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Topological Approaches to 2D Multielectron Correlated States

Guest Editors:

Prof. Lucjan Jacak

Wrocław University of Science
and Technology, Wrocław,
Poland

Dr. Janusz E. Jacak

Department of Quantum
Technologies, Wrocław
University of Science and
Technology, Wrocław, Poland

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Message from the Guest Editors

Dear Colleagues,

In recent years, a vast field of topological methods has dynamically flourished. Topological insulators, spin Hall systems, fractional and integer quantum Hall effect in graphene monolayer and bilayer, competition of superfluidity of inter-layer excitons in double Hall systems with correlated Hall states drew attention to the topological non-local conditioning of multi-electron correlation organization in 2D in the presence of a magnetic field and made a significant contribution to the development of over 30-years old quantum Hall physics. Recently there was a rapid development of the Hall experiment in new materials, as well as a new topological perspective on correlations in various types of topological insulators and their experimental implementation also in optical planar networks. The Haldane states for planar systems without a magnetic field or Kosterlitz Taule's phase transitions (NP 2016) emphasised that the topological quantum effects are impossible to be understood in the framework of local quantum physics. We propose this Special Issue of Materials to seek out papers in this dynamically developing area of quantum physics of correlated states.



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Special Issue



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Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada

2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Message from the Editor-in-Chief

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Contact Us

Materials Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

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