

Technical Page

This proposal has not been submitted before.

Proposal Type: Regular
 General Category: Astronomy
 Observation Category: Ionosphere
 Total Time Requested: 8 Hours
 Minimum Useful Time: 1 hour

Proposal Title: Assessment of Airglow Generation at the New Arecibo Heating Facility
ABSTRACT:

HF-induced airglow was observed at Arecibo during previous heating installations. Observations of airglow were observed more recently at the HAARP facility but without the benefit of an incoherent scatter radar (ISR). The goal of this proposal is to duplicate airglow experiments with the new HF facility at Arecibo and assess the current optical capabilities at the facility. Observations will be made with all available cameras at Arecibo and Culebra. Experiments will be aimed at matching airglow structures to electron density variations observed in ISR data, observing airglow structure at heating onset, and observing of altitude variations in decay rates of the 630 nm oxygen emission.

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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:

Tilt-Photometer Spectrophotometer Ionosonde

Special Equipment or setup: We request all imagers operate during the experiment as we are looking for heater-induced airglow. The ionosonde will be used to determine the conditions for operating the HF frequency selection (alternatively the ISR data could be used). The spectrophotometer and tilting-filter photometer would be useful additional instruments but are not necessary each run.

RFI Considerations

Frequency Ranges Planned