



Turbulence and Energy Dissipation in Solar System Plasmas

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Message from the Guest Editors

Highly nonlinear turbulent dynamics play a fundamental role in cross-scale energy transfer and particle energization in astrophysical plasmas. A wide array of turbulent plasmas are found within our own solar system – ranging from the solar corona and solar wind to the terrestrial and planetary magnetospheres. These systems can be directly probed by a range of spacecraft missions, including Magnetospheric Multiscale, Parker Solar Probe, Solar Orbiter, BepiColombo, Juno, and many more, making these some of the best regions for exploring plasma turbulence in the collisionless regime. In this Special Issue, we invite both observational and numerical studies focused on examining the turbulence within the varied systems in the solar system, with the aim of assembling a body of work that highlights the similarities and differences in turbulent dynamics and dissipation within the different environments. This collection will thus help to consolidate the knowledge of plasma turbulence gleaned from these systems and guide future research into astrophysical turbulence.





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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!

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