



Observing Application

Date : Apr, 05 2011
 Proposal ID : VLA/11A-262
 Legacy ID : AZ196
 PI : Bevin Zauderer
 Type : Director's Discretionary
 Time - Target of
 Opportunity
 Category : Energetic Transients and
 Pulsars
 Total Time : 6.0

Continued EVLA Monitoring of the Exceptional Gamma-Ray Transient GRB 110328A

Abstract:

We request six hours of EVLA time over the next two weeks to further monitor the afterglow properties of the unique gamma-ray transient GRB 110328A / Swift J164449.3+573451. This event produced five distinct gamma-ray triggers and continues to exhibit X-ray variability (now for ~1 week). So far, there is no sign of optical variability. Radio observations at 1-350 GHz carried out by our group led to the discovery of cm/mm transient emission with a spectral index in the mm/cm of ~1.5, atypical for GRBs or supernovae, but not inconsistent with blazar jet emission. With the lack of optical variability, contamination by host emission in the infrared, and rapid X-ray variability, the radio band provides the most unhampered view of this transient. With the proposed observations we will potentially witness and study the birth of a relativistic jet.

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Related proposals:

AB1323, AK634, AK681, AK706, AK718, AK730, 10C-145

Joint:

Not a Joint Proposal

Observing type(s):

Continuum, Spectroscopy

VLA Resources

Name	Conf.	Frontend & Backend	Setup
Kband	Any	K Band 1.3 cm 18000 - 26500 MHz WIDAR RSRO	Comments: null

Name	Conf.	Frontend & Backend	Setup
Cband	Any	C Band 6 cm 4000-8000 MHz WIDAR RSRO	Comments: null
Qband	Any	Q Band 0.7 cm 40000 - 50000 MHz WIDAR RSRO	Comments: To be included in observations only weather permitting as long as source is bright enough that it can be detected in a few minutes. As source starts to fade, we will focus on K and C band observations.

Sources:

Name	Position		Velocity		Group
GRB110328A	Coordinate System	Equatorial	Convention	Radio	GRB110328A / Swift J164449.3+573451
	Equinox	J2000			
	Right Ascension	16:44:49.93	Ref. Frame	LSRK	
		00:00:00.0			
Declination	+57:34:59.7	Velocity	0.00		
	00:00:00.0				

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
multiband	1.00	6	2 day	11:00:00	22:00:00	30

Session Constraints:

Name	Constraints	Comments
multiband	Q band, weather permitting	We request monitoring every 2-3 days for two weeks, for a total of 6 sessions. C, K and Q band will be included while source is bright. We will adjust to fewer bands as the source brightness fades. When source is no longer detectable, observations will cease.

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
multiband	GRB110328A	Kband	0.4 hour	0.034 mJy/bm	
multiband	GRB110328A	Qband	0.2 hour	0.13 mJy/bm	
multiband	GRB110328A	Cband	0.4 hour	0.02 mJy/bm	

Present for observation: yes

Staff support: None

Plan of Dissertation: no