 1.53 (3)	3.00 2.00 (3)	4.67 0.58 (3)
(12) US-based NHSC workshops/webinars	3.88 0.99 (8)	4.00 0.00 (2)	4.33 0.82 (6)	3.00 1.55 (6)	4.00 1.55 (6)
(13) US-based NHSC funding level	3.88 0.99 (8)	3.50 0.71 (2)	2.67 1.37 (6)	3.44 1.33 (9)	3.00 0.71 (5)
(14) HIPE documentation	2.75 1.13 (16)	3.33 0.87 (9)	3.18 0.95 (17)	3.53 0.72 (17)	3.35 0.80 (31)
(15) HIPE data reduction	3.12 1.32 (17)	3.56 1.24 (9)	3.38 0.89 (16)	3.67 0.84 (18)	3.06 0.96 (31)
(16) HIPE third-party export capabilities	3.13 1.36 (15)	3.00 0.63 (6)	3.00 1.10 (16)	3.54 0.78 (13)	3.07 1.17 (27)
(17) HIPE data analysis	2.85 1.28 (13)	2.88 1.13 (8)	2.47 1.06 (15)	2.09 0.54 (11)	2.39 1.12 (23)

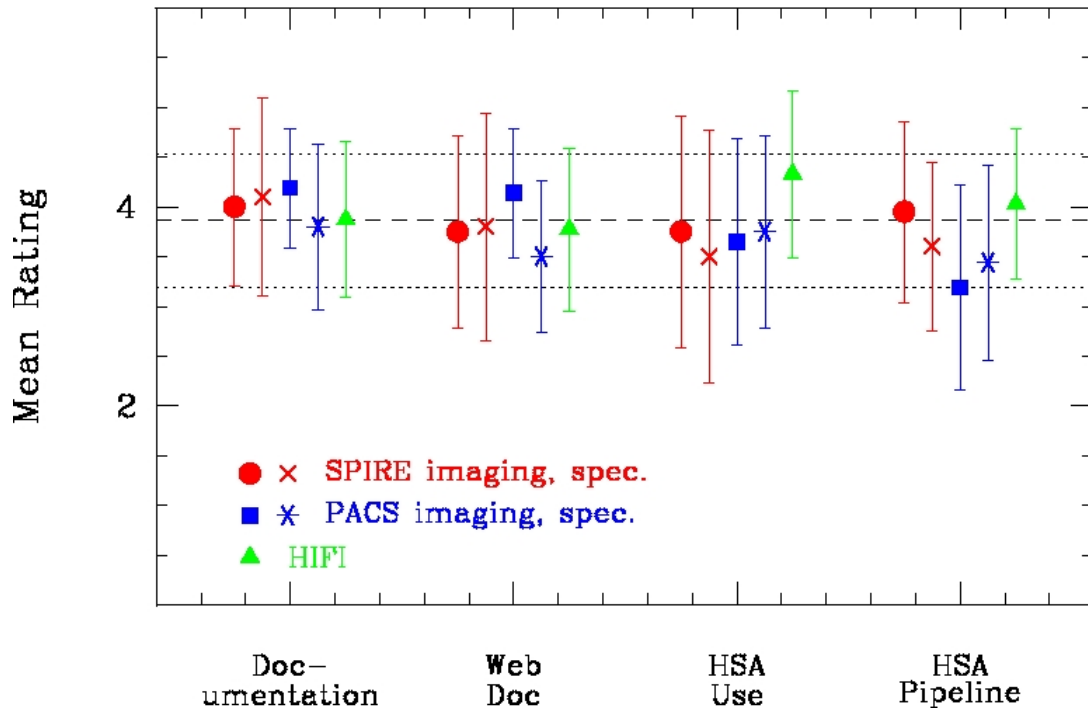


Figure 1. Mean questionnaire ratings for written documentation (manuals), web-pages, HSA ease of use, and quality of HSA pipeline reductions (rows 1-4 in Table 1). The different observing modes are shown by different symbols: SPIRE imaging as filled circles; SPIRE spectroscopy as X; PACS imaging as filled squares; PACS spectroscopy as six-sided asterisks; HIFI as filled triangles. The global mean rating not including HIPE is shown as a horizontal dashed line; the global standard deviations are shown as horizontal dotted lines.

