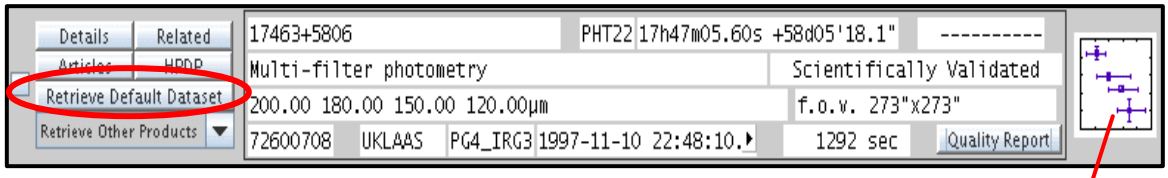
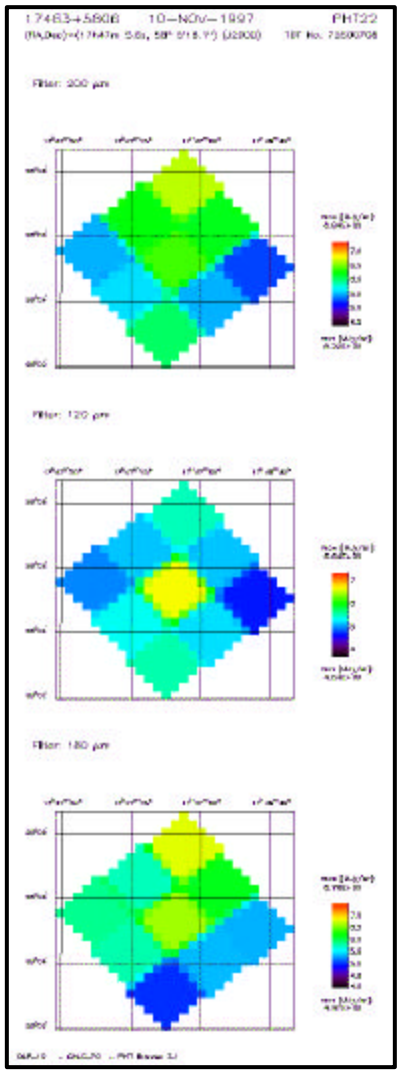
# New version of the ISO Data Archive (IDAv9.0)

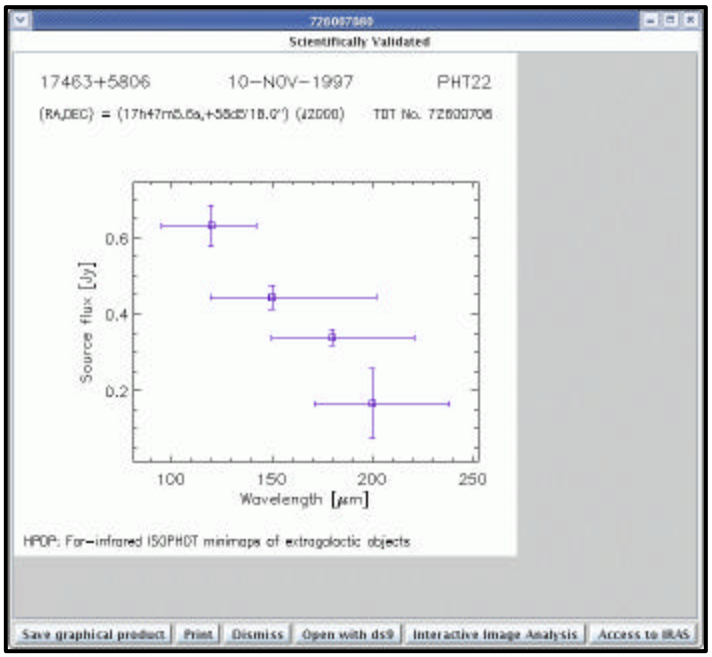
On the 27th of July of 2005, a new version (v9.0) of the ISO Data Archive (IDA) software was installed. IDA now incorporates the option to retrieve the most reliable dataset associated to a given observation. This is call "Default Dataset" and it can be:

- The best Highly Processed Data Products (HPDP) associated to the observation
- The Off-Line Processing Legacy Pipeline products when HPDPs are not available.

The new "Retrieve Default Dataset" option is available for direct download or by the shopping basket option.






Survey products, icon and postcards generated by the Off-Line Processing Legacy Pipeline (maps shown at the left) are replaced by those created from the HPDP (photometric points above this text) when available.

