Special Issue

Topological Objects in Correlated Electronic Systems

Message from the Guest Editors

Most correlated electronic systems possess ground states with broken crystal symmetries. Among them is the family of electronic crystals, including charge/spin density waves, Wigner crystals, stripes' arrays, charge ordering and electronic (anti)ferroelectrics, superstructures in spin systems, spin-polarized density waves and superconductors. The ground state degeneracy allows for topologically protected configurations connecting equivalent but different states. These "topological defects" include extended objects like plane domain walls, lines of dislocations or phase vortices, various solitons as local macro- and microscopic objects, and transient processes like phase slips. The embedded or transient topologically nontrivial configurations are readily induced by electric or magnetic fields, under stresses of sliding, or by optical pumping. The planned Special Issue will address these phenomena as well as other topology-related electronic properties including systems like the graphen and topological insulators. We shall welcome both original articles and reviews on relevant experimental and theoretical studies.

Guest Editors

Dr. Serguei Brazovskii

Laboratory of Theoretical Physics and Statistical Models (LPTMS), University Paris-Saclay, 91405 Orsay, France

Dr. Natasha Kirova

1. Solid State Physics Laboratory (LPS), CNRS & University Paris-Saclay, 91405 Orsay, France
2. Russian Quantum Center, Skolkovo, 143025 Moscow, Russia

Deadline for manuscript submissions

closed (15 August 2023)

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.3

mdpi.com/si/76805

Symmetry
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
symmetry@mdpi.com

mdpi.com/journal/symmetry

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.3

mdpi.com/journal/symmetry

About the Journal

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.

Editor-in-Chief

Prof. Dr. Sergei Odintsov
1. ICREA, 08010 Barcelona, Spain
2. Institute of Space Sciences (IEEC-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within SCIE (Web of Science), Scopus, CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Multidisciplinary Sciences) / CiteScore - Q1 (General Mathematics)

MDPI