

v547d

Description	3D Kinematics in G339.884-1.259 at 10 to 1000 AU Scales
Antennas	At-Cd-Ho-Mp-Pa
Start	37 14:30:00
Stop	38 05:00:00
PI	V. Krishnan

Setup v547d.1cm:

Station Modes	At Mp Pa
Channel 1	IFP#1-L0 22230 - 22246 MHz USB RCP
Channel 2	IFP#1-HI 22246 - 22262 MHz USB RCP
Channel 3	IFP#2-L0 22230 - 22246 MHz USB LCP
Channel 4	IFP#2-HI 22246 - 22262 MHz USB LCP
DAS 1 Skyfreq	22246 MHz
Bandwidth	16 MHz
DAS Mode	vsop.pro (telescope)
Station Modes	Cd
Channel 1	22230 - 22246 MHz USB RCP
Channel 2	22230 - 22246 MHz USB LCP
Channel 3	22246 - 22262 MHz USB RCP
Channel 4	22246 - 22262 MHz USB LCP
Bandwidth	16 MHz
DAS Mode	Mark5
Station Modes	Ho
Channel 1	22230 - 22246 MHz USB RCP
Channel 2	22230 - 22246 MHz USB LCP
Channel 3	22246 - 22262 MHz USB RCP
Channel 4	22246 - 22262 MHz USB LCP
Bandwidth	16 MHz
DAS Mode	Mark5

Ftp: <ftp://ftp.atnf.csiro.au/pub/people/vlbi/v547/v547d>

Comments:

Break down of the schedule:

- ! 14:30 - 15:30 Fringe check (3C273)
- ! 15:30 - 17:50 G339.884-1.259
- ! 17:50 - 18:01 Find fringe (3C273)
- ! 18:01 - 20:22 G339.884-1.259
- ! 20:22 - 20:45 Find fringe & polarisation scan (1921-293 & 1934-638)
- ! 20:45 - 22:57 G339.884-1.259
- ! 22:57 - 23:29 Find fringe & polarisation scan (1921-293 & 1934-638)
- ! 23:29 - 01:44 G339.884-1.259

! 01:44 - 02:06 Find fringe & polarisation scan (1921-293 & 1934-638)
! 02:06 - 03:07 G339.884-1.259
! 03:07 - 03:30 Find fringe & polarisation scan (1921-293 & 1934-638)
! 03:30 - 04:47 G339.884-1.259
! 04:47 - 04:00 Find fringe & polarisation scan (1921-293 & 1934-638)

The observing requirements for v547d are essentially identical to v547c (<http://www.atnf.csiro.au/vlbi/dokuwiki/doku.php/lbaops/lbajun2017/v547c>).

The aim of our project is to conduct astrometric observations of the 22 GHz water masers in G339.884-1.259 to sub-milliarcsecond accuracy. We will be phase referencing this source with respect to J1706-4600 to determine the absolute proper motions of the maser features to probe the 3D gas dynamics at scales of 10 to 1000 AU to understand the outflow structure of this source.

Phase referencing observations will be interspersed with scans on PKS1934-638 for D-term leakage for polarisation measurements. Unlike the previous two sessions, we will not be employing the geodetic block segments, thereby streamlining the observation requirements.

Maser emission for G339.884-1.259 is at approximately 22,239.56 MHz.

Observing comments for each antenna:

Hobart, Ceduna:

The 4 x 16 MHz bandpass setup requires feeding two separate LOs into IFP#1 and #2 on the DAS/frequency translator.

bbc01d is for single frequency (467 MHz)

ATCA:

Please, phase-up antennas CA01 through CA05 for this experiment. During phase-referencing have scheduled regular 3m scans (including slew time with a frequency of ~15 mins) of 1646-50 to re-phase the array.

Parkes:

There will be no observations between UT 15:35 - 16:54 and UT 03:30 - 04:39 because G339.884-1.2 will be set.

In v547a and v547b, when we had the ICRF blocks, we had to change the DAS profile and attenuation manually, but will not be necessary now:

<http://www.atnf.csiro.au/vlbi/dokuwiki/doku.php/lbaops/lbaoct2016/v547a>

<http://www.atnf.csiro.au/vlbi/dokuwiki/doku.php/lbaops/lbamar2017/v547b>

Observing comments for each antenna:

At	Cd	Ho	Mp	Pa
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Observing Logs

[ATCA antenna summary](#)
[Parkes onsource flagging](#)
[ATCA onsource flagging](#)
[Mopra onsource flagging](#)
[Mopra Tsys \(plot\)](#)
[Parkes Tsys](#)

Weather

[ATCA Weather](#)
[Mopra Weather](#)
[Parkes Weather](#)

Monica log information

[Mopra Tsys](#)
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Last update: **2018/02/05 20:00**

