

Special Issue

Ionospheric Dynamics and Effects on Radio Wave Propagation

Message from the Guest Editors

The scope of the Special Issue includes theoretical, experimental, and applied studies on plasma-wave interactions; propagation, absorption, refraction, and scattering in magnetized and inhomogeneous media; advanced antenna and phased-array designs for ionospheric sounding and radar; coherent and incoherent scatter techniques; inverse methods; and numerical or data-driven frameworks for diagnosing and forecasting ionospheric variability. This Special Issue seeks to serve as a forum for publishing integrative studies that connect fundamental plasma electrodynamics with practical sensing and engineering solutions. We particularly welcome submissions that utilize new theories, methods, instrumentation, and simulations to improve our understanding of ionospheric dynamics and its effects on radar performance, antenna systems, and trans-ionospheric electromagnetic propagation under both quiet and disturbed geophysical conditions.

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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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