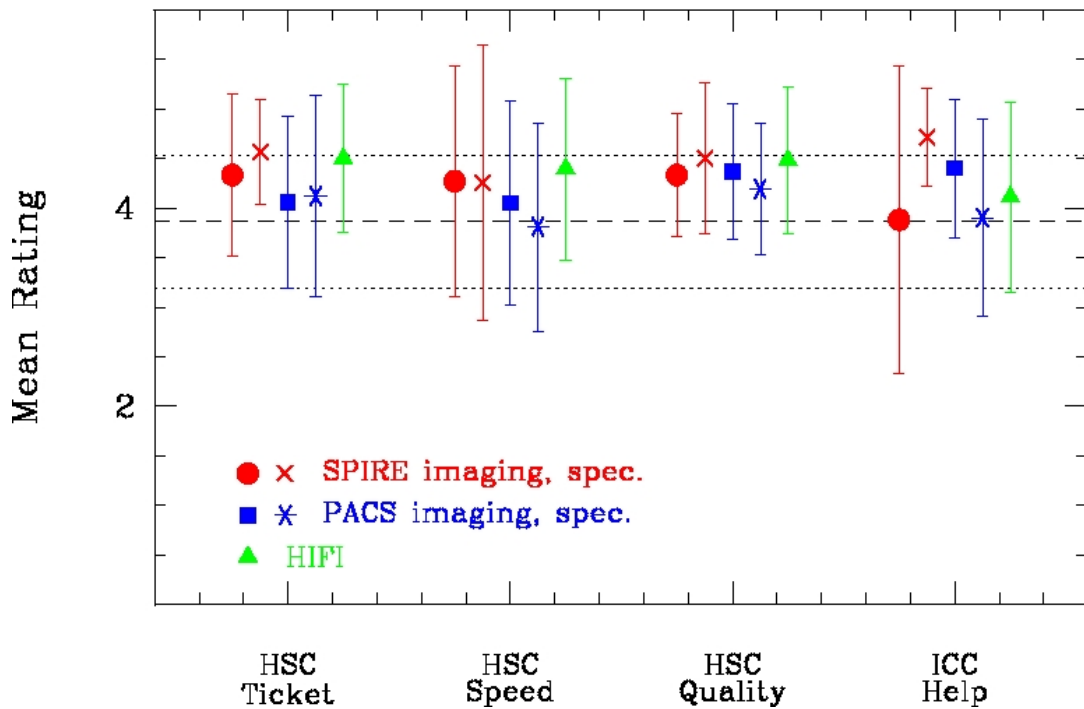


Figure 2. Mean questionnaire ratings for quality written HSC ticket system, HSC speed of response to ticket enquiries, HSC quality of response, and quality of help from the ICC teams (rows 5-8 in Table 1). Symbol coding and meaning of horizontal lines are as in Fig. 1.

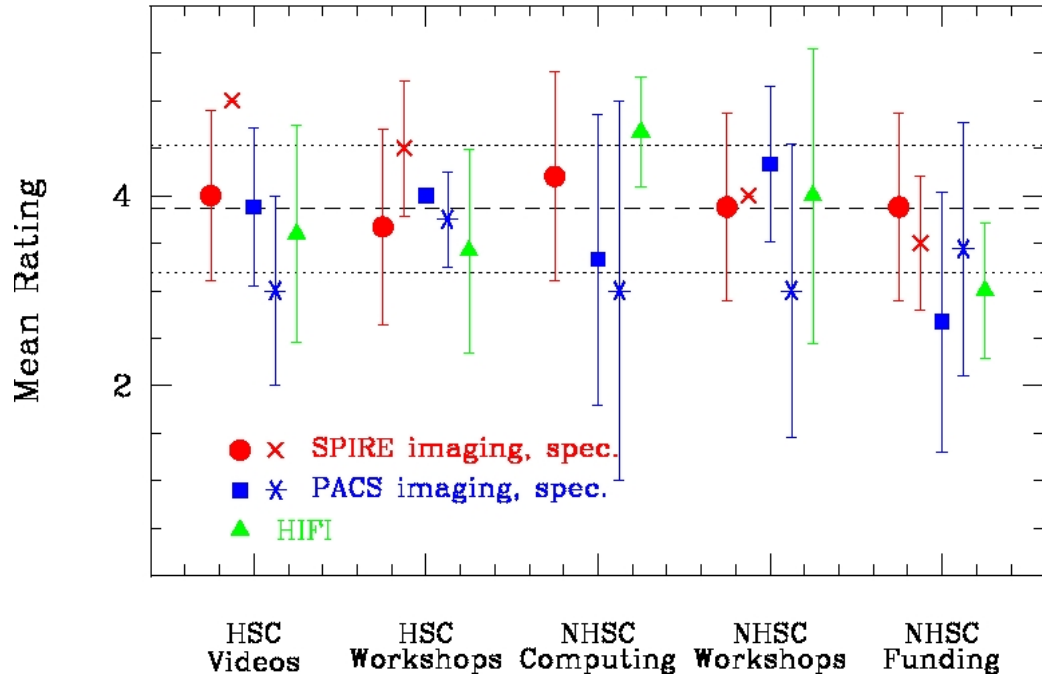


Figure 3. Mean questionnaire ratings for quality of HSC videos, HSC workshops and webinars, NHSC computing resources, NHSC workshops and webinars, and NHSC funding level (rows 9-13 in Table 1). Symbol coding and meaning of horizontal lines are as in Fig. 1.

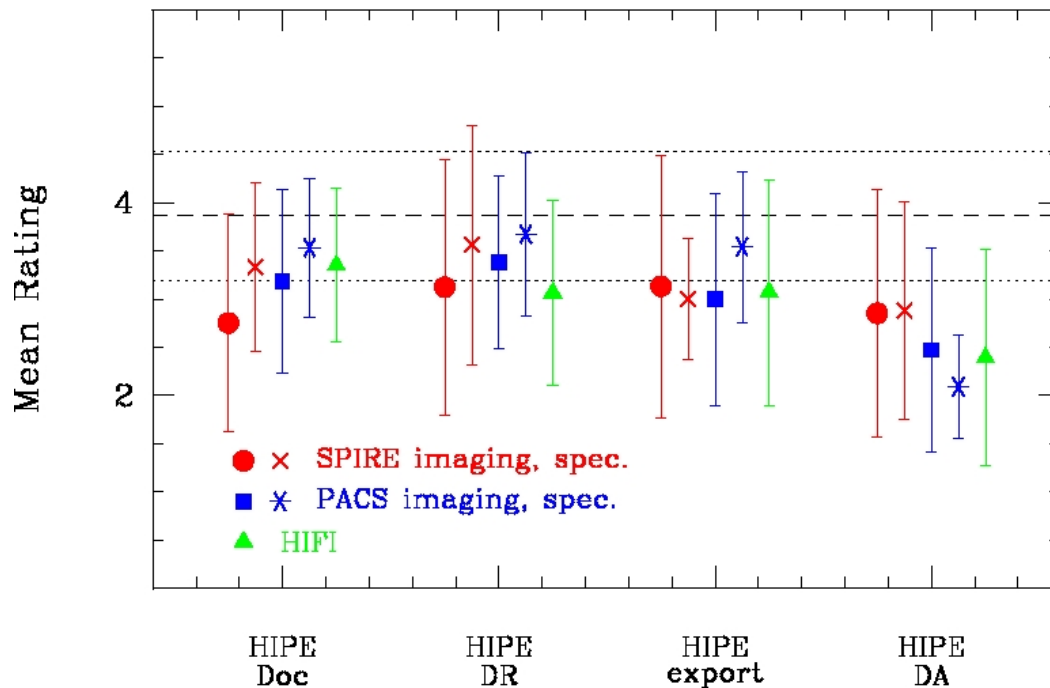


Figure 4. Mean questionnaire ratings for HIPE documentation, HIPE data reduction, HIPE export-to-third parties capability, and HIPE data analysis including the preparation of plots for publication (rows 14-17 in Table 1). Symbol coding and meaning of horizontal lines are as in Fig. 1.

- ✓ HSA ease of use could be improved, but HSA Level 2 products for SPIRE imaging and HIFI are doing well in the ratings (see Fig. 1);
- ✓ HSC ticketing system, the content, and speed, and the ICCs are all well considered; hard to do much better (see Fig. 2);
- ✓ On-line videos, webinars, both by HSC and NHSC, are well rated (see Fig. 3);
- ✓ HIPE documentation and data-reduction tools considered somewhat below the other aspects of Herschel functionality; virtually all users rely on other tools for data analysis, and this is reflected in the ratings for HIPE data analysis (see Fig. 4).

In summary, the effort of the HSC has been well directed. According to the *Herschel* community, the only aspects of functionality that could be improved are the *Herschel* science archive, especially for PACS and ease of use, and the HIPE documentation and data-reduction tools. Both aspects will be fundamental for the Post-Operations post-cryogen phase of *Herschel*, so it could be useful to dedicate staff effort to these before ramping down.

SPECIFIC COMMENTS

A summary of specific comments from users follows. These were given in response to invitations for further text, and specific comments that could not be addressed with the multiple-choice rating system with which the questionnaire was formulated.

The comments followed mostly some broad categories, e.g. on HIPE, HSA & their products, Workshops, Other Tools, Data Reduction, Documentation, User Support and “Other”.

On HIPE. From the comments received, there was consensus that HIPE still is considered as a “hog of resources” and that is a difficult tool to learn, however, it was clear that despite this the community is dealing with these issues and using it to a considerable extent.

On HSA and Products. Some of the comments suggested that the new interface (4.0.1) was good looking but a lot less user friendly. Some users noted that some capabilities in this new interface have disappeared (“cut-and-paste” and the “AOR labels”). There was a desire for more meaningful name for the tarballs generated to download the data (e.g. using the actual OBSID). There was also a desire for level 2 products to be made available in a more friendly format, e.g. simple FITS without a “horrible” subdirectory structure. People appreciated the fact that the level 2 products are simple FITS files easy to open. Users also expressed the desire for a tool to concatenate parallel AORs within HSA.

On Workshops. There were two groups, those that believed that workshops are very good and well organized, and those that thought “simple workshops” are a waste of time. Part of this dichotomy arises from the desire to have more specialized workshops for users with a bit more experience.

On Other Tools. As mentioned above people are using HIPE for both data reduction and analysis, however, and perhaps not surprisingly, people are also using additional analysis tools that they are more familiar with. Among the additional tools mentioned there were CLASS and IDL (fitting & analysis), SCANAMORPHOS, PACSMAN, STARLINK, Python scripts (user generated), etc.

On Data Reduction There is still the sense that the recipes and/or scripts that are provided by the HSC/NHSC (in workshops and documentation) reproduce essentially what one gets directly from the standard pipeline. Along the same lines, it was noted that there is a lack of good tricks

or tips (in the form of cookbooks or pocket guides) to improve the data beyond the standard pipeline are missing.

On Documentation. There are several documents that are still rather incomplete. The documentation on PACS spectroscopy is very sparse, key information on HIFI beams missing and some basic knowledge of SPIRE spectroscopy not easily available (e.g. aperture corrections tables). There is the sense that the information in the web pages is all over the place and not yet truly streamlined.

On Observer Support. The NHSC and HSC are considered very helpful and with a quick response to the users concerns and excellent ticketing system. However, there were specific examples claiming that this was NOT the case and that a more timely response would have been crucial. There is the desire of making available more (all) calibration data to the users (e.g. some useful OBSID are still blocked by the Key Projects).

And finally, in the “Others” category, the most relevant comment was on the perception that MOST of the observing TIME went to the GT and KP observers, and therefore, this affected the rest of the open time observers.

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The report has been prepared by Leslie Hunt, Alberto Noriega-Crespo and Dimitra Rigopoulou on behalf of the HUG.