

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Pulsars
 Observation Category: Galactic
 Total Time Requested: 24 Hours
 Minimum Useful Time: 3

Proposal Title: Possible Radius-to-Intensity Mapping in Pulsar Magnetospheres.

ABSTRACT:

We request 24 hours of telescope time for observations of eight bright, low dispersion pulsars, in which we want to investigate individual and average profiles, in order to find out if average profiles at the same observing frequency represent different physical conditions at different emission heights. This is motivated by our findings of a significant intensity-dependence of average profiles taken at one observing frequency in some pulsars, suggesting different emission heights for different intensities as a possible explanation. This is supported by changes of the profile widths with intensity, similar to the well-known Radius-to-Frequency Mapping (RFM) discovered several decades ago. The effect we are investigating is present at one observing frequency but behaves in a similar way as RFM, so it may have a similar geometrical origin. Using retardation, aberration and geometry of the field lines, we expect to determine emission altitudes for different intensities and different observ

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Remote Observing Request

- Observer will travel to AO
- 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

1.15 1.73

422 442

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.