Observing Application

Date :	Oct, 25 2012
Proposal ID :	VLA/12B-395
Legacy ID :	AL842
PI :	Tanmoy Laskar
Type :	Director's Discretionary Time - Target of Opportunity
Category :	Energetic Transients and Pulsars
Total Time :	10.0

Radio followup of the Optically Bright GRB 121024A - Reverse Shock Candidate

Abstract:

We request 10 hours of EVLA time to follow up Gamma Ray Burst 121024A. This long-duration GRB has a very bright optical afterglow (reaching ~13.3 mag), a ~1 mJy detection with CARMA, and a measured redshift (z = 2.298). We observed the burst as part of our EVLA program 12A-394 (t+1.5 days in C and K bands) and detected a bright radio afterglow at K band with a flux of 148 +/- 23 uJy, consistent with the optical, X-ray and mm afterglow position. We request multiband follow-up observations over a period of ~ 48 days (5 epochs, average 2 hours per epoch) to study the energetics and geometry of the burst and the nature of the progenitor environment.

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Related proposals:

10C-145,12A-394

Joint:

Not a Joint Proposal

Observing type(s):

Continuum

VLA Resources

Name	Conf.	Frontend & Backend	Setup
Kband	Any	K Band 1.3 cm 18000 - 26500 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 21500.0,22500.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 128.0 MHz Total Bandwidth: 2,048.00 MHz

Name	Conf.	Frontend & Backend	Setup
Cband	Any	C Band 6 cm 4000-8000 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 5000.0,6000.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 128.0 MHz Total Bandwidth: 2,048.00 MHz

Testing Resource Images

Sources:

Name	Position		Velocity		Group
GRB121024A	**Coordinate System**	Equatorial	**Convention**	Redshift	GRB Afterglows
	Equinox	J2000			
	Right Ascension	04:41:53.3	**Ref. Frame**	LSRK	
		00:00:00.0			
	Declination	-12:17:26.7	**Redshift**	2.298	
		00:00:00.0			

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
K	1.00	5	10 day	02:30:00	05:15:00	28
C	1.00	5	10 day	02:30:00	05:15:00	28

Session Constraints:

Name	Constraints	Comments
K		We request 5 epochs at spacing of dt=3,6,12,24 and 48 days. Separation noted above is average.
C		We request 5 epochs at spacing of dt=3,6,12,24 and 48 days. Separation noted above is average.

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
K	GRB121024A	Kband	1.0 hour	0.020 mJy/bm	
C	GRB121024A	Cband	1.0 hour	0.010 mJy/bm	

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