2024 Workshop: Winds Measurements

Long title
Neutral Wind Instrumentation, Measurements, and Analysis
Conveners
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Description

Thermospheric winds are a significant driver of the ionosphere and one of the key mechanisms for ionospheric "forcing from below.” Our understanding of how neutral winds impact the ionosphere and mesosphere are limited by the lack of coverage and coincidence with other measurements such as ion drift. This workshop will discuss future science goals related to winds, in-situ and remote measurement techniques, and the usage of current wind datasets in conjunction with other measurements.

Agenda

1330 - Patrick Dandenault (APL), South American sector

1345 - Mark Conde (UAF), polar FPI and MoSAIC

1400 - Rajan Itani (UAF), FPI data analysis

1415 - Phil Anderson (UTD), CrossTrack Wind Sensor (CTWS)

1430 - Jim Clemmons (UNH), instrumentation development

1445 - Andrew Pepper (Clemson), neutral wind with chemical releases

1500 - Eric Sutton (CU/SWx TREC), accelerometer-based winds

1515 - Discussion

1530 - end of session

Justification

Without measurements of winds, the physics behind a number of MIT processes cannot be well defined, such as: 1) ion/neutral interactions like the gradient drift instability, 2) ion and neutral disturbance propagation, and 3) the impact of energy deposition such as Joule heating. Thermosphere instrumentation has been evolving, and new platforms and science goals are being addressed in upcoming ground- and space-based experiments.

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thermosphere, winds, instrumentation, experiments
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