



Observing Application

Date : Mar, 12 2010
 Proposal ID : VLA/10A-250
 Legacy ID : AS1038
 PI : Alvaro Sanchez-Monge
 Type : Rapid Response -
 Exploratory Time
 Category : Galactic
 Total Time : 2.0

The intriguing HII region in IRAS 22134+5834

Abstract:

IRAS 22134+5834 (I22134) is massive star forming region included in a PhD thesis project aimed at studying the interaction between the ionized and dense gas surrounding massive protostars. Interferometric observations at cm wavelengths (beam=0.2-1.0 arcsec) reveal a very small and young HII region, which should be deeply embedded in dust and gas. However, the dense gas in I22134 appears far from the cm emission, and in a shell-like structure surrounding the massive young stellar object (MYSO). The spatial anticorrelation between the continuum emission and the dense gas may be understood if the cm emission is coming from a more evolved and extended HII region, instead of a young and compact source. In order to investigate this scenario, and properly establish the evolutionary stage of I22134, we need to image the larger structures of the ionized gas (filtered out in the previous observations). Thus, we ask for 2 hours (1 at C-band and 1 at X-band) with the EVLA in the most compact configuration (D config) to map the fainter and more extended component of the ionized gas toward I22134.

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Related proposals:

AS902, AB1274, AS981

Joint:

Not a Joint Proposal

Observing type(s):

Continuum

VLA Resources

Name	Conf.	Frontend & Backend	Setup
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Name	Conf.	Frontend & Backend	Setup
C-band	D	C Band 6 cm 4000-8000 MHz WIDAR OSRO1: 2 Subbands/Full polz	Rest frequencies: 4896.0, 5024.0 MHz Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz
X-band	D	X Band 3.6 cm 8080 - 8750 MHz WIDAR OSRO1: 2 Subbands/Full polz	Rest frequencies: 8396.0, 8524.0 MHz Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz

Sources:

Name	Position		Velocity		Group
IRAS22134+5834	Coordinate System	Equatorial	Convention	Radio	IRAS 22134+5834
	Equinox	J2000			
	Right Ascension	22:15:09.1 00:00:00.0	Ref. Frame	LSRK	
	Declination	+58:49:09 00:00:00	Velocity	-18.3	

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
Cband	1.00	1	0 day	20:00:00	03:00:00	0
Xband	1.00	1	0 day	20:00:00	03:00:00	0

Session Constraints:

Name	Constraints	Comments

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
Cband	IRAS22134+5834	C-band	1.0 hour	0.017 mJy/bm	
Xband	IRAS22134+5834	X-band	1.0 hour	0.015 mJy/bm	

Present for observation: no

Staff support: Consultation

Plan of Dissertation: yes