

Video: 37 thousand science observations from the Herschel space observatory

November 26 2013

This animation shows the timeline of over 37 000 scientific observations made by ESA's Herschel space observatory throughout its entire mission, condensed into less than a minute.

The animation was prepared by Pedro Gómez-Alvarez in the Herschel Science Centre Community Support Group and presented by Herschel's Project Scientist Göran Pilbratt during the opening session of The Universe Explored by Herschel symposium held at ESA's ESTEC facility, in Noordwijk, the Netherlands, last month.

The animation runs from launch, on 14 May 2009, until the infrared observatory made its last observation on 29 April 2013.

Running through the centre of the graphic is the 'ecliptic plane' tracing the paths of the planets with respect to Herschel's viewpoint from its orbit around L2, which is located 1.5 million kilometres behind the Earth as viewed from the Sun.

A horseshoe shape marks the Galactic Plane, the direction in which much of the Milky Way's mass lies, and where many of Herschel's observations were focused.

In total, Herschel observed almost a tenth of the entire sky for over 23 500 hours, providing new views into the previously hidden Universe, pointing to unseen star birth and galaxy formation, and tracing water through the Universe from molecular clouds to newborn stars and to

their planet-forming discs and belts of comets.

Its two camera/imaging spectrometers, PACS (Photoconductor Array Camera and Spectrometer) and SPIRE (Spectral and Photometric Imaging Receiver), which together covered wavelengths of 55–670 microns, provided about two thirds of Herschel's sky coverage in parallel imaging mode. These data points are shown in yellow.

PACS and SPIRE photometry observations are indicated in blue and green, which together with spectroscopy performed with PACS, SPIRE and the third science instrument, HIFI (Heterodyne Instrument for the Far Infrared, covering wavelength bands of 157–212 microns and 240–625 microns) make up the remainder.

Since 29 October 2013, when the last observed data went public, all of the Herschel data are available to the worldwide astronomical community. The vast data archive will become the scientific legacy of the mission, destined to yield far more discoveries than have been made over the mission lifetime so far.

Provided by European Space Agency

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