

Technical Page

Proposal Type: Regular
 General Category: Terrestrial Aeronomy
 Sub-Category: Radar
 Observation Category: Ionosphere
 Total Time Requested: 72 Hours

Proposal Title: Atomic oxygen ion-neutral collision cross section from incoherent scatter radar and Fabry Perot measurements

ABSTRACT:

We propose to use the 430 MHz radar and Fabry-Perot interferometer to determine the atomic oxygen ion-neutral collision cross section in the F region ionosphere. A new feature of this study will be the extension of the standard F region coverage with the Arecibo topside mode. This is particularly useful at solar maximum when there is not a significant amount of light ions below ≈ 700 km. In addition, we plan to use the data for two different calculations of the ion-neutral collision cross section and compare the results from both techniques.

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Instrument Setup

430 CH receiver 430 CH radar

Atmospheric Optical Instruments:

Fabry-Perot

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

430