Technical Page

This proposal has not been submitted before.

Proposal Type:	Regular
General Category:	Pulsars
Observation Category:	
Total Time Requested:	22.5 Hours
Minimum Useful Time:	45 mins

Proposal Title: Investigating Intermittent Pulsar Emission with 9 GBNCC Discoveries

ABSTRACT:

Nine recent discoveries from the Green Bank North Celestial Cap (GBNCC) pulsar survey exhibit significant intensity variations in their discovery plots, indicative of some form of intrinsic intermittency (e.g. nulling or mode changing). Nulling pulsars – pulsars whose radio emission ceases for one or more rotations – make up less than 5% of the pulsar population, therefore identifying additional examples is extremely valuable for better understanding peculiarities in pulsar emission and their emission mechanism in general. Due to its large instantaneous sensitivity, the Arecibo Observatory (AO) is uniquely positioned to conduct single pulse studies in order to clearly detect individual pulses and retain sensitivity to short-duration variability/nulling. We request 37.5 hours to develop coherent timing solutions for the nine pulsars included, and accurately measure each pulsar's nulling fraction and timescale. Full-polarization data will provide additional information in order to prop

Name	Institution	E-mail	Phone	Student
Joseph Swiggum	University of Wisconsin-Milwaukee	swiggumj@uwm.edu	6082156734	no

Remote Observing Request

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

Instrument Setup

430 G L-wide

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.