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Modeling Multiscale Dynamics by Statistical Mechanics in Heliophysics and Geophysics

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Deadline for manuscript submissions:
closed (15 March 2021)

Message from the Guest Editors

Dear Colleagues,

Due to the multiscale aspect of the aforementioned processes, scaling laws emerge in the statistics of the observable quantities detected in the solar atmosphere, the solar wind, the Earth's magnetosphere, and the geophysical systems

With this Special Issue, we propose to put forth the state-of-the-art of the models and the analysis dealing with multiscale processes developed for heliophysical and geophysical systems mainly focused on:

Solar magnetic field, dynamo and solar cycle;
Solar impulsive events: flares, coronal mass ejections;
Turbulence and nonlinear processes in space;
Sun–Earth processes, space weather, and space climate ;
Dynamo and earth magnetic field;
Nonlinear dynamics in geophysical systems;
Earth's climate and atmosphere;
Hydrodynamical systems;
Statistical methods in geophysical context.

Dr. Giuseppina Nigro
Prof. Mariarosaria Falanga
Guest Editors

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Special Issue

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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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