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 : 8 November 1995

(2) Proposal title : Space-VLBI observations of the quasar 3C395

(3)	INVESTIGATORS	INSTITUTION
P.I.	L. Lara	IRA - CNR (Italy); IAA - CSIC (Spain)
co-I.	A. Alberdi	IAA - CSIC; LAEFF (Spain)
co-I.	J.M. Marcaide	University of Valencia (Spain)
co-I.	T.W.B. Muxlow	NRAL, Jodrell Bank (U.K.)
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(4) Principal Investigator (or contact person) details...

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(5) Proposal Abstract :

3C395 exhibits important variability in total flux density, most probably associated to activity in its compact core. However, ground VLBI observations at several frequencies since 1984 do not show the expected correlation between flux density flares and ejection of VLBI components. Test VLBI observations at 22 GHz show evidence of a complex core-jet structure within what was assumed to be the core of 3C395. We request space-VLBI observations with VSOP at 5 and 22 GHz, which would provide enough sensitivity and the required resolution to study the details of the inner jet. Our aim is to understand the variability mechanisms of 3C395, and test current jet models.

(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: 2

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name	3C395	3C395		
RA (hh mm ss.s)	19 02 55.93912	19 02 55.93912		
Dec (dd mm ss)	31 59 41.7014	31 59 41.7014		
J2000 or B1950?	J2000	J2000		
Observing frequency band (GHz)	5	22		
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)				
FWHM of field of view required (mas)				
No. of correlating passes (if >1)				
Measured total flux density (Jy)	2.3	1.25		
Measured correlated flux density on > 5000 km baseline (Jy)	1.5	0.5		
Image RMS needed (mJy/beam)	1	1		
Ground Radio Telescopes:				
Preferred choice:				
Number of medium telescopes	12	12		
Number of large telescopes	1	2		
Suggested array given at Item (14)	☑	☑	☐	☐
Minimum acceptable:				
Number of medium telescopes	7	6		
Number of large telescopes	0	1		
Suggested array given at Item (14)	☐	☐	☐	☐
Length of observation:				
Preferred length (orbits)	2	2		
Minimum acceptable length (orbits)	2	2		
Scheduling constraints:				
Preferred P.A. of beam *major* axis (deg)	$\sim$45	$\sim$45		
'No holes' (u,v) coverage?	☐	☐	☐	☐
Or maximum resolution (u,v) coverage?	☐	☐	☐	☐
Preferred range of dates for scheduling (for monitoring experiments give range for 1st observation only)	98-05-10 to 98-05-25	98-05-10 to 98-05-25	to	to
For monitoring programs:				
Number of observations				
Mean interval (days)				
Acceptable variance from mean (days)				

(14) Additional notes to the scheduler :

Preferred choice exp.1: VLBA,Effelsberg,Noto,Shanghai
Preferred choice exp.2: VLBA,Effelsberg,Nobeyama,Noto,Shanghai
uv-coverage presented in Figure corresponds to 20th May 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