Observing Application

Date :	Feb, 11 2009
Proposal ID :	VLA/09A-187
Legacy ID :	AW761
PI :	Jeff Wagg
Type :	Rapid Response - Exploratory Time
Category :	Extragalactic
Total Time :	5.0

Confirming a tentative detection of H2O megamaser emission at z~2.5

Abstract:

We have recently used the new EVLA C-band antennas to conduct the first search for water megamaser emission in FIR luminous submm galaxies at z~2.5. We find very good evidence for a water megamaser in SMMJ14011, a strongly lensed submm galaxy with previous detections of molecular gas through CO line emission. Confirming that such water maser lines exist in these high-redshift submm galaxies would open up a powerful new route to estimate redshifts for these objects and to study their dense, interstellar molecular gas.

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Related proposals:

AW750, AW751

Joint:

Not a Joint Proposal

Observing type(s):

Spectroscopy

VLA Resources

Name	Conf.	Frontend & Backend	Setup
cbandJ14011	B	C Band 6 cm 4000-8000 MHz VLA Correlator - Spectral Line	Rest frequencies: 6236.0,6236.0 MHz Bandwidth: 6.25 MHz Spectral resolution: 97.656 kHz IF Mode: 2 No. of Channels: 64

Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
J14011	14:01:04.1 00:00:00.0	+02:52:24 00:00:00	J2000	Redshift : 2.565	firgalsz25

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
observeJ14011	5.00	1	1 day	14:00:00	19:00:00	30

Session Constraints:

Name	Constraints	Comments

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
observeJ14011	J14011	cbandJ14011	5.0 hour	0.48 mJy/bm	

Present for observation: yes Staff support: None Plan of Dissertation: no