



Symmetry and Mesoscopic Physics

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Message from the Guest Editors

Dear Colleagues,

Symmetry is one of the most important notions in natural science. This notion lies at the heart of fundamental laws of nature and serves as an important tool for understanding the properties of complex systems, both classical and quantum.

The other trend, which has in recent years undergone intensive development, is mesoscopic physics. This branch of physics also combines classical and quantum ideas and methods. Two main directions can be distinguished in mesoscopic physics. One is the study of finite quantum systems of mesoscopic sizes. Such systems, which are between the atomic and macroscopic scales, exhibit a variety of novel phenomena and find numerous applications in creating modern electronic and spintronic devices. At the same time, the behavior of large systems can be influenced by mesoscopic effects, which provides another direction within the framework of mesoscopic physics.

The aim of the present Special Issue is to emphasize the phenomena that lie at the crossroads between the concept of symmetry and mesoscopic physics...





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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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