

Observing Application

Date: 2006-03-22
Type: Rapid response science (Exploratory Time)
Category: Galactic Total time: 0.5 hours

Where Did It Go?: The Incredible Disappearing Maser (Revised Coversheet)

Abstract:

We propose to undertake a brief observation of the 1612 MHz OH masers in Orion KL. Previous single-dish observations by Hansen (1982) were strongly suggestive of the presence of sigma +/-1,2 components of a Zeeman pattern. In order to answer the important question of whether sigma +/-2 components are ever seen in OH masers, which has relevance to the interpretation of magnetic field strengths, we observed the 1612 and 1720 MHz masers in Orion KL and W3(OH) with the VLBA at very high spectral resolution. While the W3(OH) observations were successful, we were unable to detect the 1612 MHz masers seen by Hansen. Either these masers have since disappeared, or they lie outside the field of view of our original VLBA observations. We would like to determine whether these masers still exist and, if so, determine their coordinates for very high spectral resolution follow-up observations with the VLBA.

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Related proposals:

BF086

Observing type(s):

Single Pointing(s), Spectroscopy

Resources:

Resource name	Tele. Conf. Ant.	Frontend & Backend	Set up
Horatio	VLA (A) All	L Band 20 cm 1.17 - 1.74 GHz VLA Correlator - Multi-Channel	IF mode: 2 Number of channels: 256 Spectral resolution: 0.763MHz Sky frequency: 1.61223101GHz

Sources:

Source name	RA	DEC	System	RA range	DEC range	Velocity/z	Group name
Orion KL	05:35:14.5	-05:22:28	J2000	00:00:00	00:00:00	8.0 Km/s	

Sessions:

Session name	LST Center	Resources	Sources or Groups	Time request
Mr. Session	05:30	Horatio(VLA/A)	Orion KL	0.5 hour x 1 0 day

Schedule Constraints:

Mr. Session
Half-hour block of time sometime between 02h00 and 09h00 LST. Orion KL, L-band - single-channel rms 25 mJy/bm, 0.5 hours

Present for observation: no Staff support: None