

SPIRE point source photometry: within the Herschel interactive processing environment (HIPE)

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Abstract The different algorithms appropriate for point source photometry on data from the SPIRE instrument on-board the *Herschel* Space Observatory, within the Herschel Interactive Processing Environment (HIPE) are compared. Point source photometry of a large ensemble of standard calibration stars and dark sky observations is carried out using the 4 major methods within HIPE: SUSSEXtractor, DAOphot, the SPIRE Timeline Fitter and simple Aperture Photometry. Colour corrections and effective beam areas as a function of the assumed source spectral index are also included to produce a large number of photometric measurements per individual target, in each of the 3 SPIRE bands (250, 350, 500 μ m), to examine both the accuracy and repeatability of each of the 4 algorithms. It is concluded that for flux densities down to the level of 30mJy that the SPIRE Timeline Fitter is the method of choice. However, at least in the 250 and 350 μ m bands, all 4 methods provide photometric repeatability better than a few percent down to at approximately

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