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 : VSOP Observations of 4 Low Power Radio Galaxies at 6 cm

(3)	INVESTIGATORS	INSTITUTION
P.I.	G. Giovannini	I.R.A. - CNR and Astronomy Dpt., ITALY
co-I.	W.D. Cotton	N.R.A.O. - U.S.A.
co-I.	L. Lara	I.R.A. - CNR, Italy and IAA-CSIC, SPAIN
co-I.	T. Venturi	I.R.A. - CNR, ITALY
co-I.		
co-I.		
co-I.		
co-I.		
co-I.		

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

Name : G. Giovannini
Address : Istituto di Radioastronomia
: via Gobetti 101
: I-40129 Bologna
: Italy

Internet :
GGIOVANNINI@ASTBO1.BO.CNR.IT
Other e-mail :
Fax : 39-51-639 9431
Telephone : 39-51-639 9415

(5) Proposal Abstract :

We request 6 cm VSOP observations of 4 low power extended radio galaxies (FRI). The aims of requested observations are: a) to map the inner region of the parsec scale jets and to measure the angular resolution of the nuclear emission; b) to compare at high resolution the nuclear properties in high and low power radio sources; c) to resolve radio jets to test the present models which assume that radio jets have a high velocity inner region and a slower moving shear on their surface where the interaction with the external medium occurs. Since all requested galaxies are nearby sources, we will map them with a very high linear resolution.

(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: 4

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name	NGC315	B1144+35	3C272.1	3C465
RA (hh mm ss.s)	00 55 05.63	11 44 45.52	12 22 31.55	23 35 58.97
Dec (dd mm ss)	+30 04 57.1	+35 17 47.5	+13 09 49.7	+26 45 16.2
J2000 or B1950?	B1950	B1950	B1950	B1950
Observing frequency band (GHz)	5	5	5	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)				
Measured total flux density (Jy)	0.7	0.8	3	4
Measured correlated flux density				
on > 5000 km baseline (Jy)	0.30	0.31	0.18	0.25
Image RMS needed (mJy/beam)	0.5	0.5	0.5	0.5
Ground Radio Telescopes:				
Preferred choice:				
Number of medium telescopes	8	8	8	8
Number of large telescopes	3	3	3	3
Suggested array given at Item (14)	☐	☐	☐	☐
Minimum acceptable:				
Number of medium telescopes	5	5	4	4
Number of large telescopes	1	1	2	2
Suggested array given at Item (14)	☐	☐	☐	☐
Length of observation:				
Preferred length (orbits)	4	3	3	4
Minimum acceptable length (orbits)	2	2	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	to	to	to	to
range for 1st observation only)				
For monitoring programs:				
Number of observations		2	2	
Mean interval (days)		300	270	
Acceptable variance from mean (days)		90	90	

(14) Additional notes to the scheduler :

The correlated flux density on > 5000 km baselines is the unresolved core flux density in global (VLBA+EVN) VLBI observations at 5 GHz

(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