Proposal Identification No.: T2289 Date Received: 2006-Sep-29_14:26:58

Technical Page

Proposal Type:	Regular
General Category:	Terrestrial Aeronomy
Sub-Category:	Radar
Observation Category:	Stratosphere
Total Time Requested:	128 Hours
Minimum Useful Time:	8 hrs

Proposal Title: Arecibo Studies of the Coupling from the the Stratosphere to the Mesosphere Atmospheric Regions by Gravity Wave Momentum Flux

ABSTRACT:

We propose to continue our successful program for measuring momentum flux, wind variances of the horizontal and vertical wind components using the dual-beam capability of the Arecibo 430 MHz radar. Our proposed continuation would extend our observations down to the stratosphere in order to measure the coupling from the lower atmosphere. The observations will cover ∼15–35 km in the stratosphere and ∼70–95 km in the mesosphere, and we will seek correlations in the gravity wave activity in the two regions. Of particular interest are gravity waves associated with the frequent thunderstorm activity near Arecibo. Our proposed studies will extend momentum flux measurements to the meridional direction by swinging the beam. We plan to use statistical representations of momentum flux like probability distribution functions to enhance our understanding of the spectrum of waves present. The increased number of measurements will enhance of understanding of the climatology of gravity wave influences in the tropical region.

Name	Institution	E-mail	Phone	Student
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Remote Observing Request

[X] Observer will travel to AO

[ ] Remote Observing

[ ] In Absentia (instructions to operator)

Instrument Setup

430 G 430 CH receiver 430 CH radar

Atmospheric Observation Instruments:

Ionosonde

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned