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 : 3 May, 1998

(2) Proposal title : Space VLBI polarimetric observations of 4C39.25 at 6cm

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(5) Proposal Abstract :

We propose to monitor –2 epochs– the milliarcsecond polarized structure of 4C 39.25 with HALCA+VLBA+Y27 at 6 cm. These high angular resolution observations are very relevant since there are strong pieces of evidence indicating that the superluminal component b̲ is "colliding" or "crossing" the region associated with the stationary component a̲. These observations will provide an unique opportunity to study the geometry of the parsec scale jet of 4C39.25 through the monitoring of the evolution of the total flux density, the polarized flux density and -above all- the polarization angle of the region associated to the components a̲ and b̲ during and after the "collision". Moreover, combining these images with those obtained in our ongoing VLBA observations of 4C 39.25 (and with previous succesful polarimetric HALCA obs. at 6cm), we will obtain relevant information about the spectral properties.

(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: 1

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J0927+3902			
Alternative name	4C39.25			
RA(J2000) (hh mm ss.ssss)	09 27 03.0139			
Dec(J2000) (dd mm ss.ssss)	39 02 20.8524			
Observing frequency band (GHz)	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)	11.5			
Correlated flux (mJy)	500			
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	2			
Mean interval (days)	360			
Related AO1 proposal code(s)	v011b/v099b/vt825			

(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 :

FAKESAT show that the program sources will provide SNR > 7 at the longest space-earth baselines at 6cm. In order to have strong cross-hand detections we ask for the VLBA+Y27+HALCA. Our preferred observation date for the first epoch is 31 October 1998 and for the second epoch 31-October-1999 or 31-January-2000. The beam position angle at these epochs is well suited for the study of the jet of 4C 39.25.

(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