



Symmetry, Topology and Phases of Condensed Matter

Guest Editor:

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Deadline for manuscript
submissions:

closed (30 April 2024)

Message from the Guest Editor

Dear Colleagues,

Condensed matter physics is one of the largest and most active areas in physics. It explores the properties of matter involving a large number of interacting particles. Breakthroughs in this branch have given us the quantum Hall effects, liquid crystals, Bose–Einstein condensate, superconductivity, topological materials, integrated circuits, lasers, light-emitting diodes, magnetic resonance imaging, etc. Condensed matter physics has the greatest impact on our lives.

From the 1970s, topology started to play a bigger and bigger role in condensed matter physics, with the quantum Hall effect becoming the first example of a topologically nontrivial state of matter. Since the discovery of topological insulators, topological matter became one of the hottest subjects in modern physics.

This Special Issue “Condensed Matter Physics and Topological Matter” aims to cover recent developments in these areas including, but not limited to, quantum Hall effects, quantum spin liquids, Majorana fermions, topological metals, semimetals, insulators and superconductors, and condensation phenomena.





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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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