

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Terrestrial Aeronomy
 Observation Category: Thermosphere
 Total Time Requested: 48 Hours
 Minimum Useful Time: 4

Proposal Title: Simultaneous radar observations of sporadic E layers and F-region irregularities from Arecibo, Guadeloupe, and St. Croix

ABSTRACT:

We propose to observe sporadic E layers, F-region MSTIDs, irregularities in the respective layers, and contextual parameters throughout the E and F region over Arecibo in postsunset summer hours using the Arecibo incoherent scatter radar and associated imagers and lidars. The radar should be operated in dual-beam mode using a combination of maximal length coded pulses, MRACF pulses, and coded long pulses, similar to what is used for World Day mode. Additional experiments involving double maximal length codes may also be used. The objective is to measure densities, drifts, and electric fields within irregular sporadic E layers and MSTIDs as completely as possible. The experiments will be supported by imaging coherent scatter radars on St. Croix and Guadeloupe which have common volumes with Arecibo in the E and F regions, respectively.

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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:

Fabry-Perot Ionosonde Lidar

Description of Observer Equipment: radars in St. Croix and Guadeloupe

Special Equipment or setup: Resonance lidar support in particular would be valuable. FPI data are always useful.

RFI Considerations

Frequency Ranges Planned