

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Pulsars
 Observation Category: Galactic
 Total Time Requested: 54.25 Hours
 Minimum Useful Time: 60 min

Proposal Title: Long-term Timing of the Relativistic Binary Pulsar PSR B1534+12

ABSTRACT:

Pulsars in relativistic binary systems have provided the most rigorous tests of gravitation in strong fields to date. PSR B1534+12 continues to be a valuable high-precision laboratory for gravitational physics and pulsar astronomy. The PUPPI backend provides the best opportunity for substantial improvements in relativistic-parameter precision, high-precision measurement of relativistic spin precession, and additional pulsar astrophysics as described below. We request six 90-minute epochs (approximately LST 1430-1600) over the course of the next observing year, in order to track relativistic effects in this binary system as well as changes in pulse-dispersion properties over time. We also request a 14-day set of campaign observations, to obtain the highest precision estimate of pulse structure, for measuring relativistic geodetic precession.

| Name | Institution | E-mail | Phone | Student |
|------------------|-------------------|----------------------------|------------|---------|
| Emmanuel Fonseca | McGill University | efonseca@physics.mcgill.ca | 4384054675 | no |

Remote Observing Request

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

Instrument Setup

430 G L-wide

Atmospheric Observation Instruments:

Special Equipment or setup: We will use the PUPPI coherent-dedispersion backend for wideband, high-precision timing observations.

RFI Considerations

Frequency Ranges Planned

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

This proposal requires coordination with GPS L3 at 1381 MHz.