# 2023 Workshop: GDC and DYNAMIC science

Long title
Science in the GDC and DYNAMIC era - towards understanding and predictive capability of the ionosphere, thermosphere and mesosphere
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Description

We invite short presentations on developments of observational techniques and theory and numerical modelling of the variability of the ionosphere-thermosphere-mesosphere (ITM). The focus will be: 1) leverage multi-point and multi-source observations from current and planned observing systems to provide necessary measurements of the ITM variability across multi-scales; 2) advance model schemes and methodologies to gain improved understanding and predictive capability of the ITM system and space weather. Research results from observational, theoretical and simulation studies are all welcomed.

Agenda

**Connect to this workshop virtually: CONNECT HERE**

This GDC workshop will be dedicated to GDC and DYNAMIC science. Questions and student participation are strongly encouraged!

**List of speakers**

1. Jeff Thayer → NEXUS (PDF)
2. Shun-Rong Zhang → SOPHIE (PDF)
3. Rebecca Bishop →ADAPTIVE (PDF)
4. Hassan Akbari → Multi-point observations (PDF)
5. Dan Billet → Small-scale Poynting flux (PDF)

6. Chih-Ting Hsu → Capabilities of ITM Data Assimilation with GDC: Preliminary Study (PDF)
7. Emma Spanswick/Eric Donovan → GDC-G (PDF)
8. Rob Pfaff → Structured electric fields (PDF)
9. Jens Oberheide → Resolving the tidal weather of the thermosphere from GDC (PDF)
10. Yu Hong → Storm-time neutral density perturbation at multiple temporal- and spatial-scales: data-model comparisons (PDF)

Justification

The ionosphere-thermosphere-mesosphere (ITM) is a highly dynamical region but remains poorly understood due to lack of necessary measurements. This session calls for presentations on developments of advanced observational techniques from ground- and space-based platforms as well as theoretical and modeling research of the variability of the ITM. The purpose is to encourage discussions from the community on how to improve our understanding and gain predictive capability of the ITM and space weather.

Related to CEDAR Science Thrusts:
Encourage and undertake a systems perspective of geospace
Develop observational and instrumentation strategies for geospace system studies
Workshop format
Short Presentations
Keywords
ITM variability, Muti-point and multi-source observations, space weather
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