

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: A second maser in IC 10

(3) AUTHORS (Add * for new location)	INSTITUTION	E-mail	Students Only		
			G/U	For Thesis?	Ph.D. Year
A. Brunthaler	JIVE, Dwingeloo	brunthaler@jive.nl			
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(4) Related VLA previous proposal number(s):

- (5) Contact author for scheduling: A. Brunthaler
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- (6) Telephone: +31 521 596 540
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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				
(9) Wavelength(s) (400, 90, 20, 6, 3.5, 2, 1.3, 0.7 cm)	1.3 cm				
(10) Time requested (hours)	0.5 hours				

- (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 obtain an accurate position of the H₂O maser source IC 10-NW. We would like to include this source in our ongoing project to measure the proper motions of the two Local Group galaxies IC 10 and M33. The flux density of our current target source in IC 10 (IC 10-SE) has decreased over the last years from > 1 Jy to ~ 0.1 Jy. On the other hand, IC 10-NW has been more stable since its discovery in the late 1980s at a level of ~ 0.1 Jy. IC 10-NW has also a broader spectrum than IC 10-SE, making it already a better target source for our VLBA observations. We would like to get the position before our next VLBA observation of IC 10 (BB172AE, to be observed soon) will be correlated.

(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 (HL, OH, etc.)	H ₂ O			
Rest Frequency (MHz)	22.235			
Velocity (km/s)	-330			
Observing frequency (MHz)				
Correlator mode	1A			
IF bandwidth(s) (MHz)	6.25			
Hanning smoothing (y/n)	n			
Number of channels per IF	128			
Frequency Resolution (kHz/channel)	48.828			
Rms noise (mJy/bm, nat. weight., 1 hr)	2.5			
Rms noise (K, nat. weight., 1 hr)				

(17) Number of sources:

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

(18) NAME	Coordinates		Conf.	λ (cm)	Corr. mode	Band- width per IF (MHz)	Total Flux (Jy)*	LAS	Required rms (mJy/bm)	Required dynamic range	Time request (hr)
	1950 <input checked="" type="radio"/> RA hh mm	2000 <input type="radio"/> Dec. \pm xx.x $^\circ$									
IC10-NW	00 17	+59.01	BnA or B	1.3	1A	6.25	0.1		<5	>20	0.5

*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).