VSOP AO2 PROPOSAL COVER SHEETS

DEADLINE : 8 May, 1998
SEND TO : VSOG, ISAS, 3-1-1 Yoshinodai, Sagamihara, Kanagawa 229-8510, JAPAN

Please read Appendix C of Announcement of Opportunity for details on how to fill in this Cover Sheet.

(1) Date prepared : June 1, 1999

(2) Proposal title : VSOP Imaging of Southern High Brightness Temperature AGN

(3)	INVESTIGATORS	INSTITUTION
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(5) Proposal Abstract :

We propose a two-epoch 5 GHz VSOP monitoring program of four Southern Hemisphere AGN to measure the brightness temperatures of their cores and to monitor the motion of their jet components and to compare the Doppler factors inferred from both measurements. All sources possess unresolved cores on ground VLBI baselines, show milliarcsecond jet components and display variability on timescales much less than 1 year. All this evidence indicates that these sources possess high Doppler factors, making them excellent targets for VSOP observations.

(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 (10).

The number of experiments in this proposal is: 4

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J0428−3756	J0457−2324	J1246−2547	J1316−3338
Alternative name	PKS 0426−380	PKS 0454−234	PKS 1244−255	PKS 1313−333
RA(J2000) (hh mm ss.ssss)	04 28 40.43	04 57 03.18	12 46 46.80	13 16 07.98
Dec(J2000) (dd mm ss.ssss)	−37 56 19.5	−23 24 51.8	−25 47 49.5	−33 38 59.2
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)				
FWHM of field of view required (mas)				
Min. spectral channels per IF channel	128	128	128	128
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	2.0	2.0	1.4	2.2
Correlated flux (mJy)	1700	1300	500	1600
Ground Radio Telescopes:				
Suggested array given at Item (10)?	☑	☑	☑	☑
GRT observing mode:				
128Mbps LCP (standard)	☑	☑	☑	☑
128Mbps LCP/RCP	☐	☐	☐	☐
256Mbps LCP/RCP	☐	☐	☐	☐
Preferred correlator:				
No preference	☐	☐	☐	☐
Mitaka	☐	☐	☐	☐
Penticton	☑	☑	☑	☑
Socorro	☑	☑	☑	☑
Monitoring programs:				
Number of observations	2	2	2	2
Mean interval (days)	90	100	80	80
Related AO1 proposal code(s)				

(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 (10) below)

(10) Additional notes to the scheduler :

We request that the VLBA be used together with the following GRT's: Hobart, Ceduna, Mopra, ATCA, Hartebeesthoek, Shanghai and Usuda. If the amount of tape copying is impractical, we request that the S2 and VLBA tapes be correlated separately and we will combine the datasets during the post-fringe-fitting data reduction.

(11) 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 229-8510 JAPAN

In addition, e-mail the completed LaTeX file 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 8 May 1998