VSOP PROPOSAL COVER SHEETS

ID :

TR :

SR :

DEADLINE : 17 November, 1995
SEND TO : VSOP SOG, ISAS, 3-1-1 Yoshinodai, Sagamihara, Kanagawa 229, JAPAN

Please read Appendix C of Announcement of Opportunity for details on how to fill in this Cover Sheet.

(1) Date prepared : 11-Nov-1995

(2) Proposal title : VSOP Observations of the Jet in 3C273

(3)	INVESTIGATORS	INSTITUTION
P.I.	Richard Davis	NRAL Jodrell Bank, UK
co-I.	Tom Muxlow and Simon Garrington	NRAL Jodrell Bank, UK
co-I.	Steve Unwin	Cal Tech, USA.
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(4) Principal Investigator (or contact person) details...

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(5) Proposal Abstract :

We propose VSOP observations of the quasar 3C273 in order to extend our ground-based VLBI studies of the jet to higher resolution. Global VLBI observations at 18cm have traced the jet out to 200 pc and the superluminal motion continues to the outermost components. Higher resolution observations will allows us to study the complex structure of the jet in detail and determine whether the apparent velocities change along the jet. VSOP observations at 18cm offer the ideal combination of resolution and sensitivity to the extended steep-spectrum jet emission to carry out this study. In order to trace the motions of the jet features we request three observations with VSOP in AO1.

(6) Proposal Category (indicate all that apply):
Object type:
☑ AGN, ☐ Masers, ☐ Stellar, ☐ Other :
Experiment type:
☑ Single-observation, ☑ Monitoring, ☐ Polarization,
☑ Time-critical, ☐ Target of Opportunity, ☐ Other :

(7) 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),
☐ 2 channel x 32 MHz, 1-bit,
☐ 1 channel x 32 MHz, 2-bit
Phase calibration tones:
☑ On (Standard continuum mode),
☐ Off (Standard spectral line mode)
(Include justification of any non-standard choice at (14) below)

(8) Ground radio telescope setup
Polarization :
☑ VSOP Standard (IEEE LCP), ☐ Non-standard :
Recording mode :
☑ As for VSOP spacecraft (Standard), ☐ Other :

(9) Investigator participation in scheduling
☐ PI (or co-I) wishes to participate in scheduling ground radio telescopes
☐ PI (or co-I) wishes to participate in scheduling the space radio telescope

(10) Preferred correlator (see Sections 9.11 and 12 of VSOP Proposer's Guide):
☑ No preference, ☐ Mitaka, ☐ Socorro, ☐ Other :

(11) Preferred post-correlation data analysis location:
☑ Home Institution, ☐ Mitaka, ☐ NRAO AOC, ☐ JIVE, ☐ Other

(12) Post-correlation data analysis assistance required:
☐ None, ☑ Consultation, ☐ Extensive help

(13) Details of proposed experiments
An 'experiment' is one or more observations of one source in one wavelength band.
A request to observe the same source in all 3 wavelength bands requires 3 columns to be filled in.
To observe the same source at the same frequency multiple times – a 'monitoring experiment' – requires only one column to be filled in.
Number of experiments in this proposal: 1

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name	3C273			
RA (hh mm ss.s)	12 29 06.7			
Dec (dd mm ss)	02 03 08			
J2000 or B1950?	J2000			
Observing frequency band (GHz)	1.6			
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)				
Min. spectral channels per IF channel				
Correlator averaging time (sec)	2			
FWHM of field of view required (mas)	200			
No. of correlating passes (if >1)				
Measured total flux density (Jy)	30			
Measured correlated flux density on > 5000 km baseline (Jy)	5			
Image RMS needed (mJy/beam)	0.1			
Ground Radio Telescopes:				
Preferred choice:				
Number of medium telescopes	10			
Number of large telescopes	2			
Suggested array given at Item (14)	☑	☐	☐	☐
Minimum acceptable:				
Number of medium telescopes	6			
Number of large telescopes	1			
Suggested array given at Item (14)	☑			
Length of observation:				
Preferred length (orbits)	4			
Minimum acceptable length (orbits)	4			
Scheduling constraints:				
Preferred P.A. of beam *major* axis (deg)	-45			
'No holes' (u,v) coverage?	☐			
Or maximum resolution (u,v) coverage?	☑			
Preferred range of dates for scheduling	97-07-01			
(for monitoring experiments give	to	to	to	to
range for 1st observation only)	97-07-15			
For monitoring programs:				
Number of observations	3			
Mean interval (days)	183			
Acceptable variance from mean (days)	10			

(14) Additional notes to the scheduler :

Preferred Ground Array: EVN, VLBA, AR,HT,HO,MR,CG,PA,TI, KA
Minimum Acceptable Ground Array: Some EVN, Some VLBA, HT, TI
Ideal Observation Dates: July 1997, February 1998 and July 1998

(15) 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 JAPAN
In addition, e-mail the completed LaTeX file to submit@vsopgw.isaslan1.isas.ac.jp

Cover Sheets of accepted proposals will be made available to the astronomical community.

Proposals must be received at ISAS by 17 November 1995