VSOP AO4 PROPOSAL COVER SHEETS

DEADLINE : 2 October, 2000
SEND TO : VSOG, ISAS, 3-1-1 Yoshinodai, Sagamihara, Kanagawa 229-8510, JAPAN

(1) Date prepared : 1 October, 2000

(2) Proposal title : Multi-frequency VSOP observations of NGC 6251

(3)	INVESTIGATORS	INSTITUTION
P.I.	Hiroshi Sudou	Astronomical Institute, Tohoku University, Japan
co-I.	Yoshiaki Taniguchi	Astronomical Institute, Tohoku University, Japan
co-I.	Osamu Kaburaki	Astronomical Institute, Tohoku University, Japan
co-I.	Seiji Kameno	National Astronomical Observatory, Japan
co-I.	Satoko Sawada-Satoh	National Astronomical Observatory, Japan
co-I.	Makoto Inoue	National Astronomical Observatory, Japan
co-I.		
co-I.		
co-I.		

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

Name : Hiroshi Sudou
E-mail : sudou@astr.tohoku.ac.jp
Fax : +81-022-217-6513
Phone : +81-022-217-6776

Address : Astronomical Institute
: Tohoku University
: Aramaki, Aoba,
: Sendai 980-8578,
: Japan

(5) Proposal Abstract :

We propose VSOP observation of the nearby powerful radio galaxy NGC 6251 at 15 and 22 GHz. In our previous VLBA (15 GHz) and VSOP (5 GHz) observations of NGC 6251, we discovered a new knot at 2 mas from the brightest peak and heavy absorption at the core region. Since our results strongly suggest the presence of a sub-pc-scale, free-free accretion disk, our main purpose in the present proposal is to investigate detailed absorption by the sub-pc-scale disk.

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

Object type:

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

Observation type:

☑ Continuum, ☐ Spectral Line, ☐ Polarization, ☐ Time critical,
☐ Phase-reference, ☐ 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 (11).

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*)	J1632+8232	J1632+8232		
Alternative name	NGC 6251	NGC 6251		
RA(J2000) (hh mm ss.ssss)	16 32 33.6	16 32 33.6		
Dec(J2000) (dd mm ss.sss)	+82 32 17	+82 32 17		
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)				
Total flux density (Jy)				
Correlated flux (mJy)	160	175		
Ground Radio Telescopes:				
Suggested array given at Item (11)?	[√]	[√]	[ ]	[ ]
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 VSOP proposal code(s)	v105	v105		

(9) VSOP spacecraft observing mode (see Section 3 and Table 2 of the VSOP Proposer's Guide):

- [x] 2 channel x 16 MHz, 2-bit (Standard mode),
- [ ] Other:

Phase calibration tones:

- [ ] On (Standard continuum mode),
- [x] Off (Standard spectral line mode)

(Include justification of any non-standard choice at (11) below)

(10) Assistance with preparation of ground telescope schedule files:

[ ] VSOG assistance requested, [ ] Consultation desired, [x] No assistance required

(11) Additional notes to the scheduler :

Pref. Array = VLBA + Effelsberg 100-m telescope
Correlated flux density at 1.6 GHz is estimated using that at 5 GHz, assuming $\alpha = 1$ at the brightest peak and $\alpha = -0.5$ at the 2nd peak ($S_\nu \propto \nu^\alpha$).

(12) Attach a scientific and technical justification, not in excess of 2 pages of text and 2 pages of figures. Refer to the VSOP Announcement of Opportunity for detailed instructions. Preprints and reprints will not be forwarded to the Scientific Review Committee.

EITHER e-mail the completed LaTeX file to submit@vsop.isas.ac.jp and 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

OR e-mail the completed LaTeX Cover Sheets file and, in a separate e-mail, the postscript file of the scientific and technical justification, 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 2 October 2000