



專題演講

Predictability and Ensemble Modeling of the Space-Atmosphere Interaction Region

Speaker : **Prof. Tomoko Matsuo**

University of Colorado at Boulder

Time : 107 年 3 月 27 日 星期二 10:00

Place : 健雄館(科四館) S4-917 教室

摘要/Abstract :

The Space-Atmosphere Interaction Region (SAIR), encompassing the mesosphere, thermosphere and ionosphere, is an intersection between geospace and the Earth's atmosphere, and is exposed to vacillating conditions of both space and terrestrial weather. Recent observational and modeling studies have revealed clear reaches of terrestrial weather far beyond the mesosphere lower-thermosphere region into the topside ionosphere. At the same time, the region lends itself to forcing originating from the Sun and solar-wind magnetosphere interactions. The predictability of the SAIR is a fundamental question in Heliophysics, and calls for a paradigm shift from a deterministic to a probabilistic modeling framework. To meet with this contemporary modeling and simulation challenge, we will systematically compare and combine ensemble simulations of a comprehensive whole atmosphere model, coupled with an ionosphere and plasmasphere model called the Integrated Dynamics in Earth's Atmosphere (IDEA) with global Earth and geospace observations. Building on the National Weather Service's operational ensemble forecasting and data assimilation systems as well as our earlier efforts, we will construct an ensemble forecasting and data assimilation system that will ultimately be capable of assimilating observations from the ground to SAIR. I will present the project overview along with some initial results from our new interdisciplinary initiatives.

※歡迎聽講※

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