BOSTON UNIVERSITY

Boston University College of Arts & Sciences
Center for Space Physics

2023—2024 SPACE PHYSICS SEMINAR SERIES

Forecasting convective instability at the magnetic equator

Wide-band plasma density irregularities in the postsunset equatorial F -region ionosphere were among the first space-weather phenomena detected by radio and remain among the most disruptive factors affecting radio communication, navigation, and imaging systems. While the plasma convective instability mainly responsible for the irregularities has been fairly well understood for decades, accurate forecasts have been elusive. This seems to be due the practical difficulties in measuring some of the most important instability drivers and to capture their influence in representative computational models, especially global models. This talk will review efforts to forecast space weather in the equatorial ionosphere using a regional numerical model driven by ground-based measurements. It will also present forecasts based on space-based measurements acquired with the ICON satellite. Finally, it will outline a project to implement the forecast model globally using a non-traditional numerical modeling framework.

Thursday, September 28th

4:00-5:00 p.m.

725 Commonwealth Ave | Room 502

David Hysell

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