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

(1) Date Prepared: 2006 April 12

(2) Title of Proposal: **SN 2006bk: An Over-Luminous Type Ic at 220 Mpc**

(3) AUTHORS (Add * for new location)	INSTITUTION	E-mail	Grad Students Only: For Ph.D. Thesis?	Grad Students Only: Anticipated Ph.D. Year
A. M Soderberg	Caltech	ams@astro.caltech.edu	Yes	2007

(4) Related VLA previous proposal number(s): AS846

(5) Contact author for scheduling: Alicia Soderberg
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(7) Scientific Category: ○ solar system ○ galactic ⊗ extragalactic ○ other:

(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)	3.6				
(10) Time requested (hours)	0.5				

(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)

Type Ic SN 2006bk has recently been discovered at a distance of ~ 220 Mpc. At this distance, the absolute magnitude of the supernova was $M_V \approx -19.8$ mag at discovery, placing it among the brightest SNe detected to date. We request radio observations to search for non-thermal emission from circumstellar interaction. These observations will enable us to constrain the kinetic energy of the ejecta and the circumstellar density and will thus shed light on the nature of over-luminous local SNe Ic.

NRAO use only
(03/02)

(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:	**1**

(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)
SN2006bk	15 04, +35.95	A	3.6		50		0.2 ″	0.05		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).

v4.1 3/02