

MOST Survey Data and Catalogues

This page contains links to data files from the Molonglo Observatory Synthesis Telescope (MOST) surveys and catalogues.

Sydney University Molonglo Sky Survey (SUMSS)

The main SUMSS data products are a catalogue of the radio sky at 843 MHz, and a set of 4x4-degree FITS images on a grid which matches and extends that used by the northern [NVSS](#). SUMSS and NVSS have similar sensitivity and resolution, and together cover the whole sky.

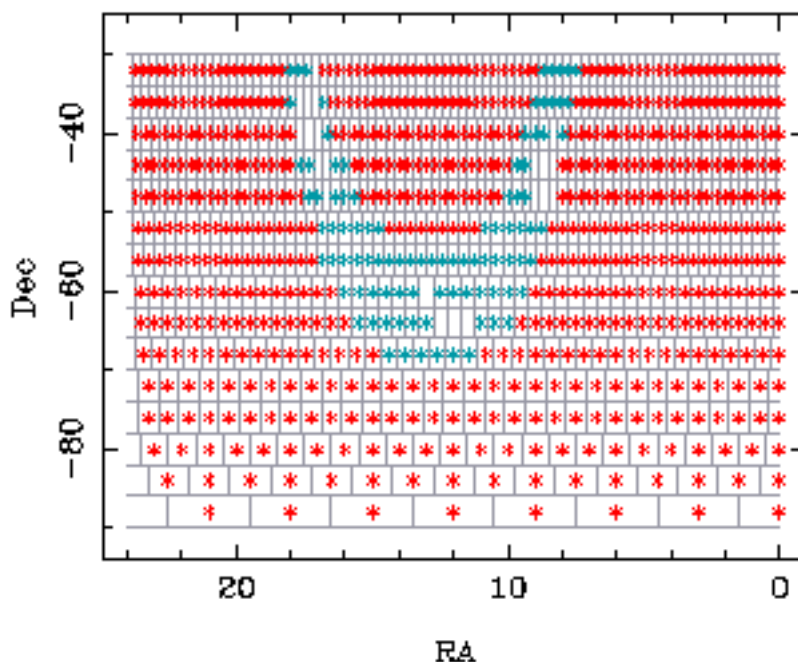
Version 2.1 of the SUMSS Catalogue is available (2008 March 11):

- [sumsscat.Feb-16-2012](#) (30MB text file)
- [sumsscat.Feb-16-2012.gz](#) (7MB gzipped file)

Version 2.1 corrects a bug in 2.0 in which some bright ($S > 500$ mJy) sources were missing from the catalogue. For more information about the version 2 release please consult the [MGPS-2 catalogue paper](#).

- See older versions of the Catalogue in the [Archive](#).
- [Description of Catalogue format](#)
- [Repository](#) of the SUMSS 4 X 4 degree mosaics.
- [SUMSS Postage Stamp Server](#) (retrieve images of small areas of sky)
- [Mosaic Sky Coverage](#) (gif, 9kb), only completed, publicly released mosaics are shown. [Alternate view](#).
- List of individual [SUMSS field centres](#) (ascii, 160kb)
- SUMSS data are also available in [Skyview](#) and [NED](#).

Available SUMSS Mosaics at 2007-Aug-30



The primary reference for the survey is [Bock et al. \(1999\)](#) SUMSS: A Wide-Field Radio Imaging Survey of the Southern Sky. I. Science goals, survey design and instrumentation AJ 117, 1578-1593

The reference for the catalogue is [Mauch et al. \(2003\)](#) SUMSS: A wide field radio imaging Survey of the Southern Sky. II. The source catalogue, MNRAS, 342, 1117-1130

First Epoch Molonglo Galactic Plane Survey (MGPS-1)

Two forms of MGPS data product are available: (1) 3 x 3 degree mosaics in the form of FITS files, and (2) Original images in FITS format. The quality of the mosaics is improved owing to the superposition of several component images and they are to be preferred for object searches and display purposes. However, the beam shape in the mosaics is not properly defined, and the original images should be used for most quantitative studies.

You can download the mosaics using the following table (the FITS mosaics are about 1.2 Mb each). You might need to use the SHIFT key in your browser to download the file to your disk. You can access the original images in gzip'ed FITS format (about 400 Kb each) at our [ORIGINALS](#) site. Consult the [AAA-README](#) file in this area for further information. Most of these images have a diameter of 70'.

The primary reference for MGPS-1 is [Green et al. \(1998\)](#) The Molonglo Galactic Plane Survey : I. Overview and Images, ApJS, 122, 207-219.

