v255k

Description	Astrometric Observation of Methanol Masers: Determining Galactic Structu
Antennas	At-Cd-Ho-Mp-Pa
Start	204 07:00:00
Stop	204 17:00:00
PI	S.P. Ellingsen

Setup v255k.5cm: nif=2

Station Modes	At Cd Ho Mp Pa
Channel 1	IFP#1-LO 6642 - 6658 MHz USB RCP
Channel 2	IFP#1-HI 6658 - 6674 MHz USB RCP
Channel 3	IFP#2-LO 6642 - 6658 MHz USB LCP
Channel 4	IFP#2-HI 6658 - 6674 MHz USB LCP
DAS 1 Skyfreq	6658 MHz
Bandwidth	16 MHz
DAS Mode	vsop.pro (telescope)

Setup v255k.5cm-icrf: nif=4

Station Modes	At Cd Ho Mp Pa
Channel 1	IFP#1-LO 6300 - 6316 MHz USB RCP
Channel 2	IFP#1-HI 6316 - 6332 MHz USB RCP
Channel 3	IFP#2-LO 6642 - 6658 MHz USB LCP
Channel 4	IFP#2-HI 6658 - 6674 MHz USB LCP
DAS 1 Skyfreq	6316 & 6658 MHz
Bandwidth	16 MHz
DAS Mode	vsop.pro (telescope)

Mode changes:
204 07:00:00 v255k.5cm
204 07:10:00 v255k.5cm-icrf
204 08:00:00 v255k.5cm
204 11:30:00 v255k.5cm-icrf
204 12:15:00 v255k.5cm
204 16:15:00 v255k.5cm-icrf

Ftp: ftp://ftp.atnf.csiro.au/pub/people/vlbi/v255/v255k

Comments:

The basic method and frequencies for this experiment are the same as for the earlier v255 experiments (Mar 10, Dec & Sep 09 and earlier). The frequency setup for this session is identical to March. As for March the setup for the ICRF observations is to be 2 IFs with different polarizations, rather than 2 IFs with a single polarization which was used prior to September 09 (this avoids

recabling at Hobart/Ceduna and significantly simplifies the setup changes). The times for the setup changes are given above.

The purpose of these observations is to obtain the first epoch for proper motion/parallax observations of the methanol maser sources G329.031-0.198, G329.029-0.205 and G329.066-0.308. We will observe both masers and phase calibrators with dual polarization 2×16 MHz bandpasses, but the correlator output will be high spectral resolution around the masers (G329.03 should show a modest peak at a sky frequency of around 6669.0 MHz during these observations) and standard continuum for the phase reference source. The idea is to have a mode which expands the number of suitable phase reference sources available for spectral line sources.

During the ICRF runs we have sometimes had to exclude certain antennas (particularly Parkes) from observations of some sources in order to get a good spread of azimuths and elevations.

Hobart, Ceduna :

The 4 x 16 MHz bandpass setup requires feeding two separate LOs into IFP#1 and #2 on the DAS/frequency translator. Unlike the sessions prior to September 09, we wont need to recable during the run though. For Hobart the LOs should be set to 468 MHz (IFP#1) and 810 MHz (IFP#2) for the 4 x 16 MHz setup and 810 MHz for the 2 x 16 MHz setup. For Ceduna, if you set the agilent to 11.1 GHz rather than 11.4 GHz, then you can use the same LOs as at Hobart.

The level into IF#1 will change significantly between the two setups. Set the level into the DAS so that it is within range for both setups. Setup the system temperature measurement so that it works for both IFs for the v255k.5cm setup - it doesn't matter if the system temperature measurement doesn't work for the first IF during the ICRF observations as these are only to calibrate the delay. Please don't change the attenuation into the DAS when the setup changes as that may change the delay.

Parkes, ATCA, Mopra :

For the ATCA please only phase-up CA01 through CA04 for this experiment. This is so that the synthesised beam is around 1 arcminute. G329.031 and G329.029 are separated by about 30 arcseconds and the observation of G329.03-0.2 is at the mid-point of these two masers.

Setup as for a 2p-4IF experiment (dual DAS with huygens cable for entire experiment) with DAS1 tuned to the lower frequency and DAS2 to the upper frequency. To switch between single frequency and and dual frequency setup you need to stop the recorder and change channel selection in cdisko as per the following table.

v255k.5cm	Channels 5-8
v255k.5cm-icrf	Channels 1,2,7,8

Observing comments for each antenna:

At|Cd|Ho|Mp|Pa

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Observing Logs

Parkes onsource flagging
ATCA onsource flagging
Mopra onsource flagging
Mopra Tsys (plot)
Parkes Tsys

Weather

ATCA Weather
Mopra Weather
Parkes Weather

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