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 : 1998, April 29

(2) Proposal title : The Pearson-Readhead Survey from Space

(3)	INVESTIGATORS	INSTITUTION
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(5) Proposal Abstract :

We propose to use VSOP to continue an imaging survey of the intensely- studied Pearson-Readhead sample. During the first VSOP AO period we are scheduled to obtain first-epoch 5-GHz images of 31 sources from this well-studied sample (to date 7 sources have been imaged). During the second AO period we propose to obtain second epoch 5 GHz images of these sources, as well as single-epoch 1.6 GHz images. Combined with the wealth of supporting data for this sample, this complete data set will allow us to deduce the general properties of the sub-parsec nuclear environment and jet dynamics of these objects (e. g., brightness temperature, variability, position angle, proper motion, and general morphology). This survey of a moderate-size statistical sample of sources with high-quality images represents a unique product of the VSOP mission, and is key to interpretion of the VSOP mission 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 (10).

The number of experiments in this proposal is: 31

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J0019+7327	J0133+4751	J0157+7442	J0217+7349
Alternative name				
RA(J2000) (hh mm ss.ssss)	00 19 45.7863	01 36 58.5947	01 57 34.9648	02 17 30.8132
Dec(J2000) (dd mm ss.ssss)	73 27 30.017	47 51 29.100	74 42 43.230	73 49 33.621
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)	1.7	3.3	1.6	2.2
Correlated flux (mJy)	1300	2000	500	900
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)	V030/V330	V030/V330	V030/V330	V030/V330

	Experiment 5	Experiment 6	Experiment 7	Experiment 8
Source name (*Jhhmm±ddmm*)	J0319+4130	J0508+8432	J0714+3534	J0808+4950
Alternative name				
RA(J2000) (hh mm ss.ssss)	03 19 48.1600	05 08 42.3633	07 14 24.8175	08 08 39.6662
Dec(J2000) (dd mm ss.ssss)	41 30 42.103	84 32 04.544	35 34 39.794	49 50 36.530
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)	46.1	1.5	1.6	2.1
Correlated flux (mJy)	10000	600	500	1200
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)	V030/V330	V030/V330	V030/V330	V030/V330

	Experiment 9	Experiment 10	Experiment 11	Experiment 12
Source name (*Jhhmm±ddmm*)	J0818+4222	J0841+7053	J0903+4651	J0909+4253
Alternative name				
RA(J2000) (hh mm ss.ssss)	08 18 15.9996	08 41 24.3652	09 03 03.9901	09 09 33.496
Dec(J2000) (dd mm ss.ssss)	42 22 45.415	70 53 42.173	46 51 04.137	42 53 46.08
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)	1.7	2.6	1.8	1.8
Correlated flux (mJy)	1400	700	500	500
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)	V030/V330	V030/V330	V030/V330	V030/V330

	Experiment 13	Experiment 14	Experiment 15	Experiment 16
Source name (*Jhhmm±ddmm*)	J0927+3902	J0948+4039	J0958+6533	J1625+4134
Alternative name				
RA(J2000) (hh mm ss.ssss)	09 27 03.0139	09 48 55.3381	09 58 47.2451	16 25 57.6697
Dec(J2000) (dd mm ss.ssss)	39 02 20.852	40 39 44.587	65 33 54.818	41 34 40.629
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)	8.8	1.4	1.3	1.4
Correlated flux (mJy)	500	1200	900	500
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)	V030/V330	V030/V330	V030/V330	V030/V330

	Experiment 17	Experiment 18	Experiment 19	Experiment 20
Source name (*Jhhmm±ddmm*)	J1635+3808	J1638+5720	J1642+3948	J1642+6856
Alternative name				
RA(J2000) (hh mm ss.ssss)	16 35 15.4929	16 38 13.4563	16 42 58.8099	16 42 07.8485
Dec(J2000) (dd mm ss.ssss)	38 08 04.500	57 20 23.978	39 48 36.993	68 56 39.756
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)	4.1	1.5	10.9	1.4
Correlated flux (mJy)	2900	1200	1000	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				
Mean interval (days)				
Related AO1 proposal code(s)	V030/V330	V030/V330	V030/V330	V030/V330

	Experiment 21	Experiment 22	Experiment 23	Experiment 24
Source name ($Jhhmm\pm ddmm$)	J1653+3945	J1740+5211	J1748+7005	J1800+7828
Alternative name				
RA(J2000) (hh mm ss.ssss)	16 53 52.2167	17 40 36.9778	17 48 32.8401	18 00 45.6839
Dec(J2000) (dd mm ss.ssss)	39 45 36.609	52 11 43.407	70 05 50.768	78 28 04.018
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)	1.5	2.0	1.5	2.7
Correlated flux (mJy)	500	500	500	1900
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)	V030/V330	V030/V330	V030/V330	V030/V330

	Experiment 25	Experiment 26	Experiment 27	Experiment 28
Source name (*Jhhmm±ddmm*)	J1806+6949	J1824+5651	J1829+4844	J1927+7358
Alternative name				
RA(J2000) (hh mm ss.ssss)	18 06 50.6806	18 24 07.0683	18 29 31.804	19 27 48.4951
Dec(J2000) (dd mm ss.ssss)	69 49 28.108	55 51 01.490	48 44 46.62	73 58 01.569
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)	2.3	1.7	6.2	3.4
Correlated flux (mJy)	700	800	1000	1100
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)	V030/V330	V030/V330	V030/V330	V030/V330

	Experiment 29	Experiment 30	Experiment 31	Experiment 32
Source name (*Jhhmm±ddmm*)	J1955+5131	J2022+6136	J2202+4216	
Alternative name				
RA(J2000) (hh mm ss.ssss)	19 55 42.7382	20 22 06.6816	22 02 43.2913	
Dec(J2000) (dd mm ss.ssss)	51 31 48.546	61 36 58.804	42 16 39.979	
Observing frequency band (GHz)	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	
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.5	2.4	4.8	
Correlated flux (mJy)	900	800	1200	
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)	V030/V330	V030/V330	V030/V330	

(9) VSOP spacecraft observing mode (see Section 3 and Table 5 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 (10) below)

(10) Additional notes to the scheduler :

We request the VLBA for this proposal. For simultaneous 1.6 and 5 GHz observations we request that the VLBA switch between the two frequencies on a 10 minute timescale.

(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