Field Centre	Field Centre
L=246.5,B=0.0 FITS	L=303.5,B=0.0 FITS
L=249.5,B=0.0 FITS	L=306.5,B=0.0 FITS
L=252.5,B=0.0 FITS	L=309.5,B=0.0 FITS
L=255.5,B=0.0 FITS	L=312.5,B=0.0 FITS
L=258.5,B=0.0 FITS	L=315.5,B=0.0 FITS
L=261.5,B=0.0 FITS	L=318.5,B=0.0 FITS
L=264.5,B=0.0 FITS	L=321.5,B=0.0 FITS
L=267.5,B=0.0 FITS	L=324.5,B=0.0 FITS
L=270.5,B=0.0 FITS	L=327.5,B=0.0 FITS
L=273.5,B=0.0 FITS	L=330.5,B=0.0 FITS
L=276.5,B=0.0 FITS	L=333.5,B=0.0 FITS
L=279.5,B=0.0 FITS	L=336.5,B=0.0 FITS
L=282.5,B=0.0 FITS	L=339.5,B=0.0 FITS
L=285.5,B=0.0 FITS	L=342.5,B=0.0 FITS
L=288.5,B=0.0 FITS	L=345.5,B=0.0 FITS
L=291.5,B=0.0 FITS	L=348.5,B=0.0 FITS
L=294.5,B=0.0 FITS	L=351.5,B=0.0 FITS
L=297.5,B=0.0 FITS	L=354.5,B=0.0 FITS
L=300.5,B=0.0 FITS	L=357.5,B=0.0 FITS

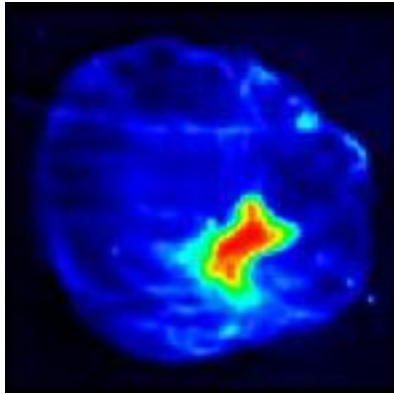
Second Epoch Molonglo Galactic Plane Survey (MGPS-2)

The main data products from MGPS-2 are the set of 130 4.3 x 4.3 degree mosaic images and a compact source catalogue.

- The mosaics are available [here](#) (most of the mosaics are listed under Galactic, but there are some borderline regions that are in Extragalactic).
- The catalogue is available online ([mgpscat.Aug-15-2007](#)).

The primary reference for MGPS-2 is [Murphy et al. \(2007\)](#) The Molonglo Galactic Plane Survey (MGPS-2): Compact Source Catalogue, MNRAS, 382, 382-392.

The MOST Supernova Remnant Catalogue (MSC)



The MOST Supernova Remnant Catalogue (MSC) is a catalogue of supernova remnants (SNRs) in the southern Galaxy within the area $245 \leq l \leq 355$ deg, $|b| < 1.5$ deg. It was produced from observations made at 0.843 GHz with a resolution of 43" using the MOST. Here we present on-line images from the MSC. For full details, refer to the [published version](#) of the catalogue (J.B.Z. Whiteoak & A.J. Green, A&A Suppl. Ser., 118, 329-380 [1996]).

Click on the links below to access the catalogue (FITS, PS and JPEG formats can all be downloaded from these pages):

- [Previously known SNRs](#) (MSC.A)
- [Newly discovered SNRs](#) (MSC.B)
- [All SNRs in MSC](#) (MSC.A + MSC.B)
- [Possible SNRs](#) (MSC.C; table only - no images available)

Photo gallery (JPEG format only):

- [Gallery A](#) (245 deg $\leq l \leq$ 301 deg; 14 JPEG images, ~20 kB each)
- [Gallery B](#) (302 deg $\leq l \leq$ 317 deg; 14 JPEG images, ~20 kB each)
- [Gallery C](#) (318 deg $\leq l \leq$ 329 deg; 14 JPEG images, ~20 kB each)
- [Gallery D](#) (330 deg $\leq l \leq$ 340 deg; 14 JPEG images, ~20 kB each)
- [Gallery E](#) (341 deg $\leq l \leq$ 355 deg; 14 JPEG images, ~20 kB each)
- [All SNRs in MSC](#) (70 JPEG images; 1500 kB total)

If you use any images or data from the catalogue in your publication, please cite [J.B.Z. Whiteoak & A.J. Green](#), A&AS, 118, 329 (1996) and include the acknowledgement:

"The MOST is operated by The University of Sydney with support from the Australian Research Council and the Science Foundation for Physics within The University of Sydney."

