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 : 15 November 1995

(2) Proposal title : Two epoch monitoring of PKS 1921–293

(3)	INVESTIGATORS	INSTITUTION
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(5) Proposal Abstract :

This proposal seeks two epoch 5 and 22 GHz observations in order to probe the fine structure of PKS 1921−293, one of the strongest, most compact radio sources known. Ground-based VLBI observations indicate a source size that is a fraction of the beam size: to determine the true structure of the core SVLBI observations are essential.
The two epoch observations proposed here, which will be supplemented by our on-going multi-frequency monitoring, will enable us to determine the size and brightness temperature of the source and its components, and their variation. In addition, the two epochs will allow the internal source motions to be gauged.

(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	PKS1921-293	PKS1921-293		
RA (hh mm ss.s)	19 21 42.2	19 21 42.2		
Dec (dd mm ss)	-29 20 26	-29 20 26		
J2000 or B1950?	B1950	B1950		
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)	14.	17.3		
Measured correlated flux density on > 5000 km baseline (Jy)	11.	12.5		
Image RMS needed (mJy/beam)	1	1		
Ground Radio Telescopes:				
Preferred choice:				
Number of medium telescopes	8	8		
Number of large telescopes	3	3		
Suggested array given at Item (14)	☑	☑	☐	☐
Minimum acceptable:				
Number of medium telescopes	4	4		
Number of large telescopes	1	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)	90	90		
'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				
Mean interval (days)				
Acceptable variance from mean (days)				

(14) Additional notes to the scheduler :

Preferred 5 GHz array: VLBA, CG, PA, HO, MR, KA, UD
Preferred 22GHz array: VLBA, GO, TI, PA, HO, MR, NB
Minimum 5 GHz array: VLBA, CG, PA, HO, MR, KA, UD
Minimum 22GHz array: VLBA, GO, TI, PA, HO, MR, NB

The VLBA is important for (u,v) coverage and resolution in the suggested September/October 1997 observing period.