How to contribute to Herschel with software and data

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Herschel Pre-Launch Data Processing Workshop
ESAC, 4-5 December 2008

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Extract from Policies and Procedures Document (part of the KP AO)

Besides fulfilling their scientific goals, Key Programme consortia must provide data products which will:

I. allow for early science exploitation by the community, based on the data products themselves;

II. provide the community with information usable as the basis of follow-up proposals for Herschel observing time during the mission.

The Key Programme consortia are also required to share the methods employed to generate the data products provided to the HSC. It is possible that these methods could be incorporated into or adapted for use in the standard HSC data processing software for public release.

Data products contribution (i)

- Contributed data products may be:
  - Refined processing of Herschel level-2 products (per AOR)
  - Level-3 products (per AOR or result from the combination of AORs)
  - Catalogues:
    - Astronomical Source catalogues
    - Spectral line lists
    - Others
  - Other KP related data, e.g.:
    - Model SEDs
    - Reference spectral line lists

Data products contribution (ii)

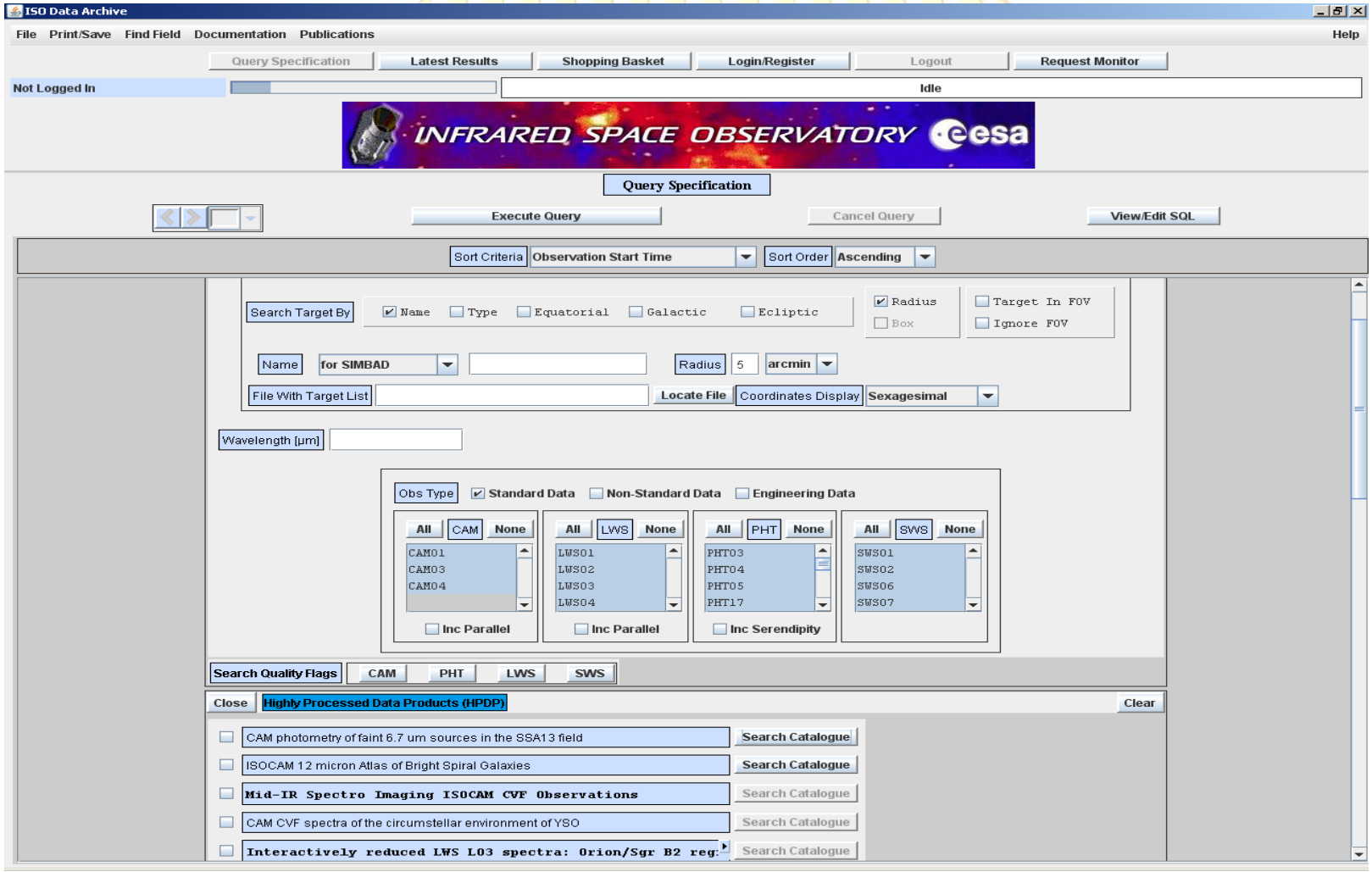
- KP data products shall be made available to the HSC at the end of the proprietary period:
  - By giving the link of the Web site where the KP products are provided
  - Through links to electronic catalogues, e.g. CDS
  - As “Highly Processed Data Products” delivery to be uploaded in the Herschel Science Archive (similar to the ISO Data Archive)
- The Herschel Science Archive offers:
  - Integration of the KP processed data products in the HSA data model
  - Queriable access and retrieval of KP processed data products
  - Queriable access and retrieval of KP catalogues
  - Access and retrieval of associated documentation
  - Access and retrieval of ancillary data (e.g. modelled data)
  - Links to the publications in NASA ADS
  - Links to the catalogue in CDS

Data products contribution (iii)

- Data products shall conform to the guidelines provided by the HSC:
  - Compulsory Metadata keywords
  - FITS standard
- Delivered data products to follow the Herschel product definitions:
  - Level-2 and -3 products (spectra, images and cubes)
  - Spectral line catalogue product
  - Astronomical Source catalogue product
  - Others to be specified

Product definitions will be provided in the DP documentation pack

Example: Contributed products in ISO Archive



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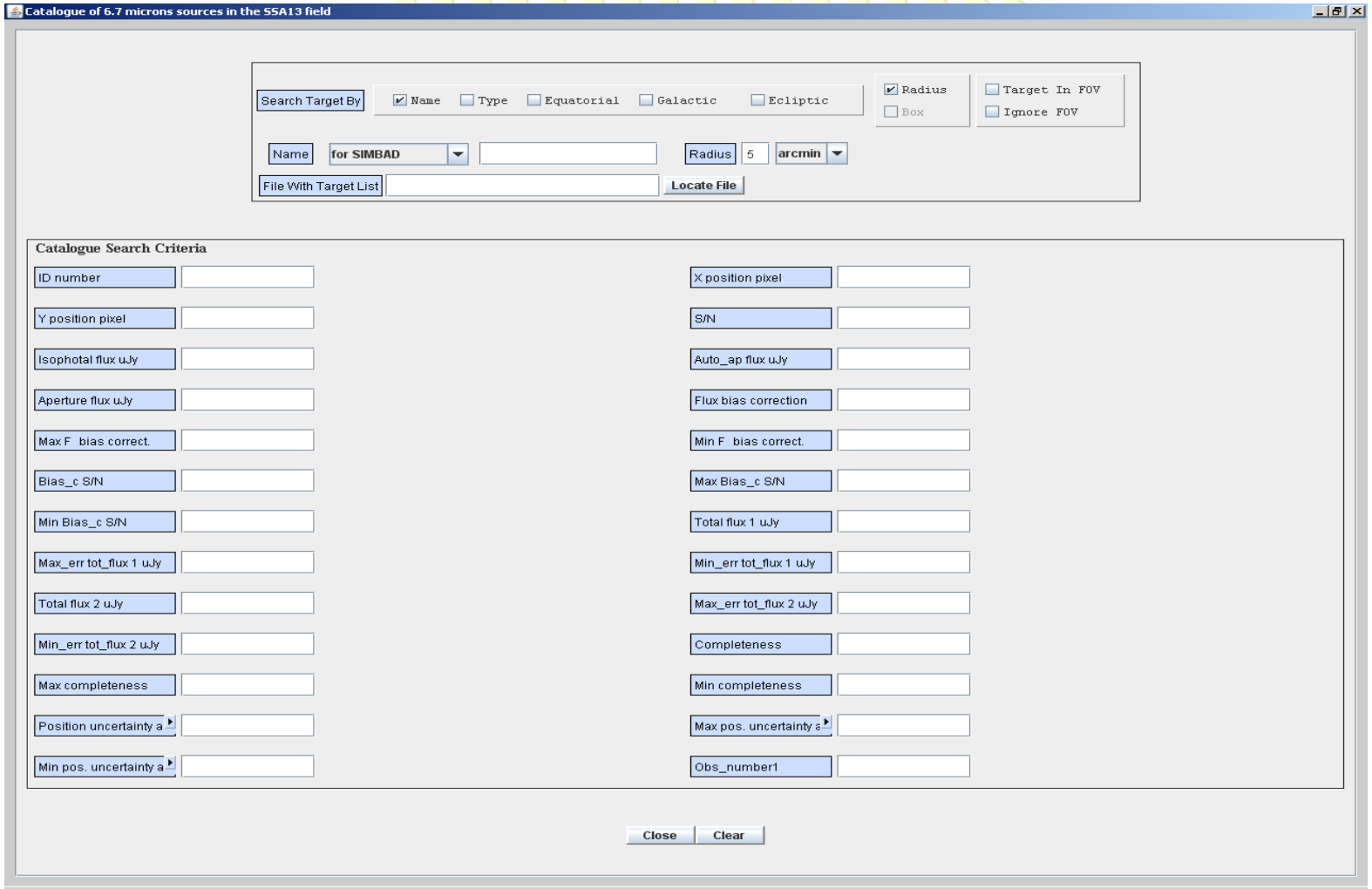
Example: Contributed catalogue query panel in ISO Archive



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Data products contribution (iv)

- Contributed data products shall be accompanied by documentation
  - Description of the product
  - Description of the algorithms, methods and processing steps involved in the creation of the product
  - Reference to articles if applicable

DP tools contribution

- KP consortium developed tools used to generate KP products may be shared with the community through the HSC at the end of the proprietary period:
  - Executable
  - Documentation
  - Test data
- It is highly encouraged that the tools are developed in HIPE
- KP tools will be made available to the community :
  - Through links in the HSC pages to KP Web sites
  - If considered of general interest they may be adopted in Herschel DP (pipelines or IA) and included in the HIPE installer

DP tools contribution in HIPE

- Developing tools yourself:
  - In Jython,
  - Or in Java
- Consider using “Task” concept:
  - Especially for processing steps
  - Common syntax for all tasks
  - Parameter checking
  - Makes your functionality easy accessible to others
- Then HIPE automatically provides:
  - A default parameter dialog
  - An association with selectable products

Contributor's manual

- Detailed guidelines on data products and tools contribution will be gathered in the document "Herschel products and DP tools contributor's manual"
- It will be distributed as part of the DP documentation pack

DP User's feedback

- A beta version of HIPE will be made available to the KP consortia in March 2009
- The DP User's Group represents the interests of the astronomical community and the calibration scientists:
  - Composition: Mission Scientist, ICC representatives, HSC/Community Support, HSC/Herschel Operations Team, NHSC representative, DP Scientific Coordinator
- Letter from DPUG to KP PIs:
  - Asking to nominate a DP contact person in the consortium for DP matters
  - Includes questionnaire on DP issues to help us define the coordination strategy
- Feedback is really welcome!