Special Issue

Ionospheric Irregularity

Message from the Guest Editors

Ionospheric irregularities are disturbances or variations in the ionospheric plasma that can impact the propagation of radio waves, satellite signals, and other forms of electromagnetic radiation. The formation of irregularities is generally attributed to ionospheric instability mechanisms, including: wind shear theory for Es, two-stream instability, and gradient-drift instability for E region FAIs at the equator and low latitudes, atmospheric gravity waves, GDI, Kelvin-Helmholtz instability, and Es-layer instability for E region FAIs at mid-latitudes, Rayleigh–Taylor instability for plasma bubbles and equatorial SF, and the breaking of atmospheric gravity waves and Perkins instability for SF and medium-scale TIDs at mid-latitudes. A common type of ionospheric irregularity is called ionospheric scintillation, which is characterized by small-scale variations in the ionospheric plasma that cause fluctuations in the amplitude, phase, and polarization of radio signals passing through the ionosphere. Authors are encouraged to submit original papers that include but are not limited to topics of observations, modeling, instrumentation, etc.

Guest Editors

Dr. Qiong Tang

School of Electrical and Information Engineering, Wuhan Institute of Technology, Wuhan, China

Dr. Yi Liu

Department of Space Physics, Wuhan University, Luojiasha, Wuhan, China

Deadline for manuscript submissions

closed (27 November 2024)

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Atmosphere
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
atmosphere@mdpi.com

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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
Institute of Atmospheric Sciences and Climate (ISAC), National Research Council (CNR), Str. Prv. Lecce-Monteroni km 1.2, 73100 Lecce, Italy

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