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 : Multi-band multi-epoch measurements of GHz-peaked-spectrum radio sources.

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(5) Proposal Abstract :

We propose the simultaneous 1.6 GHz and 5GHz observations of GHz-peaked radio quasars 0500 + 019 and 0738 + 313. Their milliarcsecond structures don't look like simple core-jet. 0500 + 019 shows the S-shaped milliarcsecond structure. 0738 + 313 shows the twin-jets-like structure. The possible interpretation of the structures is twin jets (or hot spots). There are three other interpretations: 1) is one bending core-jet, 2) is a pair of core-jet source, 3) is the lensing effects by the foreground galaxy.
In order to determine the structure of the object, we will measure spectral indices of the components. It may reveal the core component. Moreover we can test the (both structure and intensity) variability by multi-epoch observations.
Then we will be able to know if the milliarcsecond components are jets or not.

(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*)	J0503+0202	J0503+0202	J0741+3112	J0741+3112
Alternative name	0500+019	0500+019	0738+313	0738+313
RA(J2000) (hh mm ss.ssss)	05 03 21.2	05 03 21.2	07 41 10.7033	07 41 10.7033
Dec(J2000) (dd mm ss.ssss)	+02 03 05	+02 03 05	+31 12 00.229	+31 12 00.229
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)	2	2		
No. of correlating passes (if >1)				
Total flux density (Jy)	2.1	2.0	2.1	2.5
Correlated flux (mJy)	2000	1960	2800	2805
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	2	2	2
Mean interval (days)	300	300	300	300
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 :

1.6 GHz correlated fluxes are estimates from 5GHz. We prefer the first observing dates for $0500+019$ during Jan. – Apr., 1999.

(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