PROPOSAL COVERSHEET

rcvd:

DEADLINES: 1st of Feb., June, Oct.

(1) Date Prepared: January 29, 2004

(2) Title of Proposal: Target of Opportunity Observations of Possible Microquasar J1628−4152

(3) AUTHORS (Add * for new location)	INSTITUTION	E-mail	Students Only G/U	For Thesis?	Ph.D. Year
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(4) Related previous or current VLBI proposal(s): ◯ Resubmission

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(7) Scientific Category: ◯ astrometry & geodesy ⊗ galactic ◯ extragalactic ◯ other:
Rapid Response Science: ◯ Known Transient ◯ Exploratory ⊗ Target of Opportunity

(8) Wavelength(s) requested (those not available on the global network are indicated with a small circle):
◯ 90cm ◯ 50cm ∘ 30cm ◯ 21cm ◯ 18cm ◯ 13cm ◯ 6cm ∘ 5cm ◯ 3.6cm ⊗ 3.6/13cm
∘ 2cm ◯ 1.3cm ◯ 7mm ∘ 3mm
◯ Global Network standard bands ◯ Special frequencies: _____

(9) Recording format: ◯ Default continuum setup (VLBA only), ⊗ VLBA/MkIV, ◯ MkIII: Mode _____
Bandwidth per BaseBand channel: _____
Aggregate bit rate: 256 (8 BB channels at 16 MSamples/sec of ◯ 1 bit, ⊗ 2 bit)

(10) ⊗ Multi-epoch observation: 4 epochs of 4 hours each, separated by 3 days

(11) Network	Requested antennas	Total time requested
EVN & MERLIN		
VLBA	ALL	16 hours
other NRAO		
Non-VLBI Intruments		

(12) ABSTRACT (Do not write outside this space. Please type)
J1628−4152 was identified as a possible microquasar based on its X-ray colors and radio variability (Tsarevsky et al. 2001); no resolved images have yet been made, and no VLBI observations have yet been attempted. The source has been both strong (several mJy) and variable over the past week. The multiple radio flares and changing spectral index imply the existence of short-term optically thick synchrotron emission, presumably due to multiple ejection events. We propose to take advantage of the current strong emission to obtain a series of up to four VLBA images, with the aims of (1) showing whether the radio emission is in the form of a moving jet, as required for a true microquasars; and (2) providing a baseline for future proper motion and parallax determinations.

Scheduler use only
(8/03)

(13) Observation type: ⊗ Interferometry, ◯ Spectroscopy, ◯ Pulsar, ⊗ Phase referencing

(14) Proposal is ◯ Suitable ◯ Unsuitable for dynamic scheduling.

(15) Polarization: ◯ Single Polarization ⊗ Dual Circular Polarization
Global network standard for single polarization is LCP for all λs except 13cm (RCP) and 3.6cm (RCP).

(16) Tape usage (Show <recording time>/<total time>): _____

(17) Assistance required:
Observation Setup: ◯ Consultation, ◯ Extensive help, ◯ Observe file preparation
Postprocessing: ◯ Consultation, ◯ Extensive help, ◯ Calibration service

(18) Processor: ⊗ Socorro, ◯ JIVE, ◯ Haystack, ◯ Bonn, ◯ Washington, ◯ Other_____
Special processing: ⊗ XPol, ◯ Pulsar gate, ◯ Multiple Fields: _____
Averaging time: 2 Spectral channels per baseband channel: 8
◯ Other special processing: _____

(19) Postprocessing Location: NRAO-SOC

(20) Source list: ⊗ J2000 ◯ B1950
If more than 4 sources, please attach list. If more than 30, give only selection criteria and GST range(s)

	Source 1	Source 2	Source 3	Source 4
Name(s)	J1628−4152	J1610−3958	J1604−4441	
RA (hh mm)	16h28m47s	16h10m21s	16h04m31s	
Dec (dd.d)	−41d52'39"	−39d58'58"	−44d41'31"	
GST range (Europe)				
GST range (US)	21h-01h	same	same	
GST range (Other)				
Band(s)	S/X	S/X	S/X	
Flux density (Total, Jy)	∼0.006	0.380	3.0	
Flux density (correlated, mJy)	unknown	0.1	0.1	
RMS needed (mJy/beam)	0.08	1.0	1.0	
Peak/RMS needed	75	75	75	

(21) Preferred VLBI session or range of dates for scheduling, and why:
As soon as possible

(22) Dates which are NOT acceptable, and why:

(23) Attach a self-contained scientific justification, not in excess of 1000 words.
Preprints or reprints will not be forwarded to the referees.

Information about the capabilities of the VLBA may be found on the World Wide Web by starting at the NRAO home page, http://www.nrao.edu, and selecting the VLBA from "Sites and Telescopes."

A brief summary of the capabilities of the EVN antennas is given in the EVN STATUS TABLE in the EVN USER GUIDE, which may be found at http://www.evlbi.org/user_guide/user_guide.html.

Please include the full postal addresses for first-time users or for those that have moved (if not contact author).