



# Observing Application

Date : Aug, 06 2007
Proposal ID : VLA/07C-243
Legacy ID : AC910
PI : Buck Creel
Type : Rapid Response - Exploratory Time
Category : Stellar
Total Time : 2.00

## Affirming OH and H2O maser emission in "water-fountain" Pre-Planetary

### Abstract:

Measuring the distance to Pre-Planetary Nebulae (PPNe) is an important step in understanding the evolution of mid mass (1-8 solar mass) stars from the Asymptotic Giant Branch (AGB) phase to the Planetary Nebula (PN) phase. Few known stars exist in this short (~1000 yr) transitory period and, due to dust obscuration and other characteristics, few have had their distance measured, inhibiting detailed studies of this class of stars. Project BC170 has been allocated VLBA time to measure the parallax distance to 4 PPNe, targeting their 22.2 GHz water maser emission. In the same epochs appropriate OH emission from the stars is measured to further study the systems. Observations of one of these stars has yielded no emission at the water or hydroxyl lines. We seek two hours of VLA exploratory time to observe the parallax candidates, and other PPNe candidates, at the OH 1612 MHz emission line and the H2O 22.2 GHz emission line in order to prevent choosing sources that might no longer be masing.

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### Related proposals:

### Joint:

Not a Joint Proposal

### Observing type(s):

Spectroscopy

### GBT Resources

### Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
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Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
IRAS19190+1102	19:21:25.3 00:00:00.0	+11:08:40 00:00:00	J2000	Velocity : 28	Unspecified Group
OH12.8-0.9	18:16:49.2 00:00:00.0	-18:15:01 00:00:00	J2000	Velocity : -58	Unspecified Group
IRAS17347-3139	17:38:00.6 00:00:00.0	-31:40:55 00:00:00	J2000	Velocity : 0	Unspecified Group
IRAS18596+0315	19:02:06.3 00:00:00.0	+03:20:16 00:00:00	J2000	Velocity : 88	Unspecified Group
IRAS18043-2116	18:07:20.9 00:00:00.0	-21:16:10 00:00:00	J2000	Velocity : 88	Unspecified Group
IRAS18286-095	18:31:22.7 00:00:00.0	-9:57:22 00:00:00	J2000	Velocity : 0	Unspecified Group
IRAS18460-0151	18:48:42.8 00:00:00.0	-1:48:40 00:00:00	J2000	Velocity : 0	Unspecified Group
IRAS16552-3050	16:58:27.9 00:00:00.0	-30:55:08 00:00:00	J2000	Velocity : 0	Unspecified Group

### Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
Session 2	1.00	1	0 day	00:00:00	24:00:00	0
Session 1	1.00	1	0 day	00:00:00	24:00:00	0

### Session Constraints:

Name	Constraints	Comments

### Session Source/Resource Pairs:

Present for observation: yes

Staff support: Consultation