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: 14th September 2005

(2) Title of Proposal: YOUNG PROTOSTARS IN DENSE CORES

(3) AUTHORS (Add * for new location)	INSTITUTION	E-mail	G/U	Students Only: For Thesis?	Students Only: Ph.D. Year
Dimitris Stamatellos	Cardiff University, UK	D.Stamatellos@astro.cf.ac.uk			
Derek Ward-Thompson	Cardiff University, UK	D.Ward-Thompson@astro.cf.ac.uk			
Anthony Whitworth	Cardiff University, UK	A.Whitworth@astro.cf.ac.uk			
Sylvain Bontemps	Bordeaux Observatory, France	Sylvain.Bontemps@obs.u-bordeaux1.fr			

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

(5) Contact author for scheduling: Dimitris Stamatellos
address: 5 The Parade, PHYSX
Cardiff University
Cardiff, CF24 3YB, UK

(6) Telephone: +44(0)2920875999
E-mail: D.Stamatellos@astro.cf.ac.uk
Fax: +44(0)2920874056

(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)	C/D				
(9) Wavelength(s) (400, 90, 20, 6, 3.5, 2, 1.3, 0.7 cm)	6				
(10) Time requested (hours)	11				

(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)

Recent observations with VLA (July-August 2005) revealed weak radio emission from the centre of cores previously thought to be starless. This suggests that they may in fact contain very young protostars. We propose additional observations of these cores at 6 cm to establish whether indeed they are young protostars or background extragalactic sources.

NRAO use only
(10/04)

(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:	**3**

(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)
L1582A	05 32, +12.5	C/D	6		50	10^{-4}		0.02		5
B133	19 06, −06.9	C/D	6		50	$0.5\ 10^{-4}$		0.02		5
L1689A	16 32, −25.1	C/D	6		50	$3.7\ 10^{-4}$		0.05		1

*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