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 : VLBI Mapping of the Double Nucleus of 3C75 with Arecibo

(3)	INVESTIGATORS	INSTITUTION
P.I.	M. Imai	GUAS/ NAO, Mitaka, Japan
co-I.	M. Inoue, S. Kameno	NAO, Japan
co-I.	M. Tuboi, T. Oono, T. Kanno	Ibaragi Univ., Japan
co-I.	T. Venturi	CNR, Italy
co-I.		
co-I.		
co-I.		
co-I.		
co-I.		

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

Name : M. Imai
E-mail : mimai@hotaka.mtk.nao.ac.jp
Fax : +81-0422-34-3869
Phone : +81-0422-34-3807

Address : National Astronomical
: Observatry,
: 2-21-1 Osawa, Mitaka,
: Tokyo 181-8588,
: JAPAN

(5) Proposal Abstract :

The radio galaxy 3C75 has been known for a pair of twin jets emanating from the double nucleus. The jets bend to merge into twin tails, suggesting a binary motion of the nuclei. This is the only one radio source which has two prominent radio nuclei in a galaxy, so it is the best source to investigate such interaction.
We thus propose to observe these nuclei to investigate by HALCA and ground telescopes at 1.6 and 5 GHz, whether or not they are bounded or interacted with each other. As the intensities of the nuclei are relatively weak, we need the most sensitive Arecibo telescope.

(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*)	J0527+0602	J0527+0602		
Alternative name	3C75	3C75		
RA(J2000) (hh mm ss.ssss)	02 57 41.7	02 57 41.7		
Dec(J2000) (dd mm ss.ssss)	+06 02 59.0	+06 02 59.0		
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)	6.1	2.4		
Correlated flux (mJy)	24	50		
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 :

Preference Anttena: AR, VLBA, EB
Excellent uv-coverage is obtained in July 1999 and December 1999, given the proposed orbit. Given the primary beam at 1.6 and 5 GHz, both nuclei are detected, however, since their separation is 17arcsecs, we need to correlate two times to track the phase center of each nucleus.

(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