Special Issue

Electromagnetic Waves and Particles in Earth's Radiation Belt

Message from the Guest Editor

The focus of this Special Issue is the propagation of ULF/VLF/ELF electromagnetic waves in the inhomogeneous, magnetized plasma and interactions between these waves and energetic particles in the Earth's radiation belt. The interest in these problems is motivated by the novel, frontier physics of wave propagation in highly inhomogeneous, magnetized plasma and by the ability of these waves to interact efficiently with energetic particles in the radiation belts. Recently, complex and expensive space and ground-based experiments have been proposed to further address the understanding of various aspects of radiation belt physics. Obviously, the success of these experiments will strongly depend on a comprehensive and quantitative understanding of wave dynamics and wave–particle interactions in the magnetosphere. We invite papers focusing on theory, modeling, and observations of ULF, VLF, and ELF waves and wave–particle interactions in the Earth's radiation belt.

Guest Editor

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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

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