

## Technical Page

This proposal has not been submitted before.

Proposal Type: Regular  
 General Category: Pulsars  
 Observation Category: Galactic  
 Total Time Requested: 35 Hours  
 Minimum Useful Time: 60 min

**Proposal Title:** Timing PSR J1411+2551: A New Double Neutron Star System

*ABSTRACT:*

The study of radio pulsars keeps unraveling secrets that have helped investigate theories of gravity, the interstellar medium, neutron star population, and binary system dynamics. Even after discovering over 2,500 radio pulsars, we are still finding new types of systems, which tell us new stories and unravel new secrets about our Galaxy. This proposal requests a total of 35 hours of observing time to follow-up on a pulsar, J1411+2551, a new double neutron star system. This pulsar has a spin period of 62.4 ms and is in a binary system with an orbital period of 2.6 days, eccentricity of 0.1699 and a semi-major axis of 9.2 light seconds. We plan to search for the companion as a radio pulsar, detect a Shapiro delay to get mass measurements, and an annual campaign to measure the proper motion of the system.

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### Remote Observing Request

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

### Instrument Setup

430 G                      L-wide                      327

### Atmospheric Observation Instruments:

**Special Equipment or setup:** none

### RFI Considerations

## **Frequency Ranges Planned**

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.