

Technical Page

This proposal has not been submitted before.

Proposal Type: Short
 General Category: Pulsars
 Observation Category: Galactic
 Total Time Requested: 3 Hours
 Minimum Useful Time: 1 hour

Proposal Title: Hunting for a Radio Pulsar in a New Long-Period Gamma-ray loud Binary
ABSTRACT:

2FGL J0846.0+2820 (hereafter J0846) is an unassociated Fermi source that became a non-detection in the recent (3FGL) Fermi data release, despite being detected at 5-sigma confidence in the earlier 2FGL catalog. Optical observations are consistent with a giant stellar source in a 8.1 d orbit around an unseen companion. Photometric measurements of the system show ellipsoidal modulations consistent with tidal distortion of the secondary by a massive central object. Formal fits to the photometry, in conjunction with our radial velocity measurements, lead us to the interpretation of a heavy neutron star primary and a partially stripped giant secondary. Here we propose 3 hrs of Arecibo observations to search for a radio pulsar in this system, which - if discovered - will provide critical new insights into the properties of this peculiar system.

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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: none

RFI Considerations

Frequency Ranges Planned

300 - 350

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.