# Data Quality Reports

A detailed quality analysis is available since version 7.0 of the ISO Data Archive. Every standard observation in the archive has a new product called "Data Quality Report" which compiles the whole quality information available. They includes:


- List of flags which affect a given observation. Queries based on these flags are possible.
- The second part of the Data Quality Report compiles the quality information associated to the Off-Line Processing Legacy Pipeline which includes a list of caveats affecting a particular instrument, instrument mode and/or instrument configuration. Also, a list of quality flags per instrument related to pipeline processing and calibration scheme restrictions have been defined.
- Some of these pipeline processing problems/restrictions can be solved by means of an interactive analysis of the data. The resulting products are called Highly Processed Data Products (HPDP) and the full documentation of the reduction steps, improvement of the final products and their quality is also included in the Data Quality Reports:


- Finally the Data Quality Reports include also general comments by experts.

# Highly Processed Data Products currently available in IDA

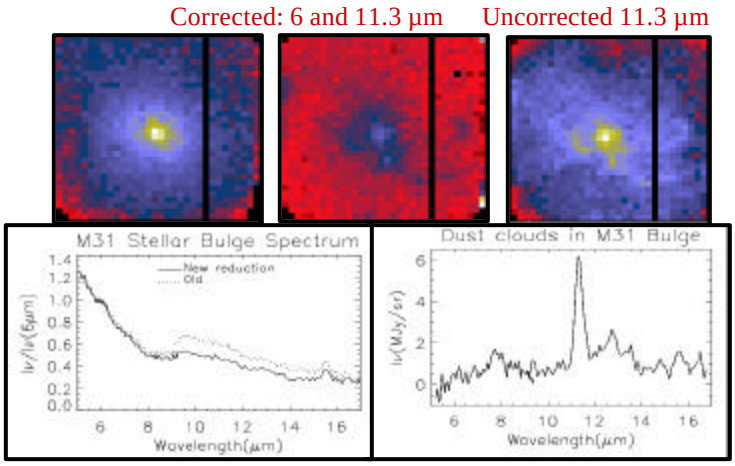
Highly Processed Data Products (HPDP) are the result of further processing beyond the pipeline and/or using new, refined algorithms mainly contributed by ISO instrument experts. They include processed images and spectra, object catalogs, and spectral and image atlases.

Up to date, HPDP are available in the ISO Data Archive for more than 20% of the ISO scientific observations and around 54% of them have been already retrieved by the scientific community. Most of them are considered the best dataset and can be directly downloaded from the IDA through the new facility, "Retrieve Default Dataset".

These recommended HPDP are:

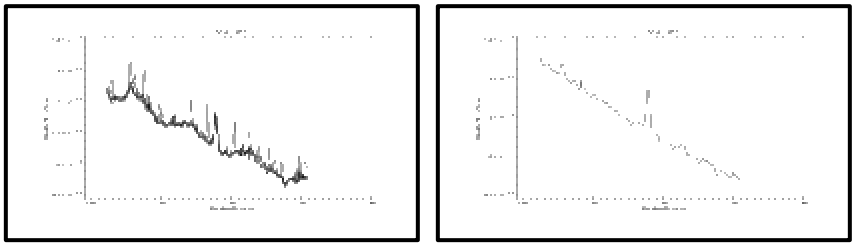
- **Mid-IR Spectro Imaging ISOCAM CVF Observations**

All CAM LW-CVF have been processed:
Zodiacal light subtraction and stray light from uniform illumination correction are the main improvements. Final images are corrected for distortion and in some cases an astrometric correction is suggested.




- **Uniformly processed LWS L01 spectra**

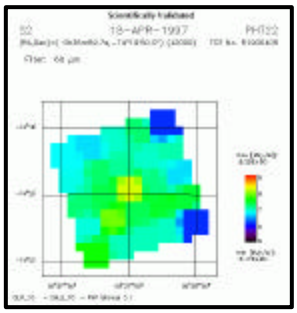
All LWS L01 observations (1791) have been processed with an automatic pipeline, including de-glitching, de-fringing, correction for NIR-leak and SW1 double-peaked features and scan averaging. New flags provide information and warnings about the spectra.



