VLA OBSERVING APPLICATION

A
rcvd:

DEADLINES: 1st of Feb., June., Oct. for next configuration following review
INSTRUCTIONS: Each numbered item must have an entry or N/A
E-MAIL TO: propsoc@nrao.edu (different for some Rapid Response Science)
OR MAIL TO: Director NRAO, 520 Edgemont Rd., Charlottesville, VA 22903-2475

(1) Date Prepared: March 23, 2006

(2) Title of Proposal: The Expanding Jet and Ring of RS Oph

(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 VLA previous proposal number(s):

(5) Contact author for scheduling: Jennifer Sokoloski
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(7) Scientific Category: ○ solar system ⊗ galactic ○ extragalactic ○ other:
Rapid Response Science: ○ Known Transient ○ Exploratory ⊗ Target of Opportunity

(8) Configurations (one per column) (A+Pt, A, B, C, D, BnA, CnB, DnC, Any)	A+Pt				
(9) Wavelength(s) (400, 90, 20, 6, 3.5, 2, 1.3, 0.7 cm)	3.5, 1.3, 0.7 cm				
(10) Time requested (hours)	2×6				

(11) Type of observation: ⊗ continuum ○ spectroscopy ○ multichannel continuum ⊗ polarimetry ○ solar
(check all that apply) ○ pulsar ○ high-time resolution ⊗ Pie Town link ○ other:

(12) Suitable for dynamic scheduling? ⊗ Suitable ○ Unsuitable

(13) ABSTRACT (do not write outside this space)

We request two six-hour observations of RS Oph with the VLA+PT during the remaining A configuration, to image and separate the flux density contributions of the expanding ring and jet seen in our VLBA observations.

NRAO use only
(08/03)

(14) Observer present for observations? ⊗ Yes ○ No Data analysis at? ○ Home ⊗ AOC or CV (2 weeks notice)

(15) Help required: ⊗ None ○ Consultation ○ Friend (extensive help)

(16) Spectroscopy only	line 1	line 2	line 3	line 4
Transition (HI, OH, etc.)				
Rest Frequency (MHz)				
Velocity (km/s)				
Observing frequency (MHz)				
Correlator mode				
IF bandwidth(s) (MHz)				
Hanning smoothing (y/n)				
Number of channels per IF				
Frequency Resolution (kHz/channel)				
Rms noise (mJy/bm, nat. weight., 1 hr)				
Rms noise (K, nat. weight., 1 hr)				

(17) Number of sources:	**1**

(If more than 10 please attach list. If more than 30 give only selection criteria and LST range(s).)

(18) NAME	Coordinates 1950 ○ 2000 ○ RA hh mm Dec. ± xx.x°	Conf.	λ (cm)	Corr. mode	Band-width per IF (MHz)	Total Flux (Jy)*	LAS	Required rms (mJy/bm)	Required dynamic range	Time request (hr)
RS Ophiuchi	17 50, −06.7	A+Pt	3.5		50	0.02–0.04	0.2″	0.01	1000:1	2 × 0.5
			1.3			0.02–0.04	0.2″	0.04	500:1	2 × 3.5
			0.7			0.02–0.04	0.2″	0.1	100:1	2 × 2.0

*For spectral line, this should be the total flux at the peak of the line

Notes to the table (if any):

(19) Restrictions to elevation (other than hardware limits) or HA range (give reason):

> 20° elevation for most of the 6 hours, for sensitivity in K/Q bands
(for this source, this is 13:50-19:50 LST at the VLA)
Individual epochs may be split into two parts on near-adjacent days if that makes scheduling easier
Dynamic scheduling is fine by us, but maybe PT makes that impossible?

(20) Preferred range of dates for scheduling (give reason):
1st epoch as soon as possible; 2nd epoch about a month later, but still in A configuration

(21) Dates which are not acceptable: Must be in A configuration

(22) Special hardware, software, or operating requirements: Pie Town link

(23) Please attach a self-contained Scientific Justification **not in excess of 1000 words.** (Preprints or reprints will be ignored.) Please include the full addresses (postal and e-mail) for first-time users or for those that have moved (if not contact author). When your proposal is scheduled, the contents of the cover sheets become public information (Any supporting pages are for refereeing only).

v4.2 8/03