

Special Issue

New Reports on Quantum Mechanics: Discoveries, Promising Trends, and Technological Innovations

Message from the Guest Editor

We are thrilled to announce the Special Issue - New Reports on Quantum Mechanics: Discoveries, Promising Trends, and Technological Innovations - dedicated to recent advances in theoretical developments of Quantum Mechanics and its wide-ranging applications across all fields of physics. This initiative contributes to the global effort of disseminating valuable information within the research community. In this special issue, we seek original contributions that shed light on groundbreaking discoveries and promising trends within Quantum Mechanics. Specifically, we invite submissions exploring the following topics:

- One and two-dimensional systems
- Topological defects
- Curved spacetime
- Quantum metrology and quantum error correction
- Quantum optics and photonics
- Quantum wells, wires, dots, and rings
- Quantum thermodynamics
- Quantum information theory
- Quantum materials and quantum devices
- Quantum algorithms and quantum machine learning
- Quantum simulators and quantum annealing

We eagerly await your insightful submissions and anticipate engaging in fruitful discussions.

Guest Editor

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Deadline for manuscript submissions

closed (28 February 2025)



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About the Journal

Message from the Editor-in-Chief

We get more and more evidence that quantum theory is the correct description of nature. It was born a century ago by explaining a few paradoxical results that could not be understood in the framework of classical physics. Today, quantum physics leads technological revolution in metrology, communication, computation, and the design of novel materials. Still it needs more solid foundations, and we need to develop a deeper understanding of how it can be used for new applications.

Quantum Reports is an online, open-access journal providing an advanced forum for clarifying foundations of quantum theory and developing its applications in all fields of physics and technology. *Quantum Reports* is inviting innovative and insightful contributions from the growing community of researchers of quantum science.

Editor-in-Chief

Prof. Dr. Lev Vaidman

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Author Benefits

High Visibility:

indexed within ESCI (Web of Science), Scopus and other databases.

Journal Rank:

CiteScore - Q2 (Physics and Astronomy (miscellaneous))

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.5 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the first half of 2025).