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 : 28 Apr, 1998

(2) Proposal title : Multi-frequency imaging of the most compact AGN

(3)	INVESTIGATORS	INSTITUTION
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(5) Proposal Abstract :

We propose simultaneous dual-frequency space VLBI observations of the brightest and most compact AGN found in the 5 GHz Pre-Launch VLBA Survey in 1996. None of the objects in the sample of 16 sources has been imaged with HALCA in the General Observing

(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: 16

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J0050-0929	J0403-3605	J0811+0146	J0958+4725
Alternative name	0048-097	0402-362	0808+019	0955+476
RA(J2000) (hh mm ss.ssss)	00 50 41.3174	04 03 53.7499	08 11 26.7073	09 58 19.6716
Dec(J2000) (dd mm ss.ssss)	-09 29 05.2102	-36 05 01.9130	+01 46 52.2200	+47 25 07.8425
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				
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.3/1.5	1.0/2.7	0.5/1.6	1.1/1.6
Correlated flux (mJy)	1200/1500	900/2700	500/1600	1000/1600
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				
Mean interval (days)				
Related AO1 proposal code(s)				

	Experiment 5	Experiment 6	Experiment 7	Experiment 8
Source name (J*hhmm*±*ddmm*)	J1037-2934	J1048+7143	J1159+2914	J1215-1731
Alternative name	1034-293	1044+719	1156+295	1213-172
RA(J2000) (hh mm ss.ssss)	10 37 16.0797	10 48 27.6199	11 59 31.8339	12 15 46.7518
Dec(J2000) (dd mm ss.ssss)	-29 34 02.8132	+71 43 35.9385	+29 14 43.8269	-17 31 45.4029
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				
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.3/2.0	1.0/1.8	1.3/2.2	1.2/2.2
Correlated flux (mJy)	1200/1800	900/1800	1200/2200	1100/2200
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				
Mean interval (days)				
Related AO1 proposal code(s)				

	Experiment 9	Experiment10	Experiment11	Experiment12
Source name (J*hhmm*±*ddmm*)	J1224+2122	J1549+0237	J1625-2527	J1939-1525
Alternative name	1222+216	1546+027	1622-253	1936-155
RA(J2000) (hh mm ss.ssss)	12 24 54.444	15 49 29.4368	16 25 46.8916	19 39 26.6577
Dec(J2000) (dd mm ss.ssss)	+21 22 46.92	+02 37 01.1634	-25 27 38.3267	-15 25 43.0579
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				
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	2.0/1.8	0.8/1.9	2.2/4.2	1.3/1.8
Correlated flux (mJy)	1900/1800	700/1900	2000/3800	1200/1800
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				
Mean interval (days)				
Related AO1 proposal code(s)				

	Experiment13	Experiment14	Experiment15	Experiment16
Source name (J*hhmm*±*ddmm*)	J1957-3845	J2000-1748	J2011-1546	J2358-1020
Alternative name	1954-388	1958-179	2008-159	2355-106
RA(J2000) (hh mm ss.ssss)	19 57 59.8193	20 00 57.0904	20 11 15.7109	23 58 10.8824
Dec(J2000) (dd mm ss.ssss)	-38 45 06.3563	-17 48 57.6724	-15 46 40.2530	-10 20 08.6113
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				
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.6/5.5	1.1/2.2	0.6/1.6	0.5/1.8
Correlated flux (mJy)	1500/5000	1000/2200	600/1600	500/1800
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				
Mean interval (days)				
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 :

Suggested array for all experiments is the VLBA divided into 2 equal subarrays that make dual freqency (1.6/5 GHz) snapshot observations with 3-5 min duty cicle in a way that the two subarrays use different frequencies at any time.

Additional 15 GHz ground-only observations are requested in gaps of spacecraft schedule.

For the southernmost sources (Exps. 2, 5, 11, 13), the addition of ATCA and Mopra in dual freqency (1.6/5 GHz) mode is also requested to improve (u,v) coverage.

Correlated flux densities at 1.6 GHz are estimates.

(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