

Technical Page

This proposal has not been submitted before.

Proposal Type: Short
 General Category: Pulsars
 Observation Category: Galactic
 Total Time Requested: 2 Hours
 Minimum Useful Time: 60

Proposal Title: Single pulse observations of PSR B0919+06

ABSTRACT:

The quasi-periodic features of 1-10 years exhibited in pulsar timing noise have not been well understood since 1980. The recently demonstrated correlation between timing noise and variation of pulse profile motivates us to further investigate its origins. We suggest that the quasi-periodic feature of timing noise, with rapid oscillations lying on lower frequency structure, comes from the geodetic precession of an unseen binary system, which induces additional motion of the pulsar spin axis. The resultant change of azimuth and latitude at which the observer's line of sight crosses the emission beam is responsible for the variation of timing noise and pulse profile respectively. Numerical simulation of the timing noise and pulse profile variation are thus performed on PSR B0919+06 over 24 years predicts an orbital period of 16.2min. We thus apply observation of Arecibo on PSR B0919+06 for 2 hours, which covers 8 orbits of this candidate.

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Remote Observing Request

- Observer will travel to AO
- Remote Observing
- In Absentia (instructions to operator)

Instrument Setup

L-wide

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1150-1730

This proposal requires Iridium RFI protection at 1612 MHz between 10pm and 6am EST.

This proposal requires coordination with Punta Salinas radar within the band 1222-1381 MHz..

This proposal requires coordination with GPS L3 at 1381 MHz.