Technical Page

Proposal Type:	Regular
General Category:	Pulsars
Observation Category:	
Total Time Requested:	16 Hours

Proposal Title: Investigation of Mode switching phenomenon in single-component pulsars

ABSTRACT:

We request 16 hr of telescope time for observations of a small sample of pulsars with single-component pulse profiles. The primary goal is to investigate the stability of the pulse structure and strength, in particular with an attempt to detect mode switching phenomenon. This is motivated by our recent findings from post-upgrade Arecibo data, where PSR B0611+22, a pulsar with a single-component profile (core single), appears to show mode switching phenomenon over durations of up to $\tilde{5}00$ pulse periods. This makes it the only core-single pulsar that exhibits mode switching. Further, the new data also reveal previously unresolved components of this pulsar. It is our aim to confirm and further investigate these results, and extend such a study to several more pulsars that are classified as 'singles'. We expect that our results will contribute to estimates of the emission heights and have implications for better understanding of the geometry of pulsars.

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Service Observing Request

- [X] None
- [ ] All of the observing run.
- [ ] Part of the observing run.
- [ ] Queue Observing

Remot e Observing Request

- [X] No
- [ ] Maybe
- [ ] Yes

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.

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