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:

(2) Title of Proposal: Exploratory Time for Measuring the Extragalactic Distance Scale

(3) AUTHORS (Add * for new location)	INSTITUTION	E-mail	G/U	Students Only For Thesis?	Students Only Ph.D. Year
Nicole Gugliucci	University of Virginia	neg9j@virginia.edu	G	No	2010
Jim Braatz	NRAO-CV	jbraatz@nrao.edu			

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

(5) Contact author for scheduling: Nicole Gugliucci
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Charlottesville, VA 22904

(6) Telephone: (434) 924-7491
E-mail: neg9j@virginia.edu
Fax:

(7) Scientific Category: ○ solar system ○ galactic ⊗ extragalactic ○ other:

Rapid Response Science: ○ Known Transient ⊗ Exploratory ○ Target of Opportunity
Joint Proposal: ○ VLA/VLBA ○ VLA/GBT ○ VLA/VLBA/GBT

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

(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)

During a GBT survey in December 2005, we discovered water maser emission from the galaxy UGC 3789. The maser emission shows characteristics of a disk, including high velocity features and a measured acceleration in the systemic lines. We propose exploratory VLA A-configuration observations to determine a sub-arcsecond position of the masers and to assess candidate phase reference calibrators for proposed HSA observations.

(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.)	H_2O $6_{16} \rightarrow 5_{23}$	H_2O $6_{16} \rightarrow 5_{23}$	H_2O $6_{16} \rightarrow 5_{23}$	
Rest Frequency (MHz)	22235.08	22235.08	22235.08	
Velocity (km/s)	3325	3896	2655	
Observing frequency (MHz)	21991.10	21950.00	22040.00	
Correlator mode	4	4	4	
IF bandwidth(s) (MHz)	12.5	12.5	12.5	
Hanning smoothing (y/n)	n	n	n	
Number of channels per IF	16	16	16	
Frequency Resolution (kHz/channel)	781.25	781.25	781.25	
Rms noise (mJy/bm, nat. weight., 1 hr)	0.734	0.734	0.734	
Rms noise (K, nat. weight., 1 hr)	220.3	220.3	220.3	

(17) Number of sources:	**13**

(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)
	See attached list									

*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).

v4.3 10/04