



Observing Application

Date : Aug, 07 2012
 Proposal ID : VLA/12B-370
 Legacy ID : AN156
 PI : Chi-Yung Ng
 Type : Director's Discretionary
 Time - Target of Opportunity
 Category : Energetic Transients and Pulsars
 Total Time : 5.0

Detecting Particle Outflows from an Active Magnetar

Abstract:

We propose follow-up radio observations of a magnetar that has recently exhibited a radiative outburst with an unusual timing anomaly. The hypothesized injection of relativistic particles from the outburst could result in a compact nebula. We have already been granted Chandra Director's Time to search for X-ray emission from such a nebula. The detection of extended radio emission would be a first for this source and will help constrain the energetics of the plasma outflow, and help understand its connection to the remarkable spin evolution of the magnetar, which will provide a quantitative comparison with theories.

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Related proposals:

Joint:

Not a Joint Proposal

Observing type(s):

Continuum

VLA Resources

Name	Conf.	Frontend & Backend	Setup
Barray	B	C Band 6 cm 4000-8000 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 6500.0,7500.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz Total Bandwidth: 2,048.00 MHz

Testing Resource Images

Sources:

Name	Position		Velocity		Group
1E2259+586	Coordinate System	Equatorial	Convention	Radio	2259
	Equinox	J2000			
	Right Ascension	23:01:09.70 00:00:00.0	Ref. Frame	LSRK	
	Declination	+58:52:41.9 00:00:00.0	Velocity	0.00	

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
1	5.00	1	0 day	00:00:00	24:00:00	0

Session Constraints:

Name	Constraints	Comments

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
1	1E2259+586	Barray	5.0 hour	0.002 mJy/bm	

Present for observation: no

Staff support: None

Plan of Dissertation: no