



# Observing Application

Date : Jun, 27 2009  
 Proposal ID : VLBA/09B-131  
 Legacy ID : BR148  
 PI : Anthony Rushton  
 Type : Rapid Response - Target of Opportunity  
 Category : Galactic  
 Total Time : 48.0

## The June 2009 Cygnus X-1 outburst

### Abstract:

Cygnus X-1 has recently been in a long period (~3.5 years) of inactivity. A relatively rare radio/soft X-ray flare has just occurred within Cygnus X-1 and we request VLBA observations to follow the likely ejection of a knot.

These observations will be coordinated with lower-resolution radio observations (MERLIN), rapid e-VLBI observations (e-EVN) and X-ray observations (SWIFT).

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### Related proposals:

### Joint:

Not a Joint Proposal

### Observing type(s):

Continuum, Phase Referencing

### VLBA Resources

Name	Wavelength	Processor	Stations	Observing Parameters	Correlation Parameters

Name	Wavelength	Processor	Stations	Observing Parameters	Correlation Parameters
VLBA	3.6 cm	Socorro	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"/> <hr/> HSA Ar Ef GBT VLA-Y27 <hr/> VLA-Y1 <hr/> Geodetic	Bandwidth: 8 MHz Baseband 8 Channels Sample Rate 16 (Msample/s) Bits/Sample 2 Polarization RCP & Agg. Bit Rate 256 (Mbits/sec)	Full Polarization <input checked="" type="checkbox"/> Pulsar Gate Correlator Passes 1 Averaging Time (sec) 2.0 Spectral Points /BBC 8

### Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
CygX-1	19:58:21.7 00:00:00.0	+35:12:05 00:00:00	J2000	Velocity : 0.00	X-ray binaries

### Sessions:

Name	Session Time (hours)	Repeat	Separation	GST minimum	GST maximum	Elevation Minimum
VLBA	12.00	4	2 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
VLBA	CygX-1	VLBA	12.0 hour	mJy/bm

Staff support: None

Plan of Dissertation: no