# 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 : 30-Apr-1998

**(2)** Proposal title : VSOP Three-epoch Observations of PKS 1830-211

| **(3)** | INVESTIGATORS | INSTITUTION |
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**(4)** Principal Investigator (or contact person) details...


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**(5)** Proposal Abstract :


We propose three-epoch observations of GL system 1830-211, to be separated by 22 days (the time-delay we estimate from eight-epoch VLBA 43GHz observations). From this observation, we could add more constrains to the magnification matrix of this GL system. We also expect to see more structures at 5GHz, and perhaps trace the evolution of the radio components.


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

Object type:

☑ AGN, ☐ Maser, ☐ Stellar, ☐ Pulsar, ☑ Other :GL

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: 1

**(8)** Details of proposed experiments

| | Experiment 1 | Experiment 2 | Experiment 3 | Experiment 4 |
|---|---|---|---|---|
| Source name (J*hhmm*±*ddmm*) | J1833-2103 | | | |
| Alternative name | 1830-211A | | | |
| RA(J2000) (hh mm ss.ssss) | 18 33 39.931556 | | | |
| Dec(J2000) (dd mm ss.ssss) | -21 03 39.81967 | | | |
| Observing frequency band (GHz) | 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 | 32 | | | |
| Correlator averaging time (sec) | 1.6 | | | |
| No. of correlating passes (if >1) | 1 | | | |
| Total flux density (Jy) | 7.9 | | | |
| Correlated flux (mJy) | 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 | 3 | | | |
| Mean interval (days) | 22 | | | |
| Related AO1 proposal code(s) | | | | |

**(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 (10) below)

**(10)** Additional notes to the scheduler :

Since the source PKS 1830-211 is in the southern sky, we need antennas in southern hemisphere to gain better uv coverage. We use Fakesat software, chose VSOP+VLBA+AR+EVN. From the simulation, we hope to observe PKS 1830-211 in the first half of June, 1999.

**(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**