

Technical Page

Proposal Type: Regular
 General Category: Pulsars
 Observation Category: Galactic
 Total Time Requested: 21 Hours
 Minimum Useful Time: 45 min

Proposal Title: Timing of Two Millisecond Pulsars Discovered by the ALFA Pulsar Survey
ABSTRACT:

PSR J1949+3106 is a binary millisecond pulsar with a period of 13.14 ms whose companion is likely a massive white dwarf. We request 19 hours to measure the Shapiro delay in this system and determine the masses of the components. Recent results show that some recycled pulsars may exceed 1.4 solar masses, and an addition to the relatively small set of measured pulsar masses would aid in a better understanding of the formation and evolution of massive neutron stars. We also propose to observe for 2 hours PSR J1955+25, an isolated pulsar with a period of 4.87 ms which is of interest as part of the pulsar timing array aiming to detect nanohertz gravitational waves.

Name	Institution	E-mail	Phone	Student
Julia S Deneva	Cornell University	deneva@astro.cornell.edu	607-255-9020	G

Remote Observing Request

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

Instrument Setup

L-wide S-low S-high

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1300-1500

2000-2200

3400-3600

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

This proposal requires coordination with GPS L3 at 1381 MHz.