

VLA OBSERVING APPLICATION

- 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
- OR MAIL TO: Director NRAO, 520 Edgemont Rd., Charlottesville, VA 22903-2475

A

rcvd:

(1) Date Prepared: June 25, 2004

(2) Title of Proposal: *Ad Hoc* proposal to confirm a tentative CO(2-1) detection at z=10

(3) AUTHORS (Add * for new location)	INSTITUTION	E-mail	Grad Students Only	
			For Ph.D. Thesis?	Anticipated Ph.D. Year
F. Walter	NRAO	fwalter@nrao.edu		
J. Ott, L. Staveley-Smith	ATNF	Juergen.Ott@csiro.au, Lister.Staveley-Smith@csiro.au		
Ch. Henkel	MPiFR	p220hen@mpifr-bonn.mpg.de		
C. Carilli	NRAO	ccarilli@nrao.edu		
A. Weiss	IRAM	aweiss@iram.es		

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

(5) Contact author
for scheduling: F. Walter
address: NRAO Socorro

(6) Telephone: 7098
E-mail: fwalter@nrao.edu
Fax: -

(7) Scientific Category: ☐ solar system ☐ galactic ☒ extragalactic ☐ other:

(8) Configurations (one per column) (A+Pt, A, B, C, D, BnA, CnB, DnC, Any)	D				
(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)

This is an ad-hoc proposal to confirm a tentative detection of the CO(2-1) line obtained with the Effelsberg 100 m telescope of a possible galaxy at z=10. This object has been recently reported by Pelló et al. (2004) and would be by far the most distant known object in the universe. 2 hours of time in D array are requested to observe the same CO transition line as in the Effelsberg observations to confirm or rule out this potential detection.

(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.)	CO2-1			
Rest Frequency (MHz)	230560.6			
Velocity (km/s)	z=10.0			
Observing frequency (MHz)	20958			
Correlator mode	2AC			
IF bandwidth(s) (MHz)	50			
Hanning smoothing (y/n)	N			
Number of channels per IF	7			
Frequency Resolution (kHz/channel)	6200			
Rms noise (mJy/bm, nat. weight., 1 hr)	0.13			
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		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 type="radio"/>	2000 <input checked="" type="radio"/>									
	RA hh mm	Dec. \pm xx.x $^{\circ}$									
Ab1835#1916	14:01:00, 02:52:44		D	1.3	2AC	50	0.0006	10	0.13		2

*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).