

Technical Page

This proposal has not been submitted before.

Proposal Type: Director Discretionary Time
 General Category: Pulsars
 Observation Category: Galactic
 Total Time Requested: 15 Hours
 Minimum Useful Time: 0.5 hours

Proposal Title: Exploring A State Change in the Redback PSR J1048+2339

ABSTRACT:

The millisecond pulsar PSR J1048+2339 is in a redback binary system with an orbital period of 6 hours. The companion is non-degenerate and has a minimum mass of 0.3 solar masses. The pulsar eclipses for approximately half the orbit. J1048+2339 has properties similar to the transitional pulsar J1023+0038, whose change from LMXB to radio MSP and back to radio-quiet LMXB was observed almost in real time. After reliably detecting J1048+2339 away from superior conjunction for two years, we have three non-detections out of four sessions over the past two months. We propose a dense monitoring campaign to establish whether the pulsar is undergoing a state change.

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Remote Observing Request

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

Instrument Setup

L-wide 327

Atmospheric Observation Instruments:

Special Equipment or setup: We will use the 327 MHz receiver as primary. If that is not available, we will use L-wide.

RFI Considerations

Frequency Ranges Planned

300 - 360 MHz

1100 - 1700 MHz

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.