

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 : 5.5.1998

(2) Proposal title : Space VLBI Monitoring of the Nearby Class-II Radio Galaxy 3C111

(3)	INVESTIGATORS	INSTITUTION
P.I.	E. Preuss	MPIfR, Bonn, Germany
co-I.	W. Alef	MPIfR, Bonn, Germany
co-I.	K.I. Kellermann	Charlottesville, USA
co-I.		
co-I.		
co-I.		
co-I.		
co-I.		
co-I.		

(4) Principal Investigator (or contact person) details...

Name : E. Preuss

E-mail : epreuss@mpifr-bonn.mpg.de

Fax : +49-228-525-229

Phone : +49-228-525-280

Address : Max-Planck-Institut

: für Radioastronomie

: Auf dem Hügel 69

: D-53121 Bonn

: Germany

(5) Proposal Abstract :

This is a request for continuation of VSOP proposal v043. Two epochs of VSOP+VLBA+EF observations (of 2 orbits each) are requested at 5 GHz and 1.6 GHz in connection with ground-based 7mm-VLBI monitoring started after a strong outburst in 1996.

Of all FR II radio galaxies which can be imaged with VLBI, 3C111 is the closest *and* has the strongest pc-scale radio core. It exhibits clear superluminal motion in the 1-sided jet on the mas-scale. Due to the high spatial resolution available with SVLBI of ~ 6 light-months $\cdot (h^{-1} \cdot 5 \text{ GHz}/\nu)$ 3C111 is an ideal object for studying the jet formation, spectra, trajectories and separations of core and components, as well as the quasar – FR II unification hypothesis.

(6) Proposal Category (indicate all that apply):

Object type:

☒ AGN, ☐ Maser, ☐ Stellar, ☐ Pulsar, ☐ Other :

Observation type:

☒ Continuum, ☐ Spectral Line, ☐ Polarization, ☐ Time-critical, ☒ Other : Monitoring

(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 (<i>Jhhmm±ddmm</i>)	J0418+3801	J0418+3801		
Alternative name	3C111	3C111		
RA(J2000) (hh mm ss.ssss)	04 18 21.2760	04 18 21.2760		
Dec(J2000) (dd mm ss.ssss)	38 01 35.780	38 01 35.780		
Observing frequency band (GHz)	5	1.6		
<i>Continuum observations:</i>				
Standard VSOP freq. channels?	☒	☒	☐	☐
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)				
Min. spectral channels per IF channel				
Correlator averaging time (sec)				
No. of correlating passes (if >1)				
Total flux density (Jy)	1.0	0.9		
Correlated flux (mJy)	300 - 500	~ 400		
<i>Ground Radio Telescopes:</i>				
Suggested array given at Item (10)?	☒	☒	☐	☐
<i>GRT observing mode:</i>				
128Mbps LCP (standard)	☒	☒	☐	☐
128Mbps LCP/RCP	☐	☐	☐	☐
256Mbps LCP/RCP	☐	☐	☐	☐
<i>Preferred correlator:</i>				
No preference	☐	☐	☐	☐
Mitaka	☐	☐	☐	☐
Penticton	☐	☐	☐	☐
Socorro	☒	☒	☐	☐
<i>Monitoring programs:</i>				
Number of observations	2	2		
Mean interval (days)	< 360	< 360		
Related AO1 proposal code(s)	v043b	v043c		

(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 :

Ground arrays in order of preference: VLBA+EF, VLBA/EVN, EVN

(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, Sagami-hara
Kanagawa 229-8510 JAPAN

In addition, e-mail the completed L^AT_EX 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