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 : 17-Nov-1995

(2) Proposal title : Creation mechanism of a relativistic jet in a Seyfert galaxy

(3)	INVESTIGATORS	INSTITUTION
P.I.	Rikako Okayasu	ISAS, Japan
co-I.	H. Kobayashi, Y. Murata	ISAS, Japan
co-I.	P. Edwards, H. Hirabayashi	ISAS, Japan
co-I.	S. Ishizuki	NRO, Japan
co-I.	S. Horiuchi	NAO, Japan
co-I.	F. Makino	ISAS, Japan
co-I.	S. Tashiro, Y. Fukazawa	Tokyo University, JAPAN
co-I.	K. Fujisawa	ISAS
co-I.		

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

Name : Rikako OKAYASU
Address : ISAS
: 3-1-1 Yoshinodai, Sagamihara,
: Kanagawa 229
: Japan

Internet : okayasu@vsop.isas.ac.jp
Other e-mail :
Fax : +81-427-51-3972
Telephone : +81-427-51-3911

(5) Proposal Abstract :

We propose simultaneous monitoring observations of a Seyfert 1 galaxy 3C120 with the VSOP and X-ray satellites. The purpose is to elucidate the physical processes from mass accretion onto the supermassive black hole to the creation of jets. The monitoring has to be done every month over several months. In monitoring, we shall spatially resolve the radio components from the close neighborhood of the accretion disk and those from the jet components. The X-ray emission from the accretion disk has been successfully detected by using the ASCA; this comes from the fact that 3C120 is a Seyfert 1 galaxy. During the monitoring period, we shall compare the spatial radio components form the VSOP and the X-ray spectral components from the ASCA in order to get clues for investigating the origins of the X-ray spectral components.

(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	3C120	3C120		
RA (hh mm ss.s)	04 30 31.6	04 30 31.6		
Dec (dd mm ss)	05 15 00	05 15 00		
J2000 or B1950?	B1950	B1950		
Observing frequency band (GHz)	22	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)				
Min. spectral channels per IF channel				
Correlator averaging time (sec)				
FWHM of field of view required (mas)				
No. of correlating passes (if >1)	1	1		
Measured total flux density (Jy)	5.68	10.0		
Measured correlated flux density on > 5000 km baseline (Jy)	0.48	0.3		
Image RMS needed (mJy/beam)	3	3		
Ground Radio Telescopes:				
Preferred choice:				
Number of medium telescopes	3	3		
Number of large telescopes	2	2		
Suggested array given at Item (14)	☐	☐	☐	☐
Minimum acceptable:				
Number of medium telescopes	1	2		
Number of large telescopes	2	1		
Suggested array given at Item (14)	☐	☐	☐	☐
Length of observation:				
Preferred length (orbits)	3	3		
Minimum acceptable length (orbits)	2	2		
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)	to	to	to	to
For monitoring programs:				
Number of observations	7	2		
Mean interval (days)	30	180		
Acceptable variance from mean (days)	10	10		

(14) Additional notes to the scheduler :

We want the spectral index map with C/K band observations. So these observation should not be separated more than half month.

(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