



Observing Application

Date : Apr, 02 2010
 Proposal ID : VLBA/10A-147
 Legacy ID : BD150
 PI : Fonda Day
 Type : Rapid Response -
 Exploratory Time
 Category : Stellar,
 Astrometry/Geodesy,
 Extragalactic
 Total Time : 3.0

Determining positions of BP150 VLBA calibrators

Abstract:

Measuring distances to pre-planetary nebulae (PPNs) is an important step in understanding the evolution of intermediate mass stars from the asymptotic giant branch (AGB) phase to the planetary nebula (PN) phase. Water fountain nebulae are a subclass of PPNs displaying high velocity (>50 km/s velocity separation) H₂O jet-like outflows. Project BP150 was allocated VLBA time to measure the parallax distance to four water fountain sources. Two of these target PPNs remain to be observed, however suitable phase-reference calibrators for each target are essential for the accuracy of our measurements. We used 2 hours of VLBA time in the first segment of proposal BD149 (using 1.6 GHz) to identify a set of calibrators. Here we ask for another 3 hours to derive their positions which were initially known from NVSS only, and are not sufficient for the remaining segment of BD149 (using 22 GHz).

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Related proposals:

BP150, BD149

Joint:

Not a Joint Proposal

Observing type(s):

Spectroscopy

VLBA Resources

Name	Wavelength	Processor	Stations	Observing Parameters	Correlation Parameters

Name	Wavelength	Processor	Stations	Observing Parameters	Correlation Parameters
OH	18 cm	Socorro-DiFX	VLBA <input checked="" type="checkbox"/> Br <input checked="" type="checkbox"/> Fd <input checked="" type="checkbox"/> Hn <input checked="" type="checkbox"/> Kp <input checked="" type="checkbox"/> La <input checked="" type="checkbox"/> Mk <input checked="" type="checkbox"/> Kp <input checked="" type="checkbox"/> Ov <input checked="" type="checkbox"/> Pt <input checked="" type="checkbox"/> Sc <input checked="" type="checkbox"/> <hr/> HSA Ar Ef GBT VLA-Y27 <hr/> VLA-Y1 <hr/> Geodetic	Bandwidth: 16 MHz Baseband 8 Channels Sample Rate 32 (Msample/s) Bits/Sample 2 Polarization RCP & Agg. Bit Rate 512 (Mbits/sec)	Full Polarization Pulsar Gate Correlator Passes 1 Integration Period (sec) 2.0 Spectral Points /BBC 256 No of Fields 0

Sources:

Name	Position		Velocity		Group
J1648-3301	Coordinate System	Equatorial	Convention	Radio	i16552
	Equinox	J2000			
	Right Ascension	16:48:42.35 00:00:00.0	Ref. Frame	LSRK	
	Declination	-33:01:48 00:00:00	Velocity	0	
N1654-3049	Coordinate System	Equatorial	Convention	Radio	i16552
	Equinox	J2000			
	Right Ascension	16 54 10.67 00:00:00	Ref. Frame	LSRK	
	Declination	-30 49 10.9 00:00:00	Velocity	0	
N1659-3130	Coordinate System	Equatorial	Convention	Radio	i16552
	Equinox	J2000			
	Right Ascension	16 59 49.04 00:00:00	Ref. Frame	LSRK	
	Declination	-31 30 47.4 00:00:00	Velocity	0	
N1659-3132	Coordinate System	Equatorial	Convention	Radio	i16552
	Equinox	J2000			
	Right Ascension	16 59 49.80 00:00:00	Ref. Frame	LSRK	
	Declination	-31 32 26.5 00:00:00	Velocity	0	
N1659-3052	Coordinate System	Equatorial	Convention	Radio	i16552
	Equinox	J2000			
	Right Ascension	16 59 56.99 00:00:00	Ref. Frame	LSRK	
	Declination	-30 52 5.6 00:00:00	Velocity	0	
N1700-3043	Coordinate System	Equatorial	Convention	Radio	i16552
	Equinox	J2000			
	Right Ascension	17 00 43.11 00:00:00	Ref. Frame	LSRK	
	Declination	-30 43 12.1 00:00:00	Velocity	0	
N1700-3048	Coordinate System	Equatorial	Convention	Radio	i16552
	Equinox	J2000			
	Right Ascension	17 00 54.13 00:00:00	Ref. Frame	LSRK	
	Declination	-30 48 7.4 00:00:00	Velocity	0	