

Technical Page

Proposal Type: Regular
 General Category: Pulsars
 Observation Category: Galactic
 Total Time Requested: 80 Hours

Proposal Title: A Search for Giant-Pulse Emission from Pulsars

ABSTRACT:

We propose a survey of pulsars to better understand the seemingly rare, enigmatic giant-pulse phenomenon. Three out of about 50 well-studied objects show giant pulses; these happen to be the top three objects ranked in terms of the magnetic field strength at their light cylinder radii. All three also show X-ray emission in the same pulse components from which the giant pulses arise. We have selected 40 objects from the ranked magnetic field list; we wish to characterize their single pulse properties in full Stokes parameters but with special regard to their amplitude statistics. The proposed observations aim to go deep on the highest ranked objects and wide on a broader sample of objects in order that we can better understand the phenomenon in terms of other pulsar properties but also from the suggested link to high energy emission and the underlying physics. We will provide calibrated Stokes data to a public archive.

Name	Institution	E-mail	Phone	Student
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Service Observing Request

Remote Observing Request

- | | |
|---|--|
| <input checked="" type="checkbox"/> None
<input type="checkbox"/> All of the observing run.
<input type="checkbox"/> Part of the observing run.
<input type="checkbox"/> Queue Observing | <input type="checkbox"/> No
<input checked="" type="checkbox"/> Maybe
<input type="checkbox"/> Yes |
|---|--|

Instrument Setup

430 G L-wide

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1400 - 1500

423 - 436

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