Proposal Identification No.: T2377

Date Received: 2007-01-Oct-2007 09:50:32

Proposal Type: Regular
General Category: Terrestrial Aeronomy
Sub-Category: Radar
Observation Category: Ionosphere
Total Time Requested: 95 Hours
Minimum Useful Time: 8 hrs

Proposal Title: Diurnal and seasonal variation of the properties of charged meteoric smoke particles from incoherent scatter radar observations at Arecibo

ABSTRACT:
Strelnikova et al. [2007] have recently demonstrated that the observation of charged meteor smoke particles (MSPs) is feasible using Arecibo incoherent scatter radar (ISR) observations of the D-region. With this proposal we intend to confirm our initial observations and investigate if there is indeed a permanent terrestrial meteor smoke layer as suggested in the seminal model work of Hunten et al. [1980]. In addition, motivated by recent Arecibo results on the diurnal and seasonal variation of the micrometeor input into the upper atmosphere, we seek to study the diurnal and seasonal variation of MSP-properties. Besides establishing the first climatology of these species, these observations will clarify time scales of generation and growth of MSPs, as well as determine whether local production or transport is dominating MSP-variations over the year.

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<thead>
<tr>
<th>Name</th>
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<th>Student</th>
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<tbody>
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<td>no</td>
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Remote Observing Request

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

Instrument Setup

430 CH radar

Atmospheric Observation Instruments:

Special Equipment or setup: none
RFI Considerations

Frequency Ranges Planned