VSOP AO2 PROPOSAL COVER SHEETS

DEADLINE : 8 May, 1998
SEND TO : VSOG, ISAS, 3-1-1 Yoshinodai, Sagamihara, Kanagawa 229-8510, JAPAN

(1) Date prepared : 1998/5/1

(2) Proposal title : The Core of 3C84

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(5) Proposal Abstract :

We propose VSOP observations of 3C84 at both L and C bands, at three epochs. Combining these with our complementary VLBA observations at about three times higher frequency will allow us to separate resolution and spectral effects, and extend our knowledge of the brightness distribution, structural variations, and component spectra to finer angular scales. Our scientific goals concentrate on the high-brightness core. We seek to localize the true center of activity, study the spectral index of the core, determine the structure and orientation of the innermost jet regions — including whether the jet is intrinsically one- or two-sided, and detect motions within the core. Satisfactory (u, v) coverage is available during the AO2 interval, but only within a narrow, four- or five-month time window. We request observations at each frequency at the beginning, middle, and end of this window.

(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: 2

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (J*hhmm*±*ddmm*)	J0319+4130	J0319+4130		
Alternative name	3C84	3C84		
RA(J2000) (hh mm ss.ssss)	03 19 48.16010	03 19 48.16010		
Dec(J2000) (dd mm ss.ssss)	+41 30 42.1060	+41 30 42.1060		
Observing frequency band (GHz)	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)	36	28		
Correlated flux (mJy)	400	1500		
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	3	3		
Mean interval (days)	60–75	60–75		
Related AO1 proposal code(s)	V061, V129	V061, V129		

(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 :

Suggested GRT arrays —

L-band: VLBA + EB/GO/GB/JB/ON/RO/TR/UD/Y/WB

C-band: VLBA + EB/GB/JB/MC/NT/ON/TR/UD/Y/WB

At least three or four of the non-VLBA telescopes, well distributed geographically in the northern hemisphere, are requested. As many as nine could be correlated.

Preferred dates for observations, at both L- and C-band: 98/11/1, 99/1/2, 99/2/28

(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