

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 : 1 October 1999

(2) Proposal title : The Jittery Jet in the Center of M81

(3)	INVESTIGATORS	INSTITUTION
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(5) Proposal Abstract :

We propose to continue our investigations of the center of M81 which we recently found to consist of a stationary core with a compact one-sided jittery jet. Together with Cen A, M81 is the nearest galaxy with an AGN and permits studies with a resolution at 6cm of 1,000 AU. Our goal is to focus on the jet's structure and variability. Taking advantage of the exceptionally good u-v coverage, also perpendicular to the jet axis, around February 2000, we propose to (1) measure the width of the jet and (2) monitor recently discovered ~ 20 deg changes of the jet direction. We also plan to extend our previous program of (3) identifying components, (4) measuring their speeds which were inferred to be $>0.25c$, and (5) contributing to the discussion of a continuum of AGN activity ranging from that of the mostly obscured SgrA* via that of M81 to that of powerful radio galaxies and quasars.

(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: 1

(8) Details of proposed experiments

	Experiment 1	Experiment 2	Experiment 3	Experiment 4
Source name (<i>Jhhmm±ddmm</i>)	J0955+6903			
Alternative name	M81			
RA(J2000) (hh mm ss.ssss)	09 55 33.1732			
Dec(J2000) (dd mm ss.ssss)	69 03 55.0618			
Observing frequency band (GHz)	5			
<i>Continuum observations:</i>				
Standard VSOP freq. channels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Channel A range (MHz)				
Channel B range (MHz)				
<i>Spectral line observations:</i>				
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)	6 mas x 6 mas			
Min. spectral channels per IF channel	16			
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	0.15 to 0.22			
Correlated flux (mJy)	100 to 200			
<i>Ground Radio Telescopes:</i>				
Suggested array given at Item (11)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>GRT observing mode:</i>				
128Mbps LCP (standard)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
128Mbps LCP/RCP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
256Mbps LCP/RCP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Preferred correlator:</i>				
No preference	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mitaka	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Penticton	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Socorro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Monitoring programs:</i>				
Number of observations	3			
Mean interval (days)	10			
Related VSOP proposal code(s)	W056			

(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 (11) below)

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

VSOG assistance requested, Consultation desired, No assistance required

(11) Additional notes to the scheduler :

Preferred choice of ground array: largest telescopes (Eb, Wb, Go, Ro, Y27, Usuda)
medium size telescopes (VLBA, Mc, Nt, On)

(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 L^AT_EX 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 L^AT_EX 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