Technical Page

Proposal Type: Regular
General Category: Terrestrial Aeronomy
Sub-Category: Radar
Observation Category: Middle-Lower Atmosphere
Total Time Requested: 192 Hours
Minimum Useful Time: 72 hours

Proposal Title: Metallic ion composition, structure and transport at Arecibo

ABSTRACT:
We propose to use the Arecibo incoherent scatter radar and resonance lidars to study the daily and seasonal variation in metallic ion composition, structure and circulation. We attempt to measure the Fe+ content over 24-hr period in the entire E-region and Ca+ at night. We will simultaneously measure the meteoric input, E and F region ion velocities to study the production and vertical circulation of metallic ions. Two observing periods totaling 8 days are requested in this proposal. The observations proposed here are essential to support objectives of an NSF grant (Zhou and Morton, 2007).

<table>
<thead>
<tr>
<th>Name</th>
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<th>Student</th>
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<tbody>
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</tbody>
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Remote Observing Request

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

Instrument Setup

430 G 430 CH receiver 430 CH radar

Atmospheric Observation Instruments:

- Ionosonde
- Lidar

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned