Special Issue

2D and 3D Topological Materials

Message from the Guest Editor

A topological insulator (3D) is a material as an insulator in its interior with conducting states at the surface, resulting in electrons only being able to move along the surface of the material. Meanwhile the conducting surface states, which are protected by symmetry with a non-trivial topological order, exhibit spin-momentum locking behavior suitable for spintronics. The 2D counterpart of the topological insulator, i.e., the quantum spin Hall material, also exhibits symmetry-protected non-trivial topological order spin-momentum locking states at the edges of a 2D thin film. Besides the 3D and 2D topological insulators, researchers have also discovered many topologically-protected materials such as magnetic topological insulators, topological Dirac, Weyl, and nodal-line semimetals. Furthermore, several topological superconductors, which can host Majorana Fermions for fault-tolerant quantum computers, have also been proposed recently. As such, this Special Issue is dedicated to discovering new types of 2D or 3D topological matters, to achieve a better understanding of their intriguing properties, and to develop potential applications based on topological materials.

Guest Editor

Prof. Dr. Horng-Tay Jeng
Department of Physics, National Tsing Hua University, Hsinchu 30013, Taiwan

Deadline for manuscript submissions

closed (31 December 2019)

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/23381

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

mdpi.com/journal/applsci

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/journal/applsci

MDPI

About the Journal

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

Author Benefits

Open Access:

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

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, Inspec, Embase, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)