

Technical Page

Proposal Type: Regular
 General Category: Terrestrial Aeronomy
 Sub-Category: Radar
 Observation Category: Ionosphere
 Total Time Requested: 21 Hours

Proposal Title: Gyro Line Observations in E and F Regions during Evening hours at Arecibo
ABSTRACT:

Experiments performed during PARS Summer School at Arecibo in August 2004 show evidence of gyro line in the incoherent radar spectra, in the presence of photo-electrons. Gyro line is caused by the tail of electron distribution, which at Arecibo latitudes consists of photo-electrons. The observed gyro line offsets are in a good correlation with a theoretical model by Trulsen and Bjørnå[1978]. The process that enhances gyro line is still largely unknown. We would like to observe the effect of photo-electrons precipitating through the magnetic field lines from Arecibo's conjugate point, where the sun is up, but it is night-time in Arecibo. Hence we propose these winter time experiments to give us more insight into this phenomenon.

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Service Observing Request

- None
- All of the observing run.
- Part of the observing run.
- Queue Observing

Remote Observing Request

- No
- Maybe
- Yes

Instrument Setup

430 CH receiver 430 CH radar

Atmospheric Observation Instruments:

Ionosonde

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned