Special Issue

Entropies, Information Geometry and Fluctuations in Non-equilibrium Systems

Message from the Guest Editor

With the improvements in high-resolution data, fluctuations have emerged universally, playing a crucial role in many disciplines. Some fluctuations, such as tornados, stock market crashes and eruptions in laboratory/astrophysical plasmas, are of a large amplitude and can have a significant impact even if they occur rarely. These large fluctuations are part of the very nature of non-equilibrium systems. Associated with fluctuations is randomness in the statistical sense or dissipation in the thermodynamic sense. The concept of entropy has been used to quantify such fluctuations, constituting one of the cornerstone concepts in thermodynamic equilibrium. However, entropy in the conventional form has a limited utility in helping us to understand non-equilibrium systems. In particular, the information geometric method has emerged as a useful tool to help us understand fluctuations in non-equilibrium systems. This Special Issue aims to present different approaches to the description of fluctuations in non-equilibrium systems based on entropy and its variants (mutual entropy, relative entropy, etc) as well as information geometry.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

Entropy is an online open access journal providing an advanced forum for the development and/or application of entropic and information-theoretic studies in a wide variety of applications. *Entropy* is inviting innovative and insightful contributions. Please consider *Entropy* as an exceptional home for your manuscript.

Editor-in-Chief

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