Special Issue

Mathematical Models for Transport in Macroscopic and Mesoscopic Systems

Message from the Guest Editors

In this Special Issue, the focus is placed on mathematical modeling and simulation of charge transport in graphene and other 2D materials and in structures, such as double gate MOSFETs, nanoribbons and nanowires, where the presence of confinement effects allows for the formal description of the carrier flow as that of a two-dimensional or one-dimensional electron gas. Moreover, by increasing the miniaturization of devices, hotspots are observed, that is, zones with very high crystal temperature due to the release of energy by high energetic electrons. The effect is particularly relevant in materials with reduced dimensionality and confined structures.

- Graphene
- Low-dimensional material
- Nanoribbons
- Nanowires
- Field effect transistors
- Charge and phonon transport
- Semiclassical Boltzmann equation
- Schrödinger equation
- Wigner transport equation
- Hydrodynamical models
- Ab initio calculations
- Monte Carlo simulations
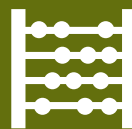- Optimization methods

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Deadline for manuscript submissions

closed (31 January 2022)

About the Journal

Message from the Editor-in-Chief

Axioms is