

Completing the Spitzer Cryogenic Mission

The final cryogenic observations taken with the Spitzer Space Telescope were obtained May 15, 2009, completing more than five and a half years of cold operations. The mission of the SSC has always been to support observatory operations and the science community and the depletion of the cryogen opened an exciting new phase. While SSC observatory operations immediately transitioned to support warm Spitzer the equally important task of closing out the cryogenic mission kicked into high gear. Work was already well underway for the three main components of the cryogenic mission close-out. These are briefly outlined below.

1. Spitzer Heritage Archive at IRSA

The final archive repository for the Spitzer cryogenic mission data is NASA's Infrared Science Archive (IRSA) based at IPAC. IRSA officially takes over curation of the Spitzer cryogenic archive in April 2011. The SSC and IRSA are working closely to develop the Spitzer Heritage Archive (SHA) as the permanent Spitzer archive. Leopard, the SSC archive interface, is optimized for finding data from specific observations and for expert users and the infrastructure is intricately tied with SSC observation scheduling and data processing operations. The new SHA infrastructure and interface will emphasize ease of use for archive investigators and long-term maintenance. It is expected that the SHA will attract a broad range of astronomers beyond the current Spitzer GO/GTO community. The first public release of the SHA is scheduled for February 2010. Leopard will remain active until all Leopard functions have been implemented in the SHA.

2. Final Data Processing and Enhanced Data Products

The instrument support teams (ISTs) will oversee a final data processing of the entire cryogenic mission with the best calibration available. Each IST has been implementing the final updates to the data processing pipelines and is creating the calibration data to be used in the final processing. The result will be uniformly processed data for the entire mission. The teams are also creating enhanced products for the SHA. The final processing of the MIPS data is underway. IRS and cryogenic IRAC data processing will follow. Among the new products for the SHA are super-mosaics (mosaics combining data from multiple AORs) and source lists from imaging data.

3. Documentation and User Tools

All of the user documentation is being updated for delivery to IRSA with the SHA. The entire SSC website is being redesigned. The goal is to simplify navigation to instrument information, provide final versions of important Spitzer data analysis tools, and provide improved cookbooks with data analysis recipes for each tool. The new website will be deployed in February 2010. Full support for the cryogenic documentation and tools will transfer to IRSA in April 2011.