



Geomagnetic Storms and Their Influence on Atmosphere–Ionosphere Coupling

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Message from the Guest Editors

Dear Colleagues,

Geomagnetic storms induce changes in the electron density in the ionosphere, F2 layer height, and total electron content (TEC) according to measurements of the signals of global navigation satellite systems. They impact atmospheric electricity, affect radio wave propagation and the absorption of different frequencies. Changes of parameters and the composition of the middle and lower atmosphere are reported, including the atmospheric ozone concentration during storms. Some researchers report that in the mesosphere and lower atmosphere the influence of geomagnetic storms becomes weaker than in the ionosphere.

We invite you to submit your original research and review articles covering, but not limited to, these topics in this Special Issue. We welcome contributions related to all aspects of the study of the effects of magnetic storms on atmosphere–ionosphere coupling based on observations, including ground and space experiments, as well as theoretical and modeling studies.





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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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