

2025 Workshop: New capabilities for studying equatorial aeronomy and space weather

Long title

New capabilities for studying equatorial aeronomy and space weather

CEDAR Regular Workshop

Conveners

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Description

This workshop will highlight recent discoveries in equatorial aeronomy along with new developments in experimental, theoretical, and computational methods that make them possible. The focus will be on observations and research at the Jicamarca Radio Observatory. Results obtained from closely-related projects and instrumentation, including regional radio/radar networks, are also welcome. The session will combine a few review presentations with a number of science highlights.

Justification

Three recent developments prompt this workshop. One is a series of upgrades at Jicamarca that will fundamentally alter and expand its capabilities. Among these are new medium-power solid-state transmitters that will allow perpetual incoherent scatter measurements and fully- implemented automatic beam steering that will allow the fast reconfiguration of experiments. Also, the deployment of two LWA-type radio arrays in Peru will support and augment the capabilities of the Jicamarca radar while facilitating novel investigations bridging aeronomy and astronomy. Finally, the recently announced NASA sounding rocket campaign to take place in Peru in 2028 opens the possibility of additional synergistic projects and discoveries.

In this workshop, we will describe and discuss these new developments so that they can be fully exploited by the community.

Related to CEDAR Science Thrusts:

Encourage and undertake a systems perspective of geospace

Explore exchange processes at boundaries and transitions in geospace

Develop observational and instrumentation strategies for geospace system studies

Fuse the knowledge base across disciplines in the geosciences

Manage, mine, and manipulate geoscience/geospace data and models

Workshop format

Short Presentations

Include a virtual component?

No

Keywords

equatorial aeronomy, remote sensing, radio science, space weather

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