



# 1. SPIRE Data Launch Pad



## 1.1 Obtaining SPIRE data from the archive and importing into HIPE

This topic is covered in detail in **SDRG<sup>1</sup> § 3.1**

Herschel data are stored in ESA's Herschel Science Archive (HSA):

- Identified with a unique number known as the Observation ID (ObsID)
- HIPE expects the data in the form of a **Pool**, so HSA data must be *imported* into HIPE
- A **Pool** is like a database, with observations organized as an **Observation Context**, containing links to all data, calibration and supplementary files

There are three main ways to import data from the HSA into HIPE:

1. Directly from the HIPE command line (**SDRG § 3.1.2**) using,
 

```
myobs=getObservation(<ObsID>, useHsa=True)
```
2. Download a tar file (not a pool) by selecting "Retrieve" in the HSA GUI, and import via the *Import Herschel Data into HIPE* GUI, from **Window>Show View>Data Access** menu within HIPE (**SDRG § 3.1.3**)  
It should be noted that getObservation should be able to read in unpacked tarfiles.
3. Import directly into HIPE selecting "Send to external application" in HSA GUI (**SDRG § 3.1.3**)

To save this observation from HIPE to a pool on your local disk use,
 

```
saveObservation(myobs, poolName="<myPool>", saveCalTree=True)
```

Once the data are saved on your hard disk, the Observation Context can be read into HIPE using,
 

```
myobs=getObservation(<ObsID>, poolName="<myPool>")
```

Note: MyHSA can do automatic downloading of data - see the Herschel Data Analysis Guide for details.

## 1.2 Looking at your Data

This topic is covered in general in **SDRG § 3.2**.

For Photometer Modes see **SDRG § 5.1** and for the Spectrometer see **SDRG § 6.2**.

Once the data are in HIPE, the Observation Context will be visible in the HIPE *variables* window:

- Double click to open the "Observation Viewer" (or right click > Open With>Observation Viewer)
- Data are available at different levels of processing (**SDRG Figure 3.11**):
  - **Level 0:** Raw data
  - **Level 0.5:** Basic processed voltage timeline data
  - **Level 1 (Photometer):** Flux calibrated timelines in Jy/beam
  - **Level 1 (Spectrometer):** Extended calibrated spectra in W/m<sup>2</sup>/Hz/sr, and interferogram in V
  - **Level 2 (Photometer):** Flux calibrated maps for signal, error and coverage in Jy/beam
  - **Level 2 (Spectrometer):** Point source calibrated spectrum in Jy or spectral cube in W/m<sup>2</sup>/Hz/sr
  - Other ancillary files are also available (see **SDRG § 3.2.4**)
- Data products can be viewed by clicking on the small "+" next to the folders to expand the tree in the same way as a file system. Clicking on one level opens it in an appropriate viewer (right click to choose which). Double clicking opens the viewer in its own tab. The main viewers are:
  - **Context Viewer** – shows the entire context as a tree of products
  - **Dataset Viewer** – shows data as a table array
  - **TablePlotter** – allows one table of data to be plotted
  - **OverPlotter** – allows different tables to be opened in the same plotter
  - **Image Viewer** – displays a 2D image
  - **SDI/SDS Explorer** – shows interferograms/spectra from all Spectrometer detectors