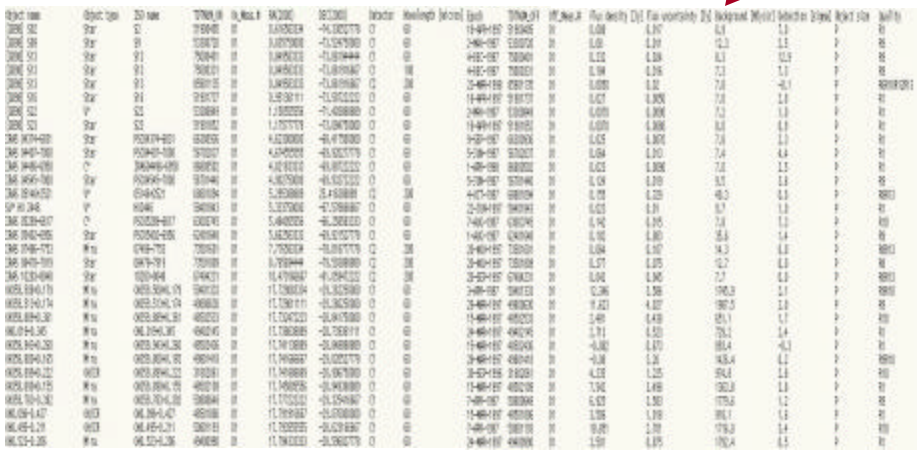
Resulting spectrum from the Pipeline processing (left) compared with the HPDP result (right).

- **ISOPHOT catalogues**
  - **Mini-maps of normal stars, solar-system objects, evolved objects, extragalactic objects and miscellaneous**
  - **Compact objects observed in nodding/scan mode (C100/C200 detectors) and in staring mode at 3.6 μm (P1 detector)**

Compiled catalogues after drift and transient correction, empirical correction for systematic trends, background determination and flux correction.

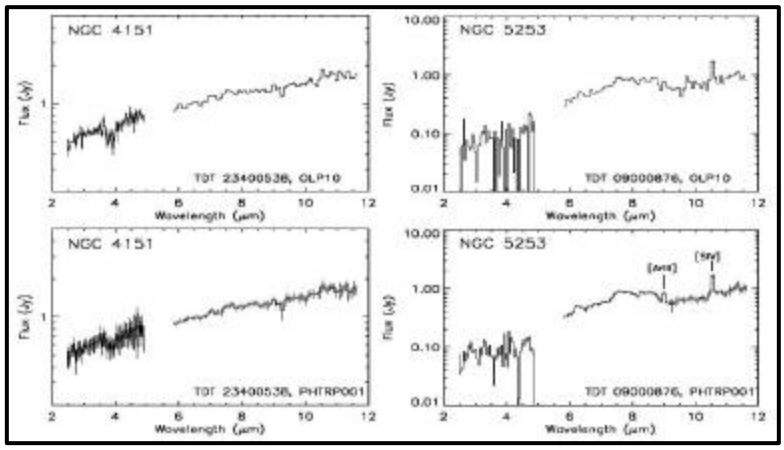


**From a map to a catalogue with final photometric values**



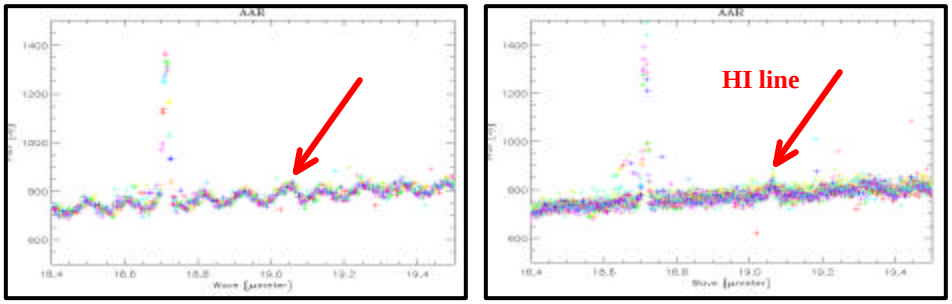
- **ISOPHOT processed with an upgraded version of the Legacy Pipeline: chopped mode spectroscopy processing and mini-map photometry processing**

A significant reduction in the noise of the continuum is achieved using a bi-weight mean deglitching algorithm. The resulting spectra are smoother and closer to the models.



- **High resolution processed and defringed SWS01s**

Applicable to ~ 300 AOT1s- full grating scan at reduced resolution. Processing brings spectra back to instrument resolution. Greatly enhances ability to correct for “fringes” and provide the opportunity to extract bulk spectral and noise information from data-products.




Resulting spectrum from the Pipeline processing (left) compared with the HPDP result (right).

- **The ISO-SWS Post-He Atlas of Near-IR Stellar Spectra**

An atlas of SWS spectra (2.36-4.1 microns) of ~300 stars at resolution 1500-2000 aimed at extending the MK spectral classification to the near infrared. The bulk of the observations were performed during a dedicated campaign after helium depletion.