

Special Issue

Advances in Observation and Simulation Studies of Ionosphere

Message from the Guest Editors

The focus of this Special Issue is highly relevant and up-to-date research across diverse scientific areas related to Earth's ionosphere. We invite contributions primarily across geophysics, space sciences, atmospheric sciences, and data sciences to foster the publication of the newest advances and innovations. The scope of this Special Issue includes, but is not limited to, studies related to:

- Ground-based and satellite-based observation systems (e.g., GNSS, ionosondes, incoherent scatter radars, VLF/LF radio signal systems) in ionospheric research;
- Data assimilation techniques and remote sensing advancements in ionospheric research;
- Numerical and physics-based ionospheric models;
- Studies on ionospheric irregularities, storms, and coupling with the magnetosphere and thermosphere;
- Machine learning and AI applications in ionospheric research;
- Comparative analysis of model predictions and observational data in ionospheric research;
- Impacts of ionospheric variability on communication, navigation, and surveillance systems;
- Interactions between ionospheric dynamics and human health.

We look forward to receiving your contributions.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

Dr. Daniele Contini

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