The Parkes Multibeam Pulsar Survey Data Release

J.F. Bell[1], R.N. Manchester[1], F. Crawford[3], A.G. Lyne[2], F. Camilo[2],
V.M. Kaspi[3], I.H. Stairs[2], D.J. Morris[2], N. D'Amico[4], N.P.F. McKay[2],
M. Kramer[2], D.C. Sheppard[2], A. Possenti[4]

[1]*Australia Telescope National Facility, CSIRO, PO Box 76, Epping
NSW 1710, Australia;   jbell@atnf.csiro.au*

[2]*University of Manchester, Jodrell Bank Observatory, Macclesfield,
Cheshire SK11 9DL, UK*

[3]*Center for Space Research, MIT, Cambridge MA 02139, USA*

[4]*Osservatorio Astronomico di Bologna, 40127 Bologna, Italy*

Abstract.   The Parkes multibeam pulsar survey which began in 1997
and is now about 50% complete. It has discovered more than 400 new
pulsars so far, including a number of young, high magnetic field, and
relativistic binary pulsars. Early results, descriptions of the survey and
follow up timing programs can be found in papers by Lyne et al. (1999
MNRAS in press), Camilo et al. (this volume), and Manchester et al.
(this volume). This paper describes the data release policy and how you
can gain access to the raw data and details on the pulsars discovered.

1.   Conditions of Release

Details of pulsars discovered in the survey are placed on the WWW at the time
of acceptance of the paper announcing the discoveries, or 18 months after confir-
mation of the detection, whichever is first. Raw data tapes from the survey are
made available for copying two years after recording. Details of pulsars observa-
tions which fall into these categories can be found on http://www.atnf.csiro.au/
~pulsar/psr/pmsurv/pmwww/. There is no observatory-based archive, so ac-
cess to the data should be negotiated with project PIs.

2.   Volume of data

One-bit samples are recorded at a rate of 4 kHz for each of the 96 channels per
beam. Each 35 minute survey observation with the 13-beam system fills 1.3
GBytes (~100 MBytes per beam) in its raw form. This is recorded on DLT7000
tapes which hold up to 35 GBytes and cost around US$80 each. About 3000
such observations will be made in completing the survey, giving a total data set
of about 4 TBytes. Our search processing requires 130 hours of CPU time on a
SUN Ultra 1 for each 35 minute observation.

3. How to Access data

Data logs are available on http://www.atnf.csiro.au/~pulsar/psr/pmsurv/pmwww/
For the multibeam pulsar survey and followup timing projects the PIs to contact
are Andrew Lyne (agl@jb.man.ac.uk) or Dick Manchester (rmanches@atnf.csiro.
au) or Fernando Camilo (fernando@astro.columbia.edu).

Small requests: If you want a copy of a single tape or a few individual
observations we are happy to copy the data and post you a tape or a CD.
Please indicate your preference for media type.

Larger requests: You would need to come to Epping or Jodrell Bank and
copy the data onto your own DLT7000 media. If you want a copy of the
complete survey, you would need to bring a workstation, a DLT7000 tape
drive and a drive for the media type of your choice.

Timing Data: Processed archives or TOAs can be made available by ftp, CD
or exabyte. For raw data requests the above schemes for small and large
requests would apply.

4. Has the position you are interested in been observed ?

The observing logs on the web site contain grid IDs for the centre beam of
each 35 minute survey observation. The grid ID $= il * 1000 + ib$ where $b =
(ib - 500) * 0.20207$ and $l = (il - 5000 + 0.5 * \mathrm{mod}(ib, 2)) * 0.2333$. The Galactic
centre has grid ID 5000500. The nominal centre positions of the other 12 beams
can be determined from the offsets relative to beam 1 given in the table below.

	2	3	4	5	6	7	8	9	10	11	12	13
l	-0.24	0.24	0.49	0.24	-0.24	-0.49	-0.73	0.00	0.73	0.73	0.00	-0.73
b	0.42	0.42	0.00	-0.42	-0.42	0.00	0.42	0.85	0.42	-0.42	-0.85	-0.42

5. Software Tools

We guarantee to provide software to read the tapes on a SUN Ultra class work-
station. This software also works on most brands of UNIX operating systems.
A range of software tools are available on an all care and no responsibility basis.

pmfind	search for pulsars
pdm	fold and dedisperse data for a given pulsar
fch3	fold data with precision suitable for timing
tarch	form processed archives for timing analysis
treduce	analyse timing archives
pmhex	survey observation database
foldch	fold and analyse individual filter bank channels

6. Collaborative Projects

It is possible to get access to data and results from the survey earlier by collab-
orative arrangements. To date we have embarked on such arrangements with 11
groups and welcome proposals from others.