VSOP AO2 PROPOSAL COVER SHEETS

DEADLINE : 8 May, 1998
SEND TO : VSOG, ISAS, 3-1-1 Yoshinodai, Sagamihara, Kanagawa 229-8510, JAPAN

(1) Date prepared : 06-May-1998

(2) Proposal title : High Dynamic Range Imaging of 1928+738, 1718-649 & 0917+449

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(5) Proposal Abstract :

We propose to push the observing limits of VSOP beyond what has previously been attempted and make the highest dynamic ranges VSOP images possible of the superluminal quasar 1918+738, the closest GPS source 1718−649, and the high redshift quasar 0917+449 using observations that span multiple days. In the course of making these images we hope to discover how dynamic range depends on the number of ground telescopes used, the length of time a source is observed for, and the type of *(u,v)* coverage. We hope these images will be among the best if not the best examples of images that can be made with Space VLBI.

(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 (10).

The number of experiments in this proposal is: 3

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J1927+7358	J1723-6500	J0920+4441	
Alternative name	B1928+738	NGC 6328	B3 0917+449	
RA(J2000) (hh mm ss.ssss)	19 27 48.4951	17 23 41.029	09 20 58.4584	
Dec(J2000) (dd mm ss.ssss)	73 58 01.569	-65 00 36.61	44 41 53.985	
Observing frequency band (GHz)	5	5	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	128	128	128	
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	3.8	4.5	1.5	
Correlated flux (mJy)	1500	1000	1000	
Ground Radio Telescopes:				
Suggested array given at Item (10)?	☑	☐	☑	☐
GRT observing mode:				
128Mbps LCP (standard)	☑	☑	☑	☐
128Mbps LCP/RCP	☐	☐	☐	☐
256Mbps LCP/RCP	☐	☐	☐	☐
Preferred correlator:				
No preference	☐	☐	☐	☐
Mitaka	☐	☐	☐	☐
Penticton	☐	☑	☐	☐
Socorro	☑	☐	☑	☐
Monitoring programs:				
Number of observations	1	1	1	
Mean interval (days)				
Related AO1 proposal code(s)	V034	V101		

(9) VSOP spacecraft observing mode (see Section 3 and Table 5 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 (10) below)

(10) Additional notes to the scheduler :

These experiments need to be carefully scheduled to achieve the desired *(u,v)* coverages so that the highest dynamic range images can be produced.
Suggested observation lengths, GRT arrays, and observation dates are:

Experiment 1: 3-day observation with VLBA + EVN in Jun '99

Experiment 2: 3-day observation in Apr '99

Experiment 3: 3-day observation with VLBA + EVN in Nov '99

(11) Attach a scientific and technical justification, not in excess of 2 pages of text and 2 pages of figures. Up to one page of (u,v) plots per source may optionally be included.
(Refer to the VSOP Announcement of Opportunity for detailed instructions.)
Preprints and reprints will not be forwarded to the Scientific Review Committee.

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

In addition, e-mail the completed LaTeX file 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 8 May 1998