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: 21 January 2004

(2) Title of Proposal: A search for suitable phase-reference calibrators for the VLBI study of the first water megamaser in an FRII galaxy, 3C 403

(3) AUTHORS (Add * for new location)	INSTITUTION	E-mail	G/U	Students Only For Thesis?	Students Only Ph.D. Year
A. Tarchi	IRA/OAC; Cagliari; I	a.tarchi@ira.cnr.it			
A. Brunthaler	JIVE; Dwingeloo; NL				
K. M. Menten	MPIfR; Bonn; Germany				

(4) Related VLA previous proposal number(s):

(5) Contact author for scheduling: Andrea Tarchi
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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)	B or CnB				
(9) Wavelength(s) (400, 90, 20, 6, 3.5, 2, 1.3, 0.7 cm)	1.3				
(10) Time requested (hours)	1				

(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 propose to perform 22 GHz VLA ‘snapshot’ observations of eight selected sources within few degrees from the FRII radio galaxy 3C403, where a nuclear water megamaser (the first in such galaxies) has been recently detected by us. We are in fact searching for the best (nearest, strongest and most compact) phase-reference calibrator to perform Global VLBI on such maser source. The VLBI Proposal Comitee has explicitely requested such a survey before awarding the requested VLBI time for this, also in their opinion, ‘very worthy’ project.

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:	**8**

(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)
Please also see	19 49, +02.6		1.3		50					
the attached list	19 55, +01.9		1.3		50					
	19 55, +00.8		1.3		50					
	19 57, +04.3		1.3		50					
	19 44, +03.9		1.3		50					
	19 46, +00.3		1.3		50					
	19 52, +02.5		1.3		50					
	19 52, +02 30.5		1.3		50					

*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) Preferred range of dates for scheduling (give reason):

(21) Dates which are not acceptable:

(22) Special hardware, software, or operating requirements:

(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