



## Variability and Predictability of Space Weather and the Ionosphere: Recent Advances

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### Message from the Guest Editor

Dear Colleagues,

Studying complex systems such as Space Weather and the Ionosphere is relevant to understanding the physical processes involved (Knowledge) and society's use of such systems (Applications). New approaches, including the chaotic description of such systems and the development of advanced machine learning algorithms, make it possible to advance in the ability to model and predict the time evolution of their variables. It is of particular importance to have an updated view of these new approaches and their current or potential use to study and model Space Weather and Ionosphere variability and predictability. This Special Issue aims to provide a comprehensive view of the advancements in this field. Particular emphasis, though not exclusive, should be given to approaches that combine chaos theoretical descriptions and advanced machine learning algorithms when applied to Ionosphere and Space Weather basic modelling and society-oriented research. For this reason, we encourage colleagues to submit papers with this perspective to provide, in this Special Issue, an updated view on the subject.





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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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