Extragalactic Science with Herschel-SPIRE

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Abstract

SPIRE, the Spectral and Photometric Imaging Receiver, is one of three instruments to fly on ESA's Herschel Space Observatory. It combines a three-band imaging photometer operating at 250, 360 and 520 microns, and an imaging Fourier Transform Spectrometer (FTS) covering 200-670 microns. The SPIRE consortium's Guaranteed Time (GT) programme will devote more than 1000 hours to Key Projects covering the high-redshift universe and local galaxies, which will be carried out in coordination with other GT programmes, especially that of the PACS consortium. It is also expected that substantial amounts of Herschel Open Time will be used for further extragalactic investigations.

The high-redshift part of the SPIRE GT programme will focus on blank-field surveys with a range of depths and areas optimised to sample the luminosity-redshift plane and characterise the bolometric luminosity density of the universe at high redshift. Fields will be selected that are well covered by Spitzer, SCUBA-2, PACS-GT and near-IR surveys, to facilitate source identifications and enable detailed studies of the redshifts, spectral energy distributions, and infrared properties of detected galaxies.

The scientific goals and observations of the planned GT programmes will be outlined, and an indication given of some envisaged open time Key Projects.