

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Observation Category:
 Total Time Requested: 61.5 Hours
 Minimum Useful Time: 2.5 hours

Proposal Title: AN UPDATED PROPOSAL TO MEASURE MAGNETIZED ELECTRON DENSITY FLUCTUATIONS IN MIRA-VARIABLE-STAR CORONAE

ABSTRACT:

We have recently realized a technique for measuring electron density fluctuations in the Sun’s corona and found many interesting results, including: periodic fluctuations in electron column density; Coronal Mass Ejection (CME) magnetized electron clouds; turbulent spectra; power transfer from circular to linear polarization. The technique uses the propagation effects on a spacecraft downlink carrier. The goal of this proposal is to explore propagation effects in the coronae of Mira variable stars, using the OH maser lines on the far side of the star (i.e., the positive-velocity masers) as the signal. This is completely unexplored territory in stars. If we are successful, we may open up a new observational field—the exploration and characterization of physical conditions and activity in stellar coronae.

Name	Institution	E-mail	Phone	Student
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Remote Observing Request

- Observer will travel to AO
- Remote Observing
- In Absentia (instructions to operator)

Instrument Setup

L-wide

Atmospheric Observation Instruments:

Special Equipment or setup: Mock spectrometers

RFI Considerations

Frequency Ranges Planned

1612

1665

1667

1720

This proposal requires Iridium RFI protection at 1612 MHz between 10pm and 6am EST.