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 : November 17th

(2) Proposal title : Relative Position of the Continuum and H_2O Maser Spots in NGC3079

(3)	INVESTIGATORS	INSTITUTION
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(4) Principal Investigator (or contact person) details...

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(5) Proposal Abstract :

We propose to observe the continuum and water vapor maser in NGC3079, which is the most luminous water maser source known. Lack of maser emission at systemic velocity of the galaxy suggest different amplification mechanism from the circumstance of NGC4258. Continuum emission from unresolved core in NGC3079 is about 30 times stronger than NGC4258. It is crucial to investigate ditribution of maser spots relative to the continuum source. Furthermore, we also measure the position of high velocity maser emission newly found with the NRO 45-m telescope

(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	NGC3079			
RA (hh mm ss.s)	09 58 35.0			
Dec (dd mm ss)	55 55 15			
J2000 or B1950?	B1950			
Observing frequency band (GHz)	22GHz			
Continuum observations:				
Standard VSOP freq. channels?	☐	☐	☐	☐
Channel A range (MHz)				
Channel B range (MHz)				
Spectral line observations:				
Ch.A spectral line rest freq. (MHz)	22235.08			
Ch.A LSR velocity (km/s)	960(bndcntr)			
Ch.B spectral line rest freq. (MHz)	22235.08			
Ch.B LSR velocity (km/s)	1200(bndcntr)			
Min. spectral channels per IF channel	512			
Correlator averaging time (sec)	1			
FWHM of field of view required (mas)	20			
No. of correlating passes (if >1)				
Measured total flux density (Jy)	5			
Measured correlated flux density on $>$ 5000 km baseline (Jy)	5			
Image RMS needed (mJy/beam)	0.055			
Ground Radio Telescopes:				
Preferred choice:				
Number of medium telescopes	10			
Number of large telescopes	5			
Suggested array given at Item (14)	☑	☐	☐	☐
Minimum acceptable:				
Number of medium telescopes	3			
Number of large telescopes	3			
Suggested array given at Item (14)	☑	☐	☐	☐
Length of observation:				
Preferred length (orbits)	6			
Minimum acceptable length (orbits)	6			
Scheduling constraints:				
Preferred P.A. of beam *major* axis (deg)				
'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)	97-10-01 to 98-05-25	to	to	to
For monitoring programs:				
Number of observations				
Mean interval (days)				
Acceptable variance from mean (days)				

(14) Additional notes to the scheduler :

Suggested array of GRT
Preferred choice: EF, GO, RO, NB, VL for Large, and VLBA for Medium.
Minimum choice: EF, GO and VL for Large, and JO, GB and SM for Medium.
Phase Calibration tone
Turn on for 1 minute every hour
Delay Calibration
Continuum calibrator source before and after the target Observation

(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