VSOP AO3 PROPOSAL COVER SHEETS

DEADLINE : 1 October, 1999
SEND TO : VSOG, ISAS, 3-1-1 Yoshinodai, Sagamihara, Kanagawa 229-8510, JAPAN

(1) Date prepared : October 1, 1999

(2) Proposal title : Complementary Multi-Frequency GPS Survey

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(5) Proposal Abstract :

GHz-Peaked Spectrum (GPS) sources are compact powerful radio emitters which have spectral peak at GHz frequency, and are considered to be at a young stage of evolution. Our VSOP observations for a GPS source OQ 208 showed that the rising spectrum at lower frequency side is due to free-free absorption by ambient plasma. We are conducting a GPS survey project for 19 samples at 5 frequencies using VSOP and VLBA to examine how common is FFA towards GPSs. We have observed 9 samples at 3 frequencies with VLBA. VSOP observation for 9 samples has also been done or scheduled. Here we propose complementary observations for the rest 28 VSOP experiments which consist of 10 and 18 observations at 1.6 and 5 GHz, respectively, to fill blanks in our survey.

(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 (11).

The number of experiments in this proposal is: 28

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J0111+3906	J0111+3906	J0203+1134	J0203+1134
Alternative name	0108+388	0108+388	0201+113	0201+113
RA(J2000) (hh mm ss.ssss)	01 11 37.3168	01 11 37.3168	02 03 46.6570	02 03 46.6570
Dec(J2000) (dd mm ss.ssss)	+39 06 28.103	+39 06 28.103	+11 34 45.410	+11 34 45.410
Observing frequency band (GHz)	5	1.6	5	1.6
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)	50	50	50	50
Min. spectral channels per IF channel	32	32	32	32
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.28	0.7	1.20	1.0
Correlated flux (mJy)	200	180 (2.3 GHz)	580 (8.6 GHz)	1100 (2.3 GHz)
Ground Radio Telescopes:				
Suggested array given at Item (11)?	☐	☐	☐	☐
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 VSOP proposal code(s)	W071	W071	W071	W071

	Experiment 5	Experiment 6	Experiment 7	Experiment 8
Source name (J*hhmm*±*ddmm*)	J0241-0815	J0241-0815	J0251+4315	J0503+0203
Alternative name	0238-084	0238-084	0248+430	0500+019
RA(J2000) (hh mm ss.ssss)	02 41 04.7984	02 41 04.7984	02 51 34.5367	05 03 21.1971
Dec(J2000) (dd mm ss.ssss)	-08 15 20.750	-08 15 20.750	+43 15 15.829	+02 03 04.677
Observing frequency band (GHz)	5	1.6	5	1.6
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)	50	50	50	50
Min. spectral channels per IF channel	32	32	32	32
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.40	0.82	1.21	2.15
Correlated flux (mJy)	435	770 (2.3 GHz)	500	820 (2.3 GHz)
Ground Radio Telescopes:				
Suggested array given at Item (11)?	☐	☐	☐	☐
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 VSOP proposal code(s)	W071	W071	W071	W071

	Experiment 9	Experiment 10	Experiment 11	Experiment 12
Source name (J*hhmm*±*ddmm*)	J0503+0203	J0650+6001	J0650+6001	J0741+3112
Alternative name	0500+019	0646+600	0646+600	0738+313
RA(J2000) (hh mm ss.ssss)	05 03 21.1971	06 50 31.3555	06 50 31.3555	07 41 10.7033
Dec(J2000) (dd mm ss.ssss)	+02 03 04.677	+60 01 44.546	+60 01 44.546	+31 12 00.229
Observing frequency band (GHz)	5	1.6	5	1.6
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)	50	50	50	50
Min. spectral channels per IF channel	32	32	32	32
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.88	0.79	2.15	2.10
Correlated flux (mJy)	800	820 (2.3 GHz)	449	2.54 (2.3 GHz)
Ground Radio Telescopes:				
Suggested array given at Item (11)?	☐	☐	☐	☐
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 VSOP proposal code(s)	W071	W071	W071	W071

	Experiment 13	Experiment 14	Experiment 15	Experiment 16
Source name (J*hhmm*±*ddmm*)	J0741+3112	J0745+1011	J0745-0044	J0905+4850
Alternative name	0738+313	0742+103	0743-006	0902+490
RA(J2000) (hh mm ss.ssss)	07 41 10.7033	07 45 33.0595	07 45 54.0823	09 05 27.4647
Dec(J2000) (dd mm ss.ssss)	+31 12 00.229	+10 11 12.693	-00 44 17.538	+48 50 49.958
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)	50	50	50	50
Min. spectral channels per IF channel	32	32	32	32
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	2.45	3.84	1.77	0.529
Correlated flux (mJy)	2140 (8.4 GHz)	2100 (2.3 GHz)	1200	480
Ground Radio Telescopes:				
Suggested array given at Item (11)?	☐	☐	☐	☐
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 VSOP proposal code(s)	W071	W071	W071	W071

	Experiment 17	Experiment 18	Experiment 19	Experiment 20
Source name (J*hhmm*±*ddmm*)	J1335+4542	J1335+4542	J1357+4353	J1845+3541
Alternative name	1333+459	1333+459	1355+441	1843+356
RA(J2000) (hh mm ss.ssss)	13 35 21.9604	13 35 21.9604	13 57 40.6762	18 45 35.1097
Dec(J2000) (dd mm ss.ssss)	+45 42 38.251	+45 42 38.251	+43 53 59.671	+35 41 16.719
Observing frequency band (GHz)	1.6	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)	50	50	50	50
Min. spectral channels per IF channel	32	32	32	32
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	0.34	0.757	0.577	0.812
Correlated flux (mJy)	330	345	537	173
Ground Radio Telescopes:				
Suggested array given at Item (11)?	☐	☐	☐	☐
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 VSOP proposal code(s)	W071	W071	W071	W071

	Experiment 21	Experiment 22	Experiment 23	Experiment 24
Source name (J*hhmm*±*ddmm*)	J1850+2825	J2052+3635	J2052+3635	J2129-1538
Alternative name	1848+283	2050+364	2050+364	2126-158
RA(J2000) (hh mm ss.ssss)	18 50 27.59	20 52 52.0574	20 52 52.0574	21 29 12.1758
Dec(J2000) (dd mm ss.ssss)	+28 25 12.7	+36 35 35.299	+36 35 35.299	-15 38 41.040
Observing frequency band (GHz)	5	1.6	5	1.6
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)	50	50	50	50
Min. spectral channels per IF channel	32	32	32	32
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	0.91	4.84	2.82	0.71
Correlated flux (mJy)	360	3600	220	130 (2.3 GHz)
Ground Radio Telescopes:				
Suggested array given at Item (11)?	☐	☐	☐	☐
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 VSOP proposal code(s)	W071	W071	W071	W071

	Experiment 25	Experiment 26	Experiment 27	Experiment 28
Source name (J*hhmm*±*ddmm*)	J2129-1538	J2151+0552	J2151+0552	J2340+2641
Alternative name	2126-158	2149+056	2149+056	2337+264
RA(J2000) (hh mm ss.ssss)	21 29 12.1758	21 51 37.8754	21 51 37.8754	23 40 29.0293
Dec(J2000) (dd mm ss.ssss)	-15 38 41.040	+05 52 12.954	+05 52 12.954	+26 41 56.803
Observing frequency band (GHz)	5	1.6	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)	50	50	50	50
Min. spectral channels per IF channel	32	32	32	32
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.24	0.81	1.19	0.82
Correlated flux (mJy)	400	520 (2.3 GHz)	400	360 (8.6 GHz)
Ground Radio Telescopes:				
Suggested array given at Item (11)?	☐	☐	☐	☐
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 VSOP proposal code(s)	W071	W071	W071	W071

(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 (11) below)

(10) Assistance with preparation of ground telescope schedule files:

[x] VSOG assistance requested, [ ] Consultation desired, [ ] No assistance required

(11) Additional notes to the scheduler :

We welcome to share the data with other PIs or the VSOP survey working group to reduce the telescope time.

(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 LaTeX 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 LaTeX 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 1 October 1999