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 : 30 sep 2000

(2) Proposal title : SPACE: the South PolAr Cap Experiment

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(5) Proposal Abstract :

We propose for 1.6 GHz and 5.0 GHz VSOP observations on consecutive days to be made of five radio-bright, flat-spectrum sources, maximizing both HALCA's observing efficiency and the scientific output as, besides probing the source structure, the spectral index distribution can be mapped. VSOP observations of these sources will in most instances be the first *imaging* VLBI observation, and in all instances will be, and will remain for some time, the highest resolution image made of these sources.

(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

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: 10

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J0303-6211	J0303-6211	J0450-8100	J0450-8100
Alternative name				
RA(J2000) (hh mm ss.ssss)	03 03 50.6313	03 03 50.6313	04 50 05.4402	04 50 05.4402
Dec(J2000) (dd mm ss.sss)	-62 11 25.549	-62 11 25.549	-81 01 02.231	-81 01 02.231
Observing frequency band (GHz)	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	32	32	32	32
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.1	1.9	1.1	1.4
Correlated flux (mJy)	900	900	800	800
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)				

	Experiment 5	Experiment 6	Experiment 7	Experiment 8
Source name (*Jhhmm±ddmm*)	J1058-8003	J1058-8003	J1617-7717	J1617-7717
Alternative name				
RA(J2000) (hh mm ss.ssss)	10 58 43.3097	10 58 43.3097	16 17 49.2762	16 17 49.2762
Dec(J2000) (dd mm ss.sss)	-80 03 54.159	-80 03 54.159	-77 17 18.467	-77 17 18.467
Observing frequency band (GHz)	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	32	32	32	32
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	0.9	2.1	4.2	3.4
Correlated flux (mJy)	540	500	880	900
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)				

	Experiment 9	Experiment 10	Experiment 11	Experiment 12
Source name (*Jhhmm±ddmm*)	J2207-5346	J2207-5346		
Alternative name				
RA(J2000) (hh mm ss.ssss)	22 07 43.7332	22 07 43.7332		
Dec(J2000) (dd mm ss.sss)	-53 46 33.820	-53 46 33.820		
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	32	32		
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	2.0	1.4		
Correlated flux (mJy)	750	800		
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 2 of the VSOP Proposer's Guide):

☑ 2 channel x 16 MHz, 2-bit (Standard mode),
☐ Other:

Phase calibration tones:

☑ 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 1.6 GHz ground array ATCA, Mopra, Hobart, Hartebeesthoek and Tidbinbilla, and the 5 GHz ground array ATCA, Mopra, Hobart, Hartebeesthoek and Ceduna.
Correlated flux densities on ∼10,000 km baselines at 2.3 GHz are used as approximations for the 1.6 GHz correlated flux densities on >5000 km baselines.

(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