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 : 1998, April 30

(2) Proposal title : VSOP and the bursting γ-ray source, PKS 2255−282

(3)	INVESTIGATORS	INSTITUTION
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(5) Proposal Abstract :

In 1998 January the AGN PKS 2255−282 was identified as a source of >100 MeV γ-rays when the EGRET instrument aboard the *Compton Gamma-Ray Observatory* (CGRO) detected a bright high energy flare from its direction. We have been monitoring this source at mm and cm wavelengths, in both total flux and with VLBI, since early 1997, thus obtaining good quality pre-flare monitoring data. In this proposal we request observations with the VSOP mission, to obtain images of PKS 2255−282 at two epochs approximately 6 months apart. We aim to monitor changes in the high-resolution structure of the core and jet during the expected mm and cm radio flaring following the gamma-ray outburst, in an attempt to detect the ejection of possible jet components generated by the 1998 January γ-ray event.

(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: 1

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J2258−2758			
Alternative name	PKS 2255−282			
RA(J2000) (hh mm ss.ssss)	22 58 05.9986			
Dec(J2000) (dd mm ss.ssss)	-27 58 21.511			
Observing frequency band (GHz)	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			
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	3.4			
Correlated flux (mJy)	2800			
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			
Mean interval (days)	180			
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 :

The VLBA, along with Hartebeesthoek, Mopra, Hobart, and the ATCA is the preferred and requested GRT array for this proposal.
If current copying facilities are inadequate to provide processing of this array at a single correlator, or the volume of copying is inconvenient to the mission, we request that the S2 component of this experiment be processed in Penticton and the VLBA component be processed in Socorro. In this case the data from the two correlators will be combined (forfeiting the trans-pacific baselines) during post fringe-fitting processing. Suggested epochs for the two observations are 1998 November and 1999 May.
The epoch at 1998 November is outside of the official AO2 period (but allowable as outlined in the Announcement of Opportunity) but provides the best epoch of u-v coverage for this source. Therefore we feel that observation at this epoch is key to the scientific goals of this proposal.

(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