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 : 8-May-1998

(2) Proposal title : Do All Gamma-Ray Loud AGNs Show the Superluminal Motion?

(3)	INVESTIGATORS	INSTITUTION
P.I.	Kiyoaki WAJIMA	ISAS, Japan
co-I.	Hideyuki KOBAYASHI	ISAS, Japan
co-I.	Kenta FUJISAWA	ISAS, Japan
co-I.	Hisashi HIRABAYASHI	ISAS, Japan
co-I.	Yoshiharu ASAKI	NAO, Japan
co-I.	Satoru IGUCHI	NAO, Japan
co-I.	Masato TSUBOI	Ibaraki University, Japan
co-I.		
co-I.		

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

Name : Kiyoaki WAJIMA
E-mail : kiyoaki@vsop.isas.ac.jp
Fax : +81-427-69-8949
Phone : +81-427-51-3911

Address : 3-1-1 Yoshinodai, Sagamihara
: Kanagawa 229-8510
: Japan
:
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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 propose observations of gamma-ray loud AGNs which do not detect the superluminal motion yet. 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, ☐ 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: 7

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J0339-0146	J0423-0120	J0538-4405	J0808+4950
Alternative name	CTA26	OA129	PKS0537-441	
RA(J2000) (hh mm ss.ssss)	03 39 30.9377	04 23 15.8007	05 38 50.3615	08 08 39.6662
Dec(J2000) (dd mm ss.ssss)	-01 46 35.8028	-01 20 33.0641	-44 05 08.9380	+49 50 36.5302
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				
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	3.01	4.36	4.81	1.22
Correlated flux (mJy)	800	2500	2000	1000
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)	300	300	180	240
Related AO1 proposal code(s)				

	Experiment 5	Experiment 6	Experiment 7	Experiment 8
Source name (J*hhmm*±*ddmm*)	J1512-0905	J1740+5211	J1743-0350	
Alternative name	OR-17	4C51.37	OT-68	
RA(J2000) (hh mm ss.ssss)	15 12 50.5329	17 40 36.9778	17 43 58.8561	
Dec(J2000) (dd mm ss.ssss)	-09 05 59.8279	+52 11 43.4069	-03 50 04.6162	
Observing frequency band (GHz)	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				
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	3.25	1.13	2.37	
Correlated flux (mJy)	1500	1000	2000	
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):

- [x] 2 channel x 16 MHz, 2-bit (Standard mode),
- [ ] Other:

Phase calibration tones:

- [x] 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 :

Exp 3,5 Pref Array = AT, CD, HH, HO, MP and TI

For each observation, two or three orbits are required.

(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