VSOP AO3 PROPOSAL COVER SHEETS

DEADLINE : 1 October, 1999
SEND TO : VSOG, ISAS, 3-1-1 Yoshinodai, Sagamihara, Kanagawa 229-8510, JAPAN

(1) Date prepared : 1 October, 1999

(2) Proposal title : What is the size-frequency relation?

(3)	INVESTIGATORS	INSTITUTION
P.I.	Kenta Fujisawa	NAO, Japan
co-I.	S. Iguchi	NAO, Japan
co-I.		
co-I.		
co-I.		
co-I.		
co-I.		
co-I.		
co-I.		

(4) Principal Investigator (or contact person) details...

Name : Kenta Fujisawa
E-mail : kenta@hotaka.mtk.nao.ac.jp
Fax : +81-422-34-3869
Phone : +81-422-34-3610

Address : VSOP project, NAO
: 2-21-1 Osawa, Mitaka
: Tokyo 181-8588
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(5) Proposal Abstract :

We propose to observe NRAO512 with VLBA at 15 and 43 GHz. We are studying the physical property of radio core by means of the 'size-frequency relation'. This relation suggests that the AGN core has an unknown component in which diffuse electrons plays an important role of emission. However, the size-frequency relation is not well confirmed yet. High resolution and high sensitivity observations are required. NRAO512 is a naked-core, slightly extended, strong source. These properties are good for investigationg the size-frequency relation.

(6) Proposal Category (indicate all that apply):
Object type:
☑ AGN, ☐ Maser, ☐ Stellar, ☐ Pulsar, ☐ Other :
Observation type:
☑ Continuum, ☐ Spectral Line, ☐ Polarization, ☐ Time-critical, ☐ Other :

(7) Number of proposed experiments

An 'experiment' is one or more observations of one source at a fixed HALCA set-up. A request to observe the same source at 1.6 GHz and separately at 5 GHz requires two columns to be filled in in item (8) below. A request to observe the same source with HALCA simultaneously observing at 1.6 GHz and 5 GHz requires one column to be filled in. Multi-epoch observations of the same source at the same frequency – a 'monitoring experiment' – requires only one column to be filled in. Suggested observing dates, especially for for time-critical and monitoring experiments, should be specified in item (11).

The number of experiments in this proposal is: 2

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J1640+3946	J1640+3946		
Alternative name	NRAO512	NRAO512		
RA(J2000) (hh mm ss.ssss)	16 40 29.6328	16 40 29.6328		
Dec(J2000) (dd mm ss.ssss)	+39 46 46.029	+39 46 46.029		
Observing frequency band (GHz)	1.6	5		
Continuum observations: Standard VSOP freq. channels? Channel A range (MHz) Channel B range (MHz)	☑	☑	☐	☐
Spectral line observations: Ch.A spectral line rest freq. (MHz) Ch.A LSR velocity (km/s) Ch.B spectral line rest freq. (MHz) Ch.B LSR velocity (km/s) FWHM of field of view required (mas)				
Min. spectral channels per IF channel	64	64		
Correlator averaging time (sec)	2	2		
No. of correlating passes (if >1)				
Total flux density (Jy)	1	1		
Correlated flux (mJy)	600	600		
Ground Radio Telescopes: Suggested array given at Item (11)?	☑	☑	☐	☐
GRT observing mode: 128Mbps LCP (standard) 128Mbps LCP/RCP 256Mbps LCP/RCP	☑ ☐ ☐	☑ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Preferred correlator: No preference Mitaka Penticton Socorro	☑ ☐ ☐ ☐	☑ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
Monitoring programs: Number of observations Mean interval (days)				
Related VSOP proposal code(s)				

(9) VSOP spacecraft observing mode (see Section 3 and Table 5 of the VSOP Proposer's Guide):

- [x] 2 channel x 16 MHz, 2-bit (Standard mode),
- [ ] Other:

Phase calibration tones:

- [x] On (Standard continuum mode),
- [ ] Off (Standard spectral line mode)

(Include justification of any non-standard choice at (11) below)

(10) Assistance with preparation of ground telescope schedule files:

[x] VSOG assistance requested, [ ] Consultation desired, [ ] No assistance required

(11) Additional notes to the scheduler :

VLBA as a ground array is required.
We recognize that NRAO512 has already been observed by VSOP at 5GHz in AO2 (055h). We propose the observation at 1.6 GHz primarily, and as secondary at 5 GHz. We expect VLBA to be allocated as a ground array because this study requires dense short baselines for detecting the extended structure.

(12) Attach a scientific and technical justification, not in excess of 2 pages of text and 2 pages of figures. Refer to the VSOP Announcement of Opportunity for detailed instructions. Preprints and reprints will not be forwarded to the Scientific Review Committee.

EITHER e-mail the completed LaTeX file to submit@vsop.isas.ac.jp and send two paper copies of the complete proposal to:

VSOP Observing Proposals
VSOP Science Operations Group
Institute of Space and Astronautical Science
3-1-1 Yoshinodai, Sagamihara
Kanagawa 229-8510 JAPAN

OR e-mail the completed LaTeX Cover Sheets file and, in a separate e-mail, the postscript file of the scientific and technical justification, to submit@vsop.isas.ac.jp

Information from the Cover Sheets of scheduled proposals will be made available from the VSOP WWW site.

Proposals must be received at ISAS by 1 October 1999