

Technical Page

Proposal Type: Regular
 General Category: Terrestrial Aeronomy
 Sub-Category: Radar
 Observation Category: Middle-Lower Atmosphere
 Total Time Requested: 240 Hours

Proposal Title: NAIC Proposal: Mesosphere-Lower Thermosphere Metals Chemistry: A Comparative Study

ABSTRACT:

Recent observations have shown that the different mesopause-region atomic metals — specifically Na, Fe, K, and Ca — have very different seasonal behavior. The quantity of a given metallic within the region of 80 to 120 km varies seasonally, and for three of these metallics, Na, Fe, and Ca, the variation is annual with the principle difference being in the phase. In the case of K, the variation is semi-annual. These differences are little understood, particularly the fact that the variation in Na is annual and K semi-annual. We propose to undertake a multi-metal study that will include Na, Fe, and K densities measured with lidars, along with electron densities measured with the ISR, and we will apply these data to a mesopause-region chemistry model presently being developed.

| Name | Institution | E-mail | Phone | Student |
|---------------------|--------------------------|-------------------|------------------------|---------|
| Jonathan S Friedman | NAIC Arecibo Observatory | jonathan@naic.edu | (787) 878-2612 x256 | no |

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:

Tilt-Photometer Spectrophotometer Fabry-Perot Ionosonde Lidar

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned