

## Herschel Inspector & Long Term Scheduler

Operational optimization is specially important for a mission like Herschel, as it has a limited lifespan of  $\approx 3.5$  years due to its cryogenic nature. Up to now, Herschel has executed more than 7,000 observations and other 20,000 are already in the queue. HILTS is a Java tool useful to analyze the present, current and future status of the mission and to optimize the project's scientific return, providing visualization, querying and long term scheduling capabilities.

### Automatic Scheduler

HILTS is capable of generating Long-Term schedules. Due to operational restrictions, a reference observation cycle pattern has been defined. HILTS schedules observations in time frames ranging from weeks to months days following the pre-defined pattern, visibility and operational constraints



### Unified design

HILTS extensively uses the Model-View-Controller paradigm. It is composed by seven panels, which are customizable thanks to the underlying docking window manager (Infonode):

- **Time/Schedule** panel where the executed & scheduled observations are displayed along with the visibilities and observing mode blocks.
- An interactive **Sky Panel** where observations, slews, and the various constraints are displayed
- **Query** panel, where up to 20 combinable query criteria are selectable. Any change is propagated in real time to the remaining panels.
- **Proposal** and **Request** table panel.
- **Catalogues** panel, with the current active catalogues
- **Status** panel

### Pointing History

Herschel pointing history for a given operational day



Pointing history example for a pair of line-scans

**Schedule**

**Sky**

**Queries**

**Proposals**

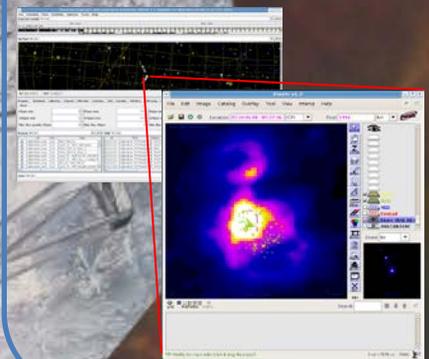
**Requests**

**Catalogues**

**Status**

### VO-aware

HILTS uses the SAMP protocol to interoperate with other VO tools (like e.g. CDS Aladin)



### Reports/Statistics

HILTS is capable of performing complex HTML/JS statistical reports. Google presentation API has been used for most of this functionality



Google Ajax presentation API

### Catalogues support

AKARI, IRAS and user catalogues are supported. This has been used for spotting observations to be used as fillers during the daily communication period