Molongolo Reference Catalogue (MRC)

The Molongolo Reference Catalogue is available [here](#)

Molonglo Calibrator Database

The Molonglo Calibrator Database contains light curves for all 55 sources used for calibration of the (MOST), for the time period 1984 to 1996. Data available here include a table of binned flux density vs time for each source, light curves for all sources and structure functions for variable sources. For full details, refer to the papers "Variable radio sources at 843 MHz" ([Campbell-Wilson & Hunstead, PASA, 11, 33, 1994](#)) and "Long-term monitoring of Molonglo calibrators" ([Gaensler & Hunstead, PASA, 17, 72, 2000](#)).

Click on the links below to access the database:

- Data tables: single [.tar.gz](#) file (26 kB), or directory listing of
- [Light curves](#) (all 55 sources; gzipped PS, 97 kB)
- [Structure functions](#) (18 variable sources only; gzipped PS, 31 kB)

If you use any of this data in your catalogue, please cite [B.M. Gaensler & R.W. Hunstead, Publ Astron Soc Aust, 17, 72 \(2000\)](#) and include the acknowledgement:

"The MOST is operated by the University of Sydney with support from the Australian Research Council and the Science Foundation for Physics within the University of Sydney."

The Molonglo Southern 4 Jy Sample (MS4)

This is a (nominally) complete sample of 228 strong extragalactic radio sources selected to have:

- Declination between -30° and -85°
- Galactic latitude $|b| > 10^\circ$
- Flux density at 408 MHz stronger than 4.0 Jy
- Not in the Magellanic Cloud regions.

The sample is described in the following two papers (the links are to pre-prints with higher resolution figures):

- [Burgess AM, Hunstead RW](#) (2006) The Molonglo Southern 4 Jy Sample (MS4). I. Definition. *AJ*, 131, 100-113.
- [Burgess AM, Hunstead RW](#) (2006) The Molonglo Southern 4 Jy Sample (MS4). II. ATCA Imaging and Optical Identification. *AJ*, 131, 100-113.

Plots of the radio spectra are available as a [PDF](#) (12 pages, 1.1 MB). The flux densities used to make the plots are given in this [ASCII file](#).

Supernova 1987A

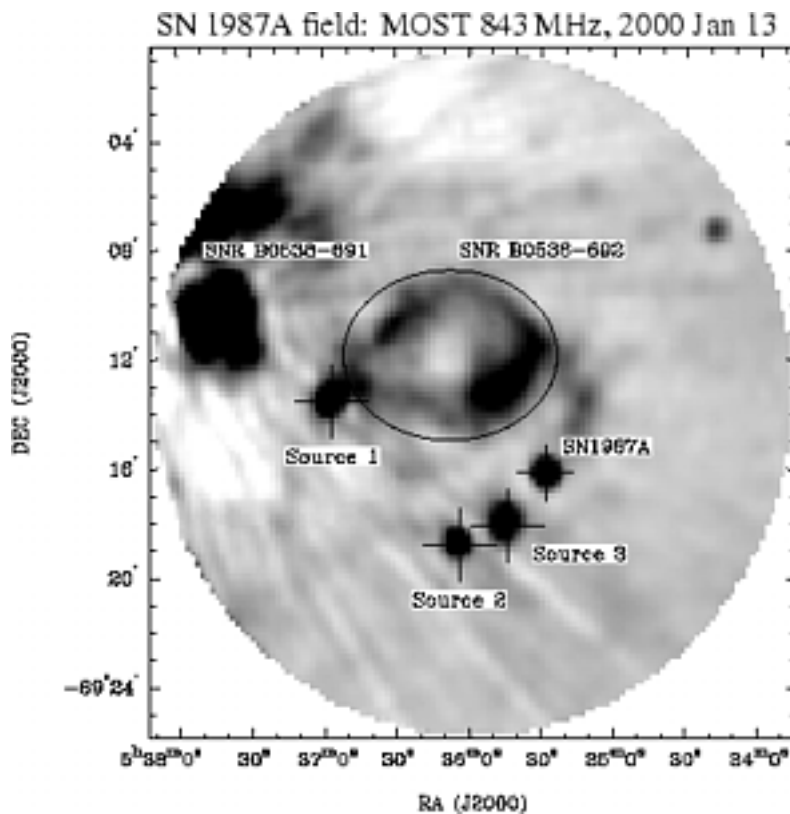
SN1987A was a supernova in the Large Magellanic Cloud (LMC) - the nearest supernova explosion observed in over 300 years, approximately 51.4 kiloparsecs (168,000 light years) away. That made it visible to the naked eye, with an apparent magnitude of about 3 that slowly declined over the following months. Radio emission from SN1987A was first detected with the MOST on 1987 February 25.23 UT (Turtle et al. 1987, *Nature*, 327, 38), two days after the detection of neutrinos.

