

Technical Page

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

Proposal Title: Polarimetric Pulse-Sequence Observations of Bright Unstudied Arecibo Pulsars
ABSTRACT:

New polarimetric pulse-sequence observations are proposed on a group of heretofore unstudied Arecibo pulsars. Of the about 330 "normal" pulsars in the Arecibo sky, some 190 have never been studied polarimetrically. To our great surprise, a significant number of these stars are quite bright, well strong enough to support detailed pulse-sequence analyses. In previous work under the P1639 and P1734 projects, we observed some 100 pulsars and identified a number of uniquely interesting individual objects as well as finding new phen-omena and patterns of emission behavior. We have also determined more than 50 new rotation measures. Our estimates indicate that there are some 30-50 unstudied stars which can be observed with a single-pulse S/N more than 10 (and typically 20-30), and experience has shown that there are probably at least an equal number which so far lack reliable flux density estimates. Some of these stars were discovered in the Parkes Multibeam Survey, but some half have been known from earlier surveys. Studies of such second-tier stars have already extended our conceptions of pulsar emission behavior and altered our understanding of what is usual and typical. We believe that it is fairly urgent that this long overdue work be carried out before similar pressures develop for the many pulsars expected to be discovered by ALFA.

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Service Observing Request

- None
- All of the observing run.
- Part of the observing run.
- Queue Observing

Remote Observing Request

- No
- Maybe
- Yes

Instrument Setup

L-wide 327

Atmospheric Observation Instruments:

Special Equipment or setup: n/a

RFI Considerations

Frequency Ranges Planned

1120 – 1680 MHz

327 +/- 13 MHz

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.