

Technical Page

Proposal Type: Regular
 General Category: Terrestrial Aeronomy
 Observation Category: Ionosphere
 Total Time Requested: 48 Hours

Proposal Title: Mid-latitude ionospheric disturbances associated with Atlantic hurricanes and tropical storms

ABSTRACT:

Ionosonde observations suggest that tropospheric storms can affect the upper atmosphere, specifically the F-region. Identifying and describing the coupling between the ionosphere and other atmospheric regions is vital to the overall understanding of observed ionospheric variations. The following proposed measurements by the Arecibo Observatory will be combined with other measurements in an on-going CEDAR post-doc research project. The radar observations will supply additional information regarding the coupling between tropospheric disturbances, specifically Atlantic hurricanes and tropical storms, and the lower thermosphere/ionosphere region. The objective of the radar- portion of the study is three-fold: 1) Observe possible effects of hurricanes and tropical depressions on the F-region ionosphere, 2) Ascertain whether the tropical storms produce observable gravity wave propagation into the thermosphere, and 3) Determine if gravity waves or electric fields are more likely to produce F-region disturbances.

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Service Observing Request

Remote Observing Request

- | | |
|---|--|
| <input checked="" type="checkbox"/> None
<input type="checkbox"/> All of the observing run.
<input type="checkbox"/> Part of the observing run.
<input type="checkbox"/> Queue Observing | <input type="checkbox"/> No
<input checked="" type="checkbox"/> Maybe
<input type="checkbox"/> Yes |
|---|--|

Instrument Setup

430 CH radar

Atmospheric Observation Instruments:

Ionosonde

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

430

This proposal requires coordination with AFTWF within the band 425-435 MHz.