Observing Application

Date:Apr 9, 2007
Proposal ID:VLA/07B-251
Legacy ID:AA314
PI: Esteban Araya
Type:Rapid Response
Exploratory Time
Category: Galactic
Total time: 5.5 hour

Relation between the H2CO 6cm and CH3OH 6.7GHz Maser Flares in IRAS18566+0408

Abstract:

Using Arecibo, we have recently detected a flare that occurred simultaneously in the H2CO 6cm maser and in only one maser component of the CH3OH 6.7GHz emission in IRAS18566+0408. Based on previous radio continuum VLA observations of the source by our group, we know that the H2CO 6cm maser is coincident with a weak radio continuum source. We propose the following hypothesis: the H2CO and the CH3OH maser that showed the flare are both unsaturated and collinear, and the flares were caused by amplification of variable background radio continuum; the other CH3OH maser components did not show the flare because they are not collinear with the H2CO maser and radio continuum source. In this project we propose to test this hypothesis by obtaining the positions of the CH3OH 6.7GHz masers in IRAS18566+0408 and comparing them with the position of the H2CO maser and radio continuum source.

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Related proposals:

AA277, AA280, AA289, AA298, AA299, AA304, AA305, AA307

Joint:

Not a Joint Proposal

Observing type(s):
Spectroscopy, *

Resources:

Resource name	Tele. Conf.	Frontend & Backend	Set up
CH3OH	VLA A	C Band 6 cm 4200 - 7700 MHz VLA Correlator - Spectral Line	IF mode: 1 Bandwidth: 0.78125 MHz Number of channels: 512 Spectral resolution: 1.526 kHz Rest frequencies: 6668.5 MHz

Sources:

Source name	RA / RA Range	DEC / DEC Range	System	Velocity/z	Group name
IR18566+0408	18:59:09.9 00:00:00.0	04:12:15 00:00:00	J2000	84 km/s	

Sessions:

Session Name	Session Time	Repeat	Separation	LST Minimum	LST Maximum	Elevation Minimum
CH3OH	5.5 hours	1	0 day	00:00:00	24:00:00	0

Session Constraints:

Session Name	Constraint	Comments
CH3OH		

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit
CH3OH	IR18566+0408/	CH3OH	5.5 hour	30mJy/bm

Total Time per Configuration:

Configuration	Total Time
A	5.5

Present for observation: no Staff support: Consultation