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 : 8-May-1998

(2) Proposal title : VSOP Observations of Gravitational Lens System B0218+357

(3)	INVESTIGATORS	INSTITUTION
P.I.	Satoru Ikeuchi	Nagoya University, Japan
co-I.	K. Fujisawa, H.Hirabayashi, J.E.J. Lovell	ISAS, Japan
co-I.	S. Kameno	NAO, Mitaka, Japan
co-I.	Edwin Turner	Princeton University, USA
co-I.		
co-I.		
co-I.		
co-I.		
co-I.		

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

Name : Satoru Ikeuchi
E-mail : ikeuchi@a.phys.nagoya-u.ac.jp
Fax : +81-52-789-2838
Phone : +81-52-789-2427

Address : Nagoya University
: Furo-cho, Chikusa-ku, Nagoya
: Aichi, 464-01
: Japan
:

(5) Proposal Abstract :

We propose to observe the gravitationally lensed, radio loud BL Lac B0218+357, to determine the physical parameters of this lensing system such as relative magnification factors and intrinsic source structures. VSOP observations at 1.6 and 5 GHz will allow us to image the milliarcsecond-scale jet components with high resolution at wavelengths where they are bright. Detection of such features will provide valuable new constraints on the mass distribution and potential shape of the lensing galaxy.

(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: 2

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J0221+3556	J0221+3556		
Alternative name	B0218+357	B0218+357		
RA(J2000) (hh mm ss.ssss)	02 21 05.4650	02 21 05.4650		
Dec(J2000) (dd mm ss.ssss)	+35 56 13.7500	+35 56 13.7500		
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)	2	2		
Total flux density (Jy)	1.5	1.5		
Correlated flux (mJy)	410	410		
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				
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):

☑ 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 :

Preferred array = VLBA + VLA-27, EF and some large telescopes
This source has two compact components with separation of 335 mas, flux densities of about 400 and 200 mJy with some variability. We suggest to make correlation processes for each component to avoid decorrelation. We would like to participate in the correlation process.
Since the flux density of weaker component is close to the detection limit of VSOP–middle-telescope at both 1.6 & 5 GHz, we propose to add a few largest telescopes.
The correlated flux density 410 mJy at 1.6 GHz is estimated from that at 5 GHz.

(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