VSOP AO3 PROPOSAL COVER SHEETS

DEADLINE : 1 October, 1999
SEND TO : VSOG, ISAS, 3-1-1 Yoshinodai, Sagamihara, Kanagawa 229-8510, JAPAN

(1) Date prepared : 1 October, 1999

(2) Proposal title : Two epoch polarization imaging of a high Tb quasar PKS 1921-293

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(5) Proposal Abstract :

This proposal aims to continue our ongoing effort to probe the fine structure of PKS 1921−293. The two epoch observations proposed here, which will be complemented by our already scheduled two epoch 5.0 GHz VSOP polarization observations and, our ongoing high frequency (43 and 86 GHz) ground based VLBI imaging and multi-frequency single dish monitoring, will enable us to monitor the size and brightness temperature of the components and their variations, as well as to check the inner jet component seen by a short VSOP test observation. PKS 1921−293 is one of the few sources strong enough to guarantee useful polarization measurements, and these will be used to determine the alignment of the magnetic field with the bent jet. Furthermore, the matched resolution VSOP 1.6 GHz and ground-only 5.0 GHz images will allow a map of the spectral index variation across the source to be made in the same manner as for 3C279, allowing the site(s) of shock acceleration in the jet to be discerned.

(6) Proposal Category (indicate all that apply):

Object type:

☑ AGN, ☐ Maser, ☐ Stellar, ☐ Pulsar, ☐ Other :

Observation type:

☑ Continuum, ☐ Spectral Line, ☑ Polarization, ☐ Time-critical, ☐ Other :

(7) Number of proposed experiments

An 'experiment' is one or more observations of one source at a fixed HALCA set-up. A request to observe the same source at 1.6 GHz and separately at 5 GHz requires two columns to be filled in in item (8) below. A request to observe the same source with HALCA simultaneously observing at 1.6 GHz and 5 GHz requires one column to be filled in. Multi-epoch observations of the same source at the same frequency – a 'monitoring experiment' – requires only one column to be filled in. Suggested observing dates, especially for for time-critical and monitoring experiments, should be specified in item (11).

The number of experiments in this proposal is: 1

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J1924-2914			
Alternative name	PKS 1921-293			
RA(J2000) (hh mm ss.ssss)	19 24 51.0559			
Dec(J2000) (dd mm ss.ssss)	-29 14 30.1207			
Observing frequency band (GHz)	1.6			
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) FWHM of field of view required (mas)				
Min. spectral channels per IF channel	32			
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	13.4			
Correlated flux (mJy)	3000			
Ground Radio Telescopes: Suggested array given at Item (11)?	 ☑	 ☐	 ☐	 ☐
GRT observing mode: 128Mbps LCP (standard) 128Mbps LCP/RCP 256Mbps LCP/RCP	 ☐ ☐ ☑	 ☐ ☐ ☐	 ☐ ☐ ☐	 ☐ ☐ ☐
Preferred correlator: No preference Mitaka Penticton Socorro	 ☐ ☐ ☐ ☑	 ☐ ☐ ☐ ☐	 ☐ ☐ ☐ ☐	 ☐ ☐ ☐ ☐
Monitoring programs: Number of observations Mean interval (days)	 2 120			
Related VSOP proposal code(s)	v039/v131/w075			

(9) 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),

☐ Other:

Phase calibration tones:

☑ On (Standard continuum mode),

☐ Off (Standard spectral line mode)

(Include justification of any non-standard choice at (11) below)

(10) Assistance with preparation of ground telescope schedule files:

☐ VSOG assistance requested, ☑ Consultation desired, ☐ No assistance required

(11) Additional notes to the scheduler :

Total and correlated flux densities from July 1997 VSOP and AT measurements

Suggested observing dates: one day before/after that of scheduled AO2 proposal w075, i.e., first epoch early April 2000 and second epoch mid August 2000

Suggested preferred ground array: the same as that arranged for w075, i.e., VLBA

(12) Attach a scientific and technical justification, not in excess of 2 pages of text and 2 pages of figures. Refer to the VSOP Announcement of Opportunity for detailed instructions. Preprints and reprints will not be forwarded to the Scientific Review Committee.

EITHER e-mail the completed LaTeX file to submit@vsop.isas.ac.jp and 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 229-8510 JAPAN

OR e-mail the completed LaTeX Cover Sheets file and, in a separate e-mail, the postscript file of the scientific and technical justification, to submit@vsop.isas.ac.jp

Information from the Cover Sheets of scheduled proposals will be made available from the VSOP WWW site.

Proposals must be received at ISAS by 1 October 1999