

Data Collection	LESS
Release Number	1
Data Provider	I. Smail
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LABOCA Extended Chandra Deep Field South Submillimetre Survey

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The LABOCA Extended Chandra Deep Field South (ECDFS) Submillimetre Survey ([LESS](#)) is a public legacy survey of the ECDFS at 870 μm using the LABOCA camera ([Siringo et al. 2009](#)) on the APEX telescope ([Gusten et al. 2006](#)). A full description of the observations, reduction and analysis of the the datasets presented here is given in [Weiss et al. \(2009\)](#) and a brief summary is given below.

Release content

The LABOCA data presented here were obtained between 2007 May and 2008 November in excellent conditions using time from both ESO and Max Planck allocations. The mapping pattern was designed to uniformly cover the 30'x30' extent of the ECDFS, centered on 03:32:29.0, -27:48:47.0 (J2000). The project used a total of 310 hrs of observations to achieve a beam-smoothed noise of 1.2 mJy/beam over 900 sq. arcmin (and <1.6mJy/beam over 1260 sq. arcmin). The flux calibration of the map came from observations of Mars, Uranus and Neptune (as well as secondary calibrators) and is accurate to within 8.5%.

[Weiss et al. \(2009\)](#) describe the method used to identify a catalog of 126 sources above 3.7-sigma significance (corresponding to a deboosted flux of 4.6 mJy). We also provide a version of the map with these 126 sources removed by scaling and subtracting the beam at their positions. This map is best suited for investigation of the average flux from individually undetected sources within the ECDFS via so-called "stacking" techniques (e.g. [Greve et al. 2010](#)).

In April 2015 the Archive Science Group migrated the LESS dataset to the Phase 3 infrastructure allowing seamless publication with the Science Data Products.

Release Notes

The map was processed using the BoA array analysis software (Schuller et al. 2010, in prep), smoothed by the 19.2"-FWHM beam (to ~27" resolution) and regridded to 6" pixels. The absolute precision of the astrometry of the map was determined by stacking the submm emission from large numbers of near-infrared or radio sources in the field. This confirms that the absolute astrometry of the map is good to better than 1".

The noise map was derived using a jack-knife technique applied to the real observations. This provides an estimate of the noise arising from the scan pattern's coverage of our field, free from astronomical sources of signal. The signal to noise map is simply the ratio of the convolved flux map to this convolved noise map.

Data format

This data release contains the following files: the flux map, the signal-to-noise map (sn), the RMS map, and the residual map, each one as a separate FITS file having a single image extension. Furthermore, the catalog of 126 sources is included as a FITS binary table.

Data retrieval

Please request your copy of the data from the ESO Science Archive Facility using the Data Products query form: http://archive.eso.org/wdb/wdb/adp/phase3_main/form

Acknowledgements

When using data products provided in this release, we request that authors refer to the publication [Weiss et al. 2009, ApJ, 707, 1201](#). In addition, please also use the following statement in your articles when using these data:

Based on observations collected at the European Organisation for Astronomical Research in the Southern Hemisphere, Chile, under Programmes 078.F-9028(A), 079.F-9500(A), 080.A-3023(A), and 081.F-9500(A).