

VSOP AO4 PROPOSAL COVER SHEETS

DEADLINE : 2 October, 2000

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

(1) Date prepared : 2 October 2000

(2) Proposal title : Second-Epoch Observations of Souther EGRET Identifications

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(5) Proposal Abstract :

We aim to impose restrictions on the condition of the gamma-ray emission mechanism by observing pc-scale jet motion of gamma-ray loud AGNs. It is suggested that external low energy photons reradiate as gamma-rays by the inverse-Compton scattering and the gamma-ray radiation beam is narrower than the synchrotron radiation beam for this model. We show that these conditions is valid for gamma-ray loud AGNs which existing data are available and that it is expected to detect the superluminal motion for all gamma-ray loud AGNs. We have already observed three gamma-ray loud AGNs by VSOP at AO2 epoch and we propose second-epoch observation of these sources. If we detect the superluminal motion for these sources then it is a evidence supporting the above model.

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

Object type:

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

Observation type:

☒ Continuum, ☐ Spectral Line, ☐ Polarization, ☐ Time critical,

☐ Phase-reference, ☐ 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:

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (<i>Jhhmm±ddmm</i>)	J1626–2951	J1512–0905	J0339–0146	J0538–4405
Alternative name	PKS	OR–17	CTA 26	PKS
RA(J2000) (hh mm ss.ssss)	16 26 06.0208	15 12 50.5329	03 39 30.9377	05 38 50.3615
Dec(J2000) (dd mm ss.sss)	–29 51 26.970	–09 05 59.828	–01 46 35.803	–44 05 08.938
Observing frequency band (GHz)	5	5	5	5
<i>Continuum observations:</i>				
Standard VSOP freq. channels?	☒	☒	☒	☒
Channel A range (MHz)				
Channel B range (MHz)				
<i>Spectral line observations:</i>				
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				
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.86	3.25	3.01	4.81
Correlated flux (mJy)	400	600	900	2200
<i>Ground Radio Telescopes:</i>				
Suggested array given at Item (11)?	☐	☐	☐	☐
<i>GRT observing mode:</i>				
128Mbps LCP (standard)	☒	☒	☒	☒
128Mbps LCP/RCP	☐	☐	☐	☐
256Mbps LCP/RCP	☐	☐	☐	☐
<i>Preferred correlator:</i>				
No preference	☒	☒	☒	☒
Mitaka	☐	☐	☐	☐
Penticton	☐	☐	☐	☐
Socorro	☐	☐	☐	☐
<i>Monitoring programs:</i>				
Number of observations				
Mean interval (days)				
Related VSOP proposal code(s)	w083	w083	w083	w083

	Experiment 5	Experiment 6	Experiment 7	Experiment 8
Source name (<i>Jhhmm±ddmm</i>)	J1937–3958			
Alternative name	PKS			
RA(J2000) (hh mm ss.ssss)	19 37 16.2173			
Dec(J2000) (dd mm ss.sss)	–39 58 01.552			
Observing frequency band (GHz)	5			
<i>Continuum observations:</i>				
Standard VSOP freq. channels?	☒	☐	☐	☐
Channel A range (MHz)				
Channel B range (MHz)				
<i>Spectral line observations:</i>				
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				
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.13			
Correlated flux (mJy)	250			
<i>Ground Radio Telescopes:</i>				
Suggested array given at Item (11)?	☐	☐	☐	☐
<i>GRT observing mode:</i>				
128Mbps LCP (standard)	☒	☐	☐	☐
128Mbps LCP/RCP	☐	☐	☐	☐
256Mbps LCP/RCP	☐	☐	☐	☐
<i>Preferred correlator:</i>				
No preference	☒	☐	☐	☐
Mitaka	☐	☐	☐	☐
Penticton	☐	☐	☐	☐
Socorro	☐	☐	☐	☐
<i>Monitoring programs:</i>				
Number of observations				
Mean interval (days)				
Related VSOP proposal code(s)	w083			

(9) VSOP spacecraft observing mode (see Section 3 and Table 2 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 :

(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 L^AT_EX 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 L^AT_EX 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 2 October 2000