

Technical Page

Proposal Type: Regular
 General Category: Pulsars
 Observation Category: Galactic
 Total Time Requested: 57 Hours

Proposal Title: Observations of Two Eclipsing Millisecond Pulsar Binary Systems in Globular Clusters

ABSTRACT:

The precise mechanism that drives eclipsing millisecond pulsar systems is not yet certain, although various eclipse models exist that do seem to support many observations. The recently discovered globular cluster eclipsing pulsar systems J1518+0204C (M5C) and J1953+1846A (M71A) provide an excellent opportunity to examine the characteristics of such systems. In particular, we wish to test several predictions made by prominent models describing eclipse behaviour. These include the dependence of eclipse duration on observing frequency, the lack of eclipses at high frequencies, and the orbital-phase-dependent variations in linear polarization. Investigation of the M5C and M71A systems at Arecibo will allow us to further constrain models of eclipse behaviour in these low-mass systems.

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Service Observing Request

- None
- All of the observing run.
- Part of the observing run.
- Queue Observing

Remote Observing Request

- No
- Maybe
- Yes

Instrument Setup

430 G L-wide S-band receiver 327

Atmospheric Observation Instruments:

Special Equipment or setup: We will use the WAPPs and ASP.

RFI Considerations

Frequency Ranges Planned

310 - 340

420 - 440

1150 - 1250

1620 - 1720

2330 - 2430

3000 - 4000

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

This proposal requires coordination with AFTWF within the band 425-435 MHz.