Observing Application

Date :	Aug, 22 2008
Proposal ID :	VLA/08C-230
Legacy ID :	AP566
PI :	Aina Palau
Type :	Rapid Response - Exploratory Time
Category :	Galactic
Total Time :	2.0

Centimeter emission from a peculiar proto-brown dwarf candidate

Abstract:

We propose to carry out Exploratory Time VLA observations toward B213-1119, a peculiar very low luminosity object supposed to belong to the Taurus star-forming region (140~pc). B213-1119, initially identified as an embedded IRAC-Spitzer source, was discovered by our group during the spring of this year while carrying out an observational campaign at submm/mm wavelengths with the goal of searching for very young brown dwarfs (proto-BDs). The object is extremely interesting because being among the least luminous proto-BDs has associated a partially extended submm source, and this favors the in situ formation of BDs. However, the possibility of the object being a background extragalactic source is not discarded. Therefore, we propose to observe B213-1119 at 3.6 and 6 cm (2 hours in total), with the main goal of measuring its spectral index. If we found cm emission with a negative spectral index our proto-BD candidate could be a background source, and more detailed observations would be carried out to assess its true nature.

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Related proposals:

Joint:

Not a Joint Proposal

Observing type(s):

Continuum

VLA Resources

Name	Conf.	Frontend & Backend	Setup
B213-1119X	D	X Band 3.6 cm 8080 - 8750 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 8435.1,8485.1 MHz Bandwidth: 50 MHz
B213-1119C	D	C Band 6 cm 4200-7700 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 4885.1,4835.1 MHz Bandwidth: 50 MHz

Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
B213-1119	04:17:57.8 00:00:00.0	+27:41:05 00:00:00	J2000	Velocity : 6.00	B213

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
B213-1119-1	1.00	1	0 day	00:00:00	08:00:00	20
B213-1119-2	1.00	1	0 day	00:00:00	08:00:00	20

Session Constraints:

Name	Constraints	Comments

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
B213-1119-1	B213-1119	B213-1119X	1.0 hour	0.023 mJy/bm	
B213-1119-2	B213-1119	B213-1119C	1.0 hour	0.026 mJy/bm	

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