

Technical Page

This proposal has not been submitted before.

Proposal Type: Urgent
 General Category: Terrestrial Aeronomy
 Sub-Category: Radar
 Observation Category:
 Total Time Requested: 30 Hours
 Minimum Useful Time: 2 hours

Proposal Title: Simultaneous radar, optical and satellite observations of F-region topside ionosphere over Arecibo.

ABSTRACT:

On the January 29, 2015 the ExoCube satellite will be launched. The ExoCube is a near-terminator polar orbit satellite and will pass overhead Arecibo on the average of 2 to 3 times per week, at approximately 10 to 11 (local dawn) and 22 to 23 hrs UTCG (local dusk). There will be approximately 46 total direct overpasses during this projected five month analysis period, which means overpass duration of about 40 seconds, and min/max overpass durations on order of 5/65s. We propose to do ISR and optical simultaneous observations for 15 periods of ExoCube's overpass (the selected days and time are based on predictions assuming that no problem will occur during the launch time, so changes in the schedule are possible). 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, and also in TOPSIDE Mode. The objective of these experiments is to obtain the electron densities

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Remote Observing Request

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

Instrument Setup

430 Xmit

Atmospheric Observation Instruments:

Spectrophotometer

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned