

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Terrestrial Aeronomy
 Observation Category: Ionosphere
 Total Time Requested: 96 Hours
 Minimum Useful Time: 32

Proposal Title: Comparison of metallic ions evolution at MLT region using Arecibo ISR data and the results of the new SAMI3 model

ABSTRACT:

Observations of the nighttime E layer are proposed to compare with a new version of the physics-based model SAMI3, developed by the National Research Lab (NRL). SAMI3 is one of the most used and accepted ionospheric models. The new version includes the dynamic behavior of metallic ions Mg+ and Fe+. The data will be used to compare and validate the results of the simulation. SAMI3 solves the ion continuity and the momentum equations to estimate the dynamics of the ion species. Some of the generated parameters correspond to values measured at Arecibo, like ion and electron temperature, ion drifts. Comparison between the estimated and measured values will allow the community to validate the model and can bring elements to study phenomena that have been an object of research for years, like the dynamics of the sporadic E (Es) regions at mid-latitudes.

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Remote Observing Request

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

Instrument Setup

430 G 430 Xmit

Atmospheric Observation Instruments:

Tilt-Photometer Spectrophotometer Fabry-Perot Ionosonde Lidar

Special Equipment or setup: ISR is the primary instrument but all optical instrument for E region will be desired.

RFI Considerations

Frequency Ranges Planned