Special Issue

Thermodynamics and Statistical Mechanics of Small Systems

Message from the Guest Editors

A challenging frontier in statistical physics concerns systems with a small number N of degrees of freedom, far from the thermodynamic limit: such an interest is motivated by the recent increase of resolution in the observation and in the manipulation of the micro-nano world. The peculiar feature of small systems is the relevance of fluctuations, which cannot be neglected. The study of fluctuations of thermodynamics quantities such as energy or entropy goes back to Einstein, Onsager and Kubo: more recently it has taken an acceleration with the establishing of new results in response theory and in the so-called stochastic thermodynamics. Such a turning point has received a great impulse from the study of systems which are far from thermodynamic equilibrium. Applications of the thermodynamics and statistical mechanics of small systems range from molecular biology to micromechanics, including, among others, models of nanotransport, of Brownian motors and of (living or artificial) self-propelled organisms.

Guest Editors

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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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