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Modeling Multiscale Dynamics by Statistical Mechanics in Heliophysics and Geophysics

Guest Editors:

Dr. Giuseppina Nigro
Department of Physics, University of Calabria, via P. Bucci cubo 31C, Arcavacata di Rende, 87036 Cosenza, Italy

Prof. Dr. Mariarosaria Falanga
Dipartimento di Ingegneria dell'Informazione ed Elettrica e Matematica applicata/DIEM, Università di Salerno, via Giovanni Paolo II, 84084 Fisciano (SA), Italy

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.

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Editor-in-Chief

Prof. Dr. Ilias Kavouras
Environmental, Occupational, and Geospatial Health Sciences, CUNY School of Public Health, New York, NY 10027, USA

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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Contact Us

Atmosphere Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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