



Observing Application

Date : Apr, 23 2012
 Proposal ID : VLA/12A-471
 Legacy ID : AZ209
 PI : Bevin Zauderer
 Type : Director's Discretionary
 Time - Target of
 Opportunity
 Category : Energetic Transients and
 Pulsars
 Total Time : 1.0

Monitoring the Afterglow of Heavily Obscured GRB 111215A

Abstract:

We request one hour of EVLA C band observations to complete monitoring of GRB 111215A, supplementing our initial radio detection (10C-145) and followup (11B-242). This gamma-ray burst is extreme among long GRBs with unusually long-duration gamma-ray emission, bright X-ray and radio emission, and no optical or NIR afterglow. A host detection coincident with the EVLA K band position places the redshift of this event to be moderate ($z \sim 1-4$), requiring between 5 and 16 magnitudes of extinction to suppress the optical afterglow. This potentially makes GRB 111215A the most heavily obscured GRB observed to-date. This final observation will be included with our monitoring from 1 - 100 days in a paper to be submitted shortly after the data is obtained, which also includes the dark GRB 110709B.

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Related proposals:

10C-145, 11B-242

Joint:

Not a Joint Proposal

Observing type(s):

Continuum

VLA Resources

Name	Conf.	Frontend & Backend	Setup
Cband	Any	C Band 6 cm 4000-8000 MHz WIDAR RSRO	Comments: null

Sources:

Name	Position		Velocity		Group
GRB111215A	Coordinate System	Equatorial	Convention	Radio	BrightGRB
	Equinox	J2000			
	Right Ascension	23:18:13.3	Ref. Frame	LSRK	
		00:00:00.0			
Declination	+32:29:39.2	Velocity	0.00		
	00:00:00.0				

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
Clook	1.00	1	1 day	18:30:00	4:00:00	30

Session Constraints:

Name	Constraints	Comments
Clook		1 hour session will result in ~35 minutes integration time on source. Assuming some RFI and a bandwidth of 1.4 GHz, this results in an RMS of ~7 uJy/bm.

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
Clook	GRB111215A	Cband	1.0 hour	0.007 mJy/bm	

Present for observation: yes

Staff support: None

Plan of Dissertation: no