

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Continuum
 Observation Category: Galactic
 Total Time Requested: 4 Hours

Proposal Title: Continuum polarization mapping and Faraday modulation: A modest feasibility study

ABSTRACT:

Several existing surveys have mapped the polarized intensity of the extended Galactic emission at various frequencies using single-dish or synthesis imaging. Derived images of the net polarization percentage, positions angle and the apparent rotation measure have revealed rich structure over the range of angular scales probed. We propose conducting a modest feasibility study aimed at assessing a potentially attractive possibility for furthering such investigations of the distribution of the magnetoionic component and the extended polarized emission regions in the Galaxy, and its practicality, using the unique capabilities of the Arecibo telescope. We plan to make polarimetric observations at 327 and 1400 MHz (on two separate days) in drift-scan mode at two carefully selected declinations to sample a total area of 4 sq. degree. We request a total of about 4 hours (2 x 2 hr) of observing time on the 305-m telescope.

Name	Institution	E-mail	Phone	Student
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Service Observing Request

Remote Observing Request

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

- No
- Maybe
- Yes

Instrument Setup

L-wide 327

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

310-340

1220-1720

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.