MOST continued to monitor the evolution of the radio emission through its decline, quiescence,

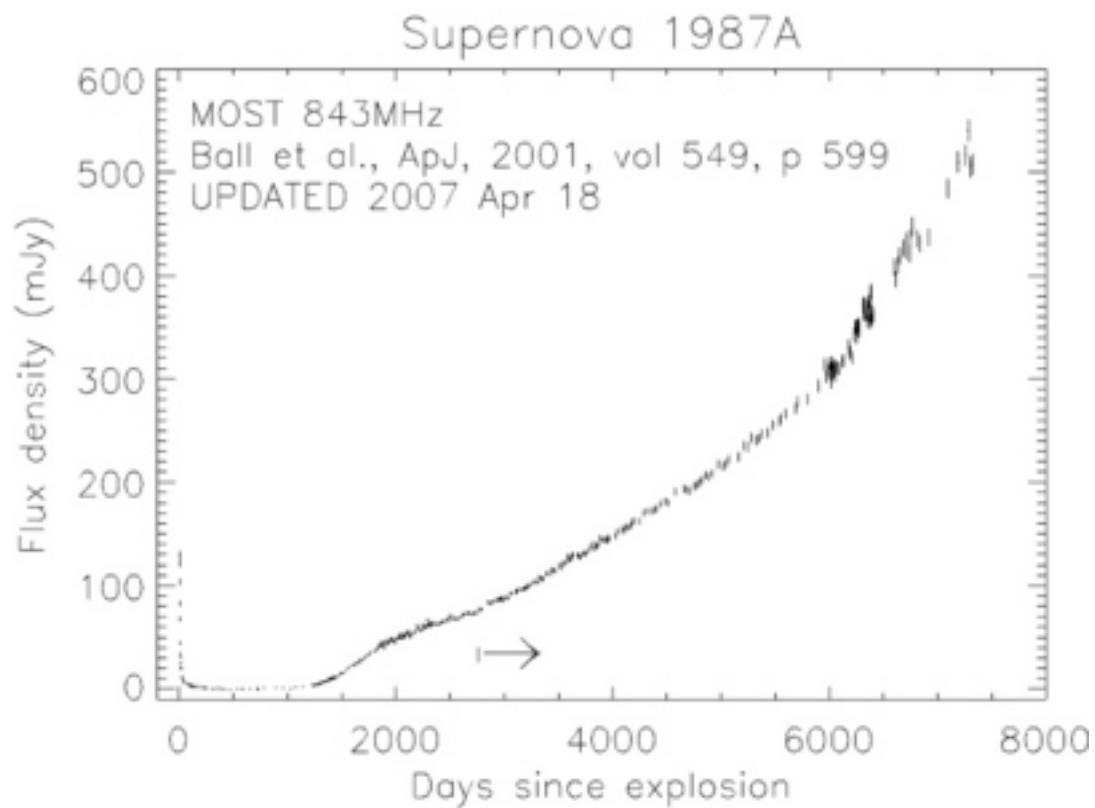
recovery on 1990 July 5, and subsequent monotonic rise. The most recent data show a clear steepening in the rate of increase of flux density. The closer monitoring around day 6000 was triggered by an apparent increase in short-term variability.

843 MHz flux densities up to and including 1994 September 3 were reported by Ball et al. 1995 (ApJ, 453, 864). Data from 1994 September 17 to 2000 May 5 are given in Ball et al. 2001 (ApJ, 549, 599). The complete light curve is shown below.

- Download the [full MOST datfile](#) from 1987 to the present (25 kB)
- Download the [MOST radio image](#) of the SN1987A field (92 kB, gzipped ps)
- Download the [MOST light curve](#) at 843 MHz (45 kB, ps)



MOST Radio Image



MOST Light Curve

If you use any MOST images or data for SN1987A in your publication, please cite Ball, L., Crawford, D.F., Hunstead, R.W., Klamer, I., & McIntyre, V.J., "Radio supernova 1987A at 843 MHz" (2001, ApJ, 549, 599-607) and this website, and include the acknowledgement:

"The MOST is operated by the University of Sydney and supported in part by grants from the Australian Research Council."