



# Observing Application

Date : Apr, 15 2009  
 Proposal ID : VLA/09A-196  
 Legacy ID : AF483  
 PI : Dale Frail  
 Type : Rapid Response -  
 Exploratory Time  
 Category : Galactic  
 Total Time : 3.0

## Confirming Methanol Masers Toward the Supernova Remnant Kes 79

### Abstract:

We propose Exploratory Time to investigate a possible detection of a Class I methanol maser toward a supernova remnant. If this detection is real it would provide us with a new tool for studying the interaction of supernova remnants with molecular clouds. We ask to observe the methanol 70-61 A+ transition (44.069 GHz) for two targets: (1) Kes 79, for which there is a claimed detection of the methanol 80-71 A+ transition (95.169 GHz) and (2) W28, an SNR with strong OH(1720 MHz) masers. Together, these observations will help us plan for a possible larger VLA proposal submission at the June 2009 deadline.

### Authors:

Name	Institution	Email	Status
Dale Frail	National Radio Astronomy Observatory	dfrail@nrao.edu	

Principal Investigator: Dale Frail  
 Contact: Dale Frail  
 Telephone: 505 835 7027  
 Email: dfrail@nrao.edu

### Related proposals:

### Joint:

Not a Joint Proposal

### Observing type(s):

Spectroscopy, Single Pointing(s)

### VLA Resources

Name	Conf.	Frontend & Backend	Setup
Maser	Any	Q Band 0.7 cm 40000 - 50000 MHz  VLA Correlator - Spectral Line	Rest frequencies: 44069. MHz Bandwidth: 3.125 MHz Spectral resolution: 24.414 kHz IF Mode: 2 No. of Channels: 128

### Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
Meth79	18:52:48.5 00:00:00.0	+00:40:43 00:00:00	J2000	Velocity : 88.2	Kes79

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
W28-OH-E	17:58:48.5 00:00:00.0	-23:18:00 00:00:00	J2000	Velocity : 15	W28
W28-OH-Fa	17:58:50.0 00:00:00.0	-23:19:30 00:00:00	J2000	Velocity : 12.0	W28
W28-OH-Fb	17:58:48.5 00:00:00.0	-23:18:40 00:00:00	J2000	Velocity : 12.0	W28

### Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
Kes79maser	1.00	1	0 day	17:00:00	21:00:00	0
W28maser	2.00	1	0 day	16:00:00	20:00:00	0

### Session Constraints:

Name	Constraints	Comments

### Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
Kes79maser	Meth79	Maser	1.0 hour	10 mJy/bm	
W28maser	W28-OH-E W28-OH-Fa W28-OH-Fb	Maser	2.0 hour	10 mJy/bm	

Present for observation: yes

Staff support: None

Plan of Dissertation: no