

Technical Page

Proposal Type: Long-term
 General Category: Terrestrial Aeronomy
 Sub-Category: Radar
 Observation Category: Middle-Lower Atmosphere
 Total Time Requested: 108 Hours

Proposal Title: Long-term AO Observations of Micrometeors and Associated Aeronomy

ABSTRACT:

Due to solar cycle variations of the solar wind and the relative location of Jupiter, the structure of the low-mass part of the zodiacal cloud orbital complex and of the InterStellar Particle flux crossing 1 AU is subject to considerable variability. To carefully monitor these variations and understand the mechanisms producing them, we propose observations that will sample these populations over many years. The mass flux of micrometeoroids to the upper atmosphere is of considerable aeronomic importance. We propose combining the planetary astronomy and aeronomic aspects of these observations as much as possible. Only if the micrometeoroid mass flux and its variations are directly linked to metals observed in the upper atmosphere as atomic ions and/or neutrals, observed via lidar and ISR, can a true picture of the meteoroid/atmosphere interaction physics and intervening chemistry/transport-processes emerge. To these astronomical and aeronomic ends, we propose the long-term, multi-instrument observations that are possible only at AO.

Name	Institution	E-mail	Phone	Student
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Service Observing Request

Remote Observing Request

- | | |
|---|--|
| <input checked="" type="checkbox"/> None
<input type="checkbox"/> All of the observing run.
<input type="checkbox"/> Part of the observing run.
<input type="checkbox"/> Queue Observing | <input checked="" type="checkbox"/> No
<input type="checkbox"/> Maybe
<input type="checkbox"/> Yes |
|---|--|

Instrument Setup

430 G 430 CH receiver 430 CH radar

Atmospheric Observation Instruments:

Spectrophotometer Fabry-Perot Ionosonde Lidar

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

This proposal requires coordination with AFTWF within the band 425-435 MHz.