VSOP AO2 PROPOSAL COVER SHEETS

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

Please read Appendix C of Announcement of Opportunity for details on how to fill in this Cover Sheet.

(1) Date prepared : 1998 May 6

(2) Proposal title : The Gravitational Lens 0957+561 and the Hubble Constant

(3)	INVESTIGATORS	INSTITUTION
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(4) Principal Investigator (or contact person) details... regarding the proposal, though an alternative contact person may be nominated

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(5) Proposal Abstract :

when printed. Start abstract on next line. We propose L-band VLBI observations, of the gravitational lens system 0957+561, with Halca and large ground-based antennas. The goal of these observations is to determine the Hubble constant to an accuracy of 10 other data obtained at x-ray to radio wavelengths.

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

Object type:

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

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: 1

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J1001+5553			
Alternative name	0957+561			
RA(J2000) (hh mm ss.ssss)	10 01 20.6315			
Dec(J2000) (dd mm ss.ssss)	55 53 56.011			
Observing frequency band (GHz)	1.6			
Continuum observations: Standard VSOP freq. channels? Channel A range (MHz) Channel B range (MHz)	 2nd exp. 3rd exp. 4th exp. ☑ exactly equal to the channel width. Guide for details.) Channel A only) experiment	 ☐	 ☐	 ☐
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)	 (Refer to Section 9.6 Proposer's Guide for details) view for 1st experiment (optional)			
Min. spectral channels per IF channel	128			
Correlator averaging time (sec)				
No. of correlating passes (if >1)	2			
Total flux density (Jy)				
Correlated flux (mJy)	for a projected baseline of 5000 km, estimate has been used. MILLI-JY for 1st experiment 40	MILLI-JY for 2nd experiment		
Ground Radio Telescopes: Suggested array given at Item (10)?	 provided in table 8 of the Proposer's Guide. 3rd exp. 4th exp. ☑	 ☐	 ☐	 ☐
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 AO1 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 (10) below)

(10) Additional notes to the scheduler :

along with the Goldstone and Madrid DSN 70-m diameter antennas, the Bonn 100-m diameter antenna, and, if feasible, the Green Bank 43-m diameter antenna. Three correlation passes are required, one for each of the two main images ("A" and "B") and one for the center of G1.

(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