Observing Application

Date:Nov 21, 2006
Proposal ID:VLA/06C-270
Legacy ID:AB1237
PI: Gemma Busquet
Type:Rapid Response
Exploratory Time
Category: Galactic
Total time: 0.5 hour

Multiple YSOs in the low-mass star-forming region IRAS 00213+6530

Abstract:

IRAS 00213+6530 is a low-mass star-forming region containing a molecular outflow and a H2O maser (Han et al. 1998), and associated with an ammonia dense core, suggesting that star formation in this region is taking place in the isolated mode. However, the high angular resolution VLA observations reveal four sources with very different properties in the infrared, millimeter, and centimeter range. One of the sources has a very negative spectral index, and its nature remains unclear. In the previuos H2O maser observations(single dish) the pointing accuracy of the telescope was 20". Thus, we request VLA exploratory time to observe the H2O maser emission toward IRAS 00213+6530 in order to identify which of the four sources is associated with the H2O maser.

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Joint:

Not a Joint Proposal

Observing type(s):

Spectroscopy, *

Resources:

Resource name	Tele. Conf.	Frontend & Backend	Set up
H2O maser	VLA C	K Band 1.3 cm 21200 - 25200 MHz VLA Correlator - Spectral Line	IF mode: 4 Bandwidth: 3.125 MHz Number of channels: 64 Spectral resolution: 48.828 kHz Rest frequencies: 22485.1,22435.1 MHz
1.3cm	VLA C	K Band 1.3 cm 21200 - 25200 MHz VLA Correlator - Spectral Line	IF mode: 4 Bandwidth: 25 MHz Number of channels: 8 Spectral resolution: 3125.0 kHz Rest frequencies: 22485.1,22435.1 MHz

Sources:

Source name	RA / RA Range	DEC / DEC Range	System	Velocity/z	Group name
I00213	00:24:11.4 00:00:00.0	65:47:09 00:00:00	J2000	-10.3 km/s	

Sessions:

Session Name	Session Time	Repeat	Separation	LST Minimum	LST Maximum	Elevation Minimum
C-H2O	0.25 hour	1	0 day	00:00:00	24:00:00	0
C-1.3cm	0.25 hour	1	0 day	00:00:00	24:00:00	0

Session Constraints:

Session Name	Constraint	Comments
C-H2O		This observation of H2O maser is made simultaneously with the 1.3 cm observation, which has a different source-resource pair but which will be observed simultaneously with this source-resource pair, using 2IF for the H2O maser and 2IF for the 1.3 cm continuum emission.
C-1.3cm		This observation of 1.3 cm is made simultaneously with the H2O maser observation, using the 4 IF mode with 2 IF for the 1.3 cm continuum emissin and 2 IF for the maser emission. Therefore the total amount of time for this simultaneous observation is 0.5 hours.

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit
C-H2O	I00213/	H2O maser	0.25 hour	4mJy/bm
C-1.3cm	I00213/	1.3cm	0.25 hour	0.5mJy/bm

Total Time per Configuration:

Configuration	Total Time
C	0.5

Present for observation: no Staff support: None