



# Observing Application

Date : May, 02 2011  
 Proposal ID : VLBA/11A-138  
 Legacy ID : BS212  
 PI : Alicia Soderberg  
 Type : Director's Discretionary  
 Time - Target of  
 Opportunity  
 Category : Energetic Transients and  
 Pulsars  
 Total Time : 28.0

## VLBI observations will reveal the nature of the most peculiar GRB 110328A

### Abstract:

The recent gamma-ray transient, GRB 110328A, is a unique event in the history of GRB observations. We have discovered a bright long-wavelength counterpart at radio and mm-bands and have since undertaken a monitoring campaign that extends across the electromagnetic spectrum. First VLBI observations were already successfully obtained and resulted in clear detections with limits on the size and proper motion of the source. The combination of high resolution radio interferometry with our on-going multi-wavelength campaign provides the best opportunity to shed light on the nature of this most peculiar transient.

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### Related proposals:

### Joint:

Not a Joint Proposal

### Observing type(s):

Continuum, Single Pointing(s), Monitoring

### VLBA Resources

Name	Wavelength	Processor	Stations	Observing Parameters	Correlation Parameters

Name	Wavelength	Processor	Stations	Observing Parameters	Correlation Parameters
VLBA-X	3.6 cm	Socorro-DiFX	VLBA <input checked="" type="checkbox"/> Br <input checked="" type="checkbox"/> Fd <input checked="" type="checkbox"/> Hn <input checked="" type="checkbox"/> Kp <input checked="" type="checkbox"/> La <input checked="" type="checkbox"/> Mk <input checked="" type="checkbox"/> Kp <input checked="" type="checkbox"/> Ov <input checked="" type="checkbox"/> Pt <input checked="" type="checkbox"/> Sc <input checked="" type="checkbox"/> HSA Ar Ef <input checked="" type="checkbox"/> GBT VLA-Y27 VLA-Y1 Geodetic	Bandwidth: 16 MHz Baseband 8 Channels Sample Rate 32 (Msample/s) Bits/Sample 2 Polarization Dual Agg. Bit Rate 512 (Mbits/sec)	Full Polarization <input checked="" type="checkbox"/> Pulsar Gate Correlator Passes 1 Integration Period (sec) 2.0 Spectral Points /BBC 8 No of Fields 0
VLBA-K	1.3 cm	Socorro-DiFX	VLBA <input checked="" type="checkbox"/> Br <input checked="" type="checkbox"/> Fd <input checked="" type="checkbox"/> Hn <input checked="" type="checkbox"/> Kp <input checked="" type="checkbox"/> La <input checked="" type="checkbox"/> Mk <input checked="" type="checkbox"/> Kp <input checked="" type="checkbox"/> Ov <input checked="" type="checkbox"/> Pt <input checked="" type="checkbox"/> Sc <input checked="" type="checkbox"/> HSA Ar Ef <input checked="" type="checkbox"/> GBT VLA-Y27 VLA-Y1 Geodetic	Bandwidth: 16 MHz Baseband 8 Channels Sample Rate 32 (Msample/s) Bits/Sample 2 Polarization Dual Agg. Bit Rate 512 (Mbits/sec)	Full Polarization <input checked="" type="checkbox"/> Pulsar Gate Correlator Passes 1 Integration Period (sec) 2.0 Spectral Points /BBC 8 No of Fields 0

### Sources:

Name	Position		Velocity		Group
GRB 110328A	Coordinate System	Equatorial	Convention	Radio	Event
	Equinox	J2000			
	Right Ascension	16:44:49.925 00:00:00.0	Ref. Frame	LSRK	
	Declination	+57:34:59.68 00:00:00.0	Velocity	0.00	

### Sessions:

Name	Session Time (hours)	Repeat	Separation	GST minimum	GST maximum	Elevation Minimum
VLBA+Eff	7.00	4	60 day	14:00:00	17:00:00	0

### Session Constraints:

Name	Constraints	Comments
VLBA+Eff		Separation might change depending on flux evolution of the source.

### Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit
VLBA+Eff	GRB 110328A	VLBA-K	3.5 hour	0.07 mJy/bm
VLBA+Eff	GRB 110328A	VLBA-X	3.5 hour	0.06 mJy/bm

Staff support: None

Plan of Dissertation: no