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 : High Resolution Imaging of An Inverted Source PKS1124–186

(3)	INVESTIGATORS	INSTITUTION
P.I.	Yoshiharu Asaki	ISAS, Japan
co-I.	Kenta Fujisawa	NAO, Japan
co-I.		
co-I.		
co-I.		
co-I.		
co-I.		
co-I.		
co-I.		

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

Name : Yoshiharu Asaki
E-mail : asaki@vsop.isas.ac.jp
Fax : +81–42–769–8949
Phone : +81–42–759–8343

Address : The Institute of Space and
:Astronautical Science
:3–1–1 Yoshinodai, Sagamihara,
:Kanagawa 229–8510
:Japan

(5) Proposal Abstract :

We propose observations of PKS1124–186. This object has an inverted spectrum from 1 GHz to 90GHz. A VSOP observation at 1.6GHz shows no structure and the brightness temperature is 8.2×10^{12}K. One of ideas to explain those characteristics is that this object is very young, so that high energy electron has been supplied and/or vsry dense cloud very close to the activity center significantly absorbs the low frequency emission. Another idea is that, although the intrinsic size is small and the activity is not large, the jet is significantly amplified due to large Doppler factor bacause the jet axis is very close to observer's line of sight. If the latter is true, PKS1124–186 is no longer young. To determine the charactreristics of this source, higher resolution imaging and obtain the spectrum information are needed. We will investigate whether this source is an unique object or not (especially the age) by VSOP high resolution imaging at 1.6 and 5GHz.

(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*)	J1127-1857	J1127-1857		
Alternative name	PKS1124–186	PKS1124–186		
RA(J2000) (hh mm ss.ssss)	11 27 04.3924	11 27 04.3924		
Dec(J2000) (dd mm ss.ssss)	-18 57 17.440	-18 57 17.440		
Observing frequency band (GHz)	1.6	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	64	64		
Correlator averaging time (sec)	2	2		
No. of correlating passes (if >1)				
Total flux density (Jy)	0.6	0.6		
Correlated flux (mJy)	270	270		
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)				
Related VSOP 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 (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 :

VLBA as a ground array is expected. In addition, attendance of Mopra, Hobert, and Hurt is very important to full the significant UV hole made by HALCA and VLBA. We would like to require that the above 3 antennas will combine with the observations.
We would like to require that allocations of observations at 1.6 GHz and 5 GHz will temporally be close together to measure the spectrum without an influence of the variability.

(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