VSOP AO5 PROPOSAL COVER SHEETS

DEADLINE : 1 February, 2001
SEND TO : VSOG, ISAS, 3-1-1 Yoshinodai, Sagamihara, Kanagawa 229-8510, JAPAN

(1) Date prepared : 1 February, 2001

(2) Proposal title : Collimation Mechanism of 3C 273 Jet

(3)	INVESTIGATORS	INSTITUTION
P.I.	Keiichi Asada	National Astronomical Observatory, Japan
co-I.	Makoto Inoue	National Astronomical Observatory, Japan
co-I.	Yutaka Uchida	Sceience Univ. of Tokyo, Japan
co-I.	Mutumi Mutou	National Astronomical Observatory, Japan
co-I.	Masanori Nakamura	Sceience Univ. of Tokyo, Japan
co-I.	Seiji Kameno	National Astronomical Observatory, Japan
co-I.	Kenta Fujisawa	National Astronomical Observatory, Japan
co-I.	Satoru Iguchi	National Astronomical Observatory, Japan
co-I.		

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

Name : Keiichi Asada
E-mail : asada@hotaka.mtk.nao.ac.jp
Fax : +81-422-34-3635
Phone : +81-422-34-3938

Address : VSOP project, Osawa 2-21-1
: Mitaka, Tokyo 181-8588
: Japan
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(5) Proposal Abstract :

The collimation mechanism of jets from active galactic nuclei (AGN) has been one of the most important problems in astrophysics. We would like to propose VLBA observations of 3C 273 jet in order to derive the Faraday Rotation Measure (RM) distribution in it, and the RM-corrected directions of the magnetic field, because we HAVE FOUND that a bright knot of the jet, the component C2, shows a very characteristic feature which strongly suggests a helical magnetic field of the jet. An opportunity of a follow-up observation will allow us to establish a clue for the collimation mechanism of AGN jets.

(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: 2

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J1229+020	J1229+020		
Alternative name	3C 273	3C 273		
RA(J2000) (hh mm ss.ssss)	12 29 06.6997	12 29 06.6997		
Dec(J2000) (dd mm ss.sss)	+02 03 08.598	+02 03 08.598		
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)	> 20.0	> 20.0		
Correlated flux (mJy)	> 1000	> 1000		
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)				

(9) VSOP spacecraft observing mode (see Section 3 and Table 2 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 (11) below)

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

☐ VSOG assistance requested, ☑ Consultation desired, ☐ No assistance required

(11) Additional notes to the scheduler :

(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 1 February 2001