

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Galactic
 Total Time Requested: 75 Hours

Proposal Title: Further Studies of the HI Zeeman Effect in the Galactic CNM

ABSTRACT:

We request 75 hours of additional telescope time to supplement our galactic HI absorption line survey. The existing survey samples temperatures, column densities, turbulent line widths and magnetic fields in random regions of the diffuse HI gas. Very high sensitivity is needed to study the magnetic field in the CNM via the HI Zeeman effect. We have identified 5 sources for which additional integration time will yield very sensitive additional measurements of the magnetic field (1-sigma errors less than 2 microgauss). Inclusion of these new results with our existing HI Zeeman effect data will significantly enhance the statistical basis of our analysis of field strengths in the CNM. These new data will complete our Arecibo Millennium Survey of galactic HI absorption.

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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

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

1420 MHz