

Technical Page

Proposal Type: Long Term
 General Category: Pulsars
 Observation Category:
 Total Time Requested: 925 Hours

Proposal Title: PRECISION PULSAR METROLOGY

ABSTRACT:

We propose high-precision pulsar timing measurements of a set of millisecond-period pulsars using the Arecibo-Berkeley Pulsar Processor and Penn State Pulsar Machine at 430 MHz. The individual parameters of the pulsars will be improved and, on long time scales, the proposed observations will be incorporated into Pulsar Timing Array studies to measure correlated effects. A goal is to understand the source of timing uncertainty down to and below 100 ns. These data will provide new insights into issues of pulsar profile stability, astrometric position and proper motion, and the long-term use of these object for timing metrology. Future multi-frequency observations will provide constraints on dispersion measure variation and other propagation effects.

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Service Observing Request

- None
- All of the observing run.
- Part of the observing run.
- Queue Observing

Remote Observing Request

- No
- Maybe
- Yes

Instrument Setup

430 MHz CH receiver

Atmospheric Observation Instruments:

Description of Observer Equipment:

Special Equipment or setup: Special setup: ABPP installed in 1996 December complete with connection to 430-MHz Software needs: Integration of ABPP monitor and control with telescope monitor and control Media needs:

RFI Considerations

Frequency Ranges Planned

see proposal