

SPIRE Photometer user and expert provided data products in the archive

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Outline



1. Standard pipeline products (SPG, previous session)
2. User-provided data products (UPDP)
3. Highly-processed data products (HPDP)
4. Ancillary data products (ADP)
5. Status of availability



Standard Product Generation (SPG)



- *Data Products generated by the instrument standard pipeline*
 - Automatic product generation – no fine tuning
 - The best available pipeline products endorsed by the SPIRE Instrument Control Centre are produced with HIPE 14.1.0 and *spire_cal_14_3*
 - No further processing will be done on those. Only Level-3 maps are reprocessed with HIPE 14.2.1.
- *Their data quality, but also limitations and caveats from a science-readiness perspective, are described in the **SPIRE Photometer Pipeline Products** presentation (previous session).*
- *Served exclusively through the HSA (and HAIO).*
 - All processing levels and necessary aux and cal products are made available, allowing *ad hoc* reprocessing by interested users (only possible within HIPE)



User-Provided Data Products (*UPDPs*)



- ***Up to now, 14 Key Programmes delivered UPDPs with SPIRE Photometry***
- ***UPDPs can be downloaded as a whole, or on an obsid per obsid basis (filtered query)***

- Global repository of data and release notes can be accessed at:

UPDP page at the Herschel Science Centre

- ***Some teams store the UPDPs in dedicated repositories outside HCS***
- ***Some UPDPs are made available through IPAC/IRSA***

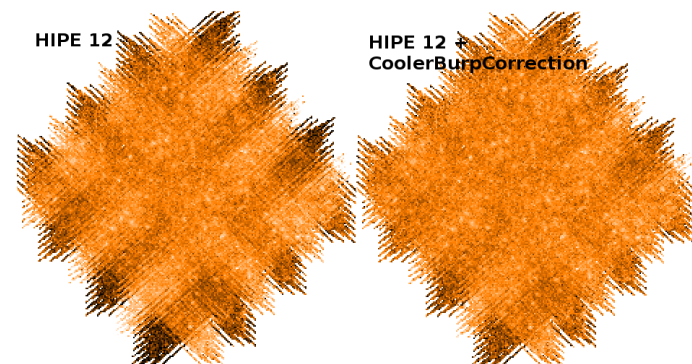
In some cases the pipeline products with the final version are better than the UPDPs!



Beyond the SPG: expert provided data products → HPDPs



- **Highly-Processed Data Products (HPDPs)** will be served by the HSA in a similar fashion as the UPDPs
- These are produced by instrument experts
- Currently envisaged HPDPs for SPIRE photometer:
 - Level-3 map of the whole Galactic plane (huge map, difficult to produce and to make available in a standard way).
 - SPIRE Point Source Catalogue (currently in validation phase)
 - Per OBSID, per band
- Tentative HPDPs depending on manpower:
 - Fix maps with residual striping due to a combination of thermal drifts, bolometer jumps and/or improper baseline subtraction. There are some 200 maps affected (visual check of all 6918 x3 maps)



Ancillary Data Products (ADPs)



- **Ancillary Data Products (ADPs)** correspond to products not necessarily associated to any observation performed by the Observatory
- Used as Herschel's long-term preservation storage of items that may be needed for users of the archive, but also as source of information for future missions – as such a lot of engineering-oriented items are contemplated there
- The ADP contemplated for SPIRE Photometer are:
 - *Calibration*: Neptune (prime calibrator) and other planets and asteroids models, beam maps, filter RSRFs and aperture efficiencies.
 - *Software*: on-board software images and release notes
 - *Observatory*: uplink-related products (mission database, etc)
 - *Engineering*: trend-analysis and health monitoring data from instrument HouseKeeping
 - *Historical*: Telemetry and Science data from pre-launch test campaign



SPIRE Phot HPDP and ADP availability status



Product Name	Timeline
Highly-Processed Data Products	
SPIRE Point Source Catalog	December 2016
Level-3 map of the Galactic plane	December 2016
Fixed maps with residual striping	Spring 2017 (tentative)
Ancillary Data Products	
SPIRE Photometer beam maps	Already available
Neptune and other calibrators models	Already available
Trend analysis and health monitoring data	December 2016
Software and uplink products	December 2016

