VSOP AO4 PROPOSAL COVER SHEETS

DEADLINE : 2 October, 2000
SEND TO : VSOG, ISAS, 3-1-1 Yoshinodai, Sagamihara, Kanagawa 229-8510, JAPAN

(1) Date prepared : 26 Sep, 2000

(2) Proposal title : Imaging the highest visibility sources

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(5) Proposal Abstract :

We propose to observe five of the most compact active galactic nuclei at both 1.6 and 5.0 GHz in order to measure their brightness temperatures at both frequencies and, combined with 15 GHz snap-shots during the HALCA tracking gaps (subject of a separate VLBA proposal), determine their spectral index distributions. We require the frequency agile VLBA in order to combine the 1.6 and 5.0 GHz VSOP observations by switching the telescopes between these frequencies and to use the ground array for the 15 GHz snap-shots.

(6) Proposal Category (indicate all that apply):

Object type:

☑ AGN, ☐ Maser, ☐ Stellar, ☐ Pulsar, ☐ Other :

Observation type:

☑ Continuum, ☐ Spectral Line, ☐ Polarization, ☐ Time critical,
☐ Phase-reference, ☐ Other :

(7) Number of proposed experiments 5

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:

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J0050-0929	J0403-3605	J0968+4725	J1048+7143
Alternative name	0048-097	0402-362	0955+476	1044+719
RA(J2000) (hh mm ss.ssss)	00 50 41.3174	04 03 53.7499	09 58 19.6716	10 48 27.6199
Dec(J2000) (dd mm ss.sss)	−09 29 05.2102	−36 05 01.9130	+01 46 52.2200	+71 43 35.9385
Observing frequency band (GHz)	1.6/5	1.6/5	1.6/5	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				
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.3/1.5	1.0/2.7	1.1/1.6	1.0/1.8
Correlated flux (mJy)	1200/1500	900/2700	1000/1600	900/1800
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)	w038	w038	w038	w038

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J2358-1020			
Alternative name	2355-106			
RA(J2000) (hh mm ss.ssss)	23 58 10.8824			
Dec(J2000) (dd mm ss.sss)	−10 20 08.6113			
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				
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.2/2.2			
Correlated flux (mJy)	1100/2200			
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)	w038			

(9) VSOP spacecraft observing mode (see Section 3 and Table 2 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:

☐ VSOG assistance requested, ☐ Consultation desired, ☑ No assistance required

(11) Additional notes to the scheduler :

We request the VLBA as the ground array, with an additional telescope in Asia or Europe for northern sources, and Australia for southern sources, to allow accurate amplitude self-calibration on all baselines.
Additional 15 GHz ground-only observations have been proposed for with the VLBA during HALCA tracking gaps.

(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 2 October 2000