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: 04 Nov 2003

(2) Title of Proposal: Accurate Positions for X-ray Loud Quasars for VLBA Observations

(3) AUTHORS (Add * for new location)	INSTITUTION	E-mail	G/U	Students Only For Thesis?	Ph.D. Year
Eric S. Perlman	U. Maryland, Baltimore Co.	perlman@jca.umbc.edu			
Travis Rector	U. Alaska, Anchorage	aftar@uaa.alaska.edu			
Paolo Padovani	ESO	ppadovan@eso.org			
Hermine Landt	STScI	landt@stsci.edu			
John Stocke	CASA/U. Colorado	stocke@casa.colorado.edu			

(4) Related VLA previous proposal number(s): VLBA prop BP109

(5) Contact author for scheduling: Eric Perlman
address: Joint Center for Astrophysics, Physics Dept.
University of Maryland, Baltimore County
1000 Hilltop Circle, Baltimore, MD 21250

(6) Telephone: 410-455-1982
E-mail: perlman@jca.umbc.edu
Fax: 410-455-1072

(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)	Any				
(9) Wavelength(s) (400, 90, 20, 6, 3.5, 2, 1.3, 0.7 cm)	6				
(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)

proposed observation and what you want to accomplish on the We have recently discovered a new class of flat-spectrum radio quasars (FSRQ) with synchrotron peak frequency in the UV/X-ray band, set apart from "classical" FSRQ, which typically have synchrotron peaks in the optical/IR. We have 48 hours of VLBA time approved to observe 8 of these sources in program BP109. However these sources have yet to be observed with the VLA so we do not have subarcsecond-quality positions for them. We propose short (5-10 minute) VLA snapshots at 6cm to obtain positions. Without the proposed observations, it will be difficult to obtain good results from BP109, which aims to discover their parsec-scale structure. Future, longer 20 cm A-array observations of these sources will allow us to probe their arcsecond-scale structures and investigate issues such as beaming, core dominance, misalignment and bending.

NRAO use only
(08/03)

(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:	**8**

(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)
WGAJ0447.9-0322	04 47, -03 22		6			56 mJy				
WGAJ0304.9+0002	03 04, +00 02		6			75 mJy				
WGAJ1026.4+6746	10 26, +67 46		6			129 mJy				
WGAJ0110.5-1647	01 10, -16 47		6			72 mJy				
WGAJ0230.0-1031	02 30, -10 31		6			53 mJy				
WGAJ0227.5-0847	02 27, -08 47		6			115 mJy				
0959+68W1	10 03, +68 13		6			86 mJy				
PKS 0256+005	02 59 -00 20					500 mJy				
			6							

*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 <u>Scientific Justification</u> **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).

v4.2 8/03