Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
General Category: Terrestrial Aeronomy
Sub-Category: Radar
Observation Category: Exosphere
Total Time Requested: 25 Hours
Minimum Useful Time: 5

Proposal Title: PLASMA LINES AND PHOTOELECTRONS DURING LOCAL AND CONJUGATE REGION SUNRISE AND SUNSET

Abstract:
Arecibo geography provides large differences in the times of local and conjugate region sunrise and sunsets, particularly during the winter solstice at Arecibo. The down coming and up going photoelectrons induce correspondingly propagating plasma waves and they have different damping parameters, resulting in various types of asymmetries. The significant amplitude asymmetry was observed by Oran et. al. (1978) and explained in terms of the damping parameters. Plasma line profiles over the entire ionosphere is currently possible using new data taking program developed by Sulzer. Observing these plasma line profiles would allow field aligned currents and related effects during the transition times. Valuable inferences can be drawn regarding the role of photoelectrons in the ionospheric formation during these times.

<table>
<thead>
<tr>
<th>Name</th>
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<th>E-mail</th>
<th>Phone</th>
<th>Student</th>
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</thead>
<tbody>
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</tbody>
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Remote Observing Request

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

Instrument Setup

430 G 430 CH receiver 430 Xmit

Atmospheric Observation Instruments:
Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned