VLBA PROPOSAL COVERSHEET

DEADLINES: 1st of Feb., June, Oct.
EMAIL TO: exploresoc@nrao.edu
OR MAIL TO: Director NRAO, Edgemont Rd. Charlottesville, VA 22903-2475, USA

rcvd:

(1) Date Prepared: March 20, 2008

(2) Title of Proposal: 1.4 GHz VLBA Imaging of M104's (Sombrero Galaxy) Nucleus

(3) AUTHORS (Add * for new location)	INSTITUTION	E-mail	G/U	Students Only: For Thesis?	Students Only: Ph.D. Year
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(4) Related previous or current VLBI proposal(s): BM259, BM274 ○ 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:______ (______ BB channels at ______ MSamples/sec of ○ 1 bit, ○ 2 bit)

(10) ○ Multi-epoch observation: ______ epochs of ______ hours each, separated by ______

(11) Network	Requested antennas	Total time requested
EVN & MERLIN		
VLBA	ALL	3 hrs
other NRAO		
Non-VLBI Intruments		

(12) ABSTRACT (Do not write outside this space. Please type)
We propose VLBA observations to image the nucleus of the Somrero galaxy (M104) at 1.4 GHz. The objective of the proposed exploratory observations is to investigate whether the radio source in the nucleus of the Sombrero galaxy is resolved at 1.4 GHz at the resolution of the VLBA. If resolved, we plan to re-propose for HSA time in the upcoming deadline to image the HI absorption lines seen in this galaxy, and if unresolved, we plan to propose for VLA observations for the HI absorption study.

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: 4s Spectral channels per baseband channel: 16
◯ 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)	Sombrero (M 104)			
RA (hh mm)	12 39 59.4318			
Dec (dd.d)	-11 37 22.996			
GST range (Europe)				
GST range (US)	17:00 – 23:00			
GST range (Other)				
Band(s)	21 cm			
Flux density (Total, Jy)	~ 0.09			
Flux density (correlated, mJy)				
RMS needed (mJy/beam)	0.1			
Peak/RMS needed				

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

(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).