Observing Application

An Unusual New OH Megamaser and Starburst Wind at z=0.2

Abstract:

We request a VLA snapshot observation of the likely OH megamaser emission and starburst wind at z=0.2 detected in the "blind" ALFALFA survey. The optical counterpart of this megamaser is unknown; there are 5-10 galaxies in the Sloan Digital Sky Survey that could be the host. This is a very unusual OH megamaser because there is no IR-luminous galaxy detected by 2MASS or IRAS in the field. The OH spectrum also shows an unprecedented blueshifted absorption feature that likely indicates a starburst wind. We request 1 hour to localize the 25 mJy emission and 3 mJy absorption lines. We will also obtain a continuum measurement and hence a star formation rate in the merging galaxy host. This is a Rapid Response Exploratory Time request because we can quickly identify the optical counterpart to within about 0.25" using C-array before the move to D-array. We request a rapid response because this work is part of an undergraduate senior thesis and because we need localization in order to plan high resolution VLA or VLBA observations. Once the counterpart is identified, we will obtain IR spectra and images in the fall with ARC at Apache Point.

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Related proposals:

Joint:

Not a Joint Proposal

Observing type(s):

Spectroscopy

VLA Resources

Name	Conf.	Frontend & Backend	Setup

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OHM	C	L Band 20 cm 1000 - 2000 MHz VLA Correlator - Spectral Line	Rest frequencies: 1667.359 MHz Bandwidth: 3.125 MHz Spectral resolution: 48.828 kHz IF Mode: 2 No. of Channels: 64

Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
OH0808+0532	08:08:38.7 00:00:00.0	+05:31:43 00:00:00	J2000	Velocity : 62910	OHM

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
OHM	1.00	1	0 day	05:00:00	11:00:00	0

Session Constraints:

Name	Constraints	Comments

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
OHM	OH0808+0532	OHM	1.0 hour	1.05 mJy/bm	

Present for observation: no   Staff support: Consultation   Plan of Dissertation: no