

Technical Page

This proposal has not been submitted before.

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

Proposal Title: Statistical Studies of Giant Pulse Emitting Pulsars

ABSTRACT:

Since the detection of the Crab pulsar more than 40 years ago radio giant pulses (GPs) have been regarded as a special form of pulsar radio emission. With their short durations, flux densities higher by several orders in comparison with the average emission and their apparently spontaneous occurrence, they distinguish themselves from the regular single pulse emission. Several pulsars of different kind haven been reported to emit GPs. The empirical definitions have included a power-law distribution of their intensities and a high magnetic field at the light cylinder. Recent observations of GPs from pulsars with a low magnetic field at the light cylinder put this definition in question. To shed more light on the properties of GPs, we propose to observe the Crab pulsar, PSR B1937+21 and a group of ordinary pulsars which have been subjects of controversy regarding their GP nature, with the Arecibo radio telescope.

Name	Institution	E-mail	Phone	Student
Natalia Lewandowska	Green Bank Observa- tory	nlewando@nrao.edu	3044562381	no

Remote Observing Request

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

Instrument Setup

L-wide

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

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.