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 : 21-Apr-1998

(2) Proposal title : VSOP Imaging of Four EGRET Blazars

(3)	INVESTIGATORS	INSTITUTION
P.I.	B. Glenn Piner	NASA/GSFC, USA
co-I.	Kerry A. Kingham	U.S. Naval Observatory, USA
co-I.	Steven J. Tingay, Robert A. Preston	JPL, USA
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co-I.		
co-I.		
co-I.		
co-I.		
co-I.		

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

Name :B. Glenn Piner
E-mail :glenn@egret.gsfc.nasa.gov
Fax :+01-301-286-1684
Phone :+01-301-286-9456

Address :Code 661
:NASA/GSFC
:Greenbelt, MD 20771
:USA
:

(5) Proposal Abstract :

We propose to observe four EGRET blazars (0202+149, 1156+295, 1606+106, and 1611+343) that have been studied using geodetic VLBI data from the Washington VLBI Correlator's database (Piner & Kingham 1997a, 1997b, 1998; Piner 1998). VSOP observations will improve the measurements of component speeds in these sources. When combined with the geodetic data, they will provide us with images at four frequencies; allowing more accurate determination of the synchrotron spectra of the components and physical conditions in the jets. Any recently emerged components correlated with previous EGRET flares will be detected and position angles of newly emerged components will be accurately measured. Any moving components between the cores and the stationary components in 0202+149 and 1606+106 will be detected; this could help reveal the nature of stationary components in blazars.

(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*)	J1613+3412	J1159+2914	J1608+1029	J0204+1514
Alternative name	1611+343	1156+295	1606+106	0202+149
RA(J2000) (hh mm ss.ssss)	16 13 41.064	11 59 31.834	16 08 46.203	02 04 50.414
Dec(J2000) (dd mm ss.ssss)	+34 12 47.915	+29 14 43.832	+10 29 07.782	+15 14 11.042
Observing frequency band (GHz)	1.6/5	1.6/5	1.6/5	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	128	128	128	128
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	2 - 5	1 - 2.5	1 - 2	2.5 - 4.5
Correlated flux (mJy)	2500	2200	800	2500
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	1	1	1	2
Mean interval (days)				210
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 :

We request the VLBA as the ground array for these observations. On the cover sheet we have specified simultaneous 1.6 and 5 GHz observing on HALCA. For the GRTs, we request that the VLBA switch between 1.6 and 5 GHz every 5 minutes. The (u, v) coverages for 1156+295, 1606+106, and 1611+343 are only good over a short time range during AO2. We plan to supplement the AO2 observations of these sources with AO3 observations to determine changes in the source structures. The (u, v) coverage for 0202+149 is good during two time ranges in AO2, and we propose for two observations during AO2 of this source. Plots of the (u, v) coverage vs. time for these four sources are attached. Following are the approximate epochs we request for observations of each source:
J1613+3412: 1999 August
J1159+2914: 1999 March
J1608+1029: 1999 August
J0204+1514: 1999 January and 1999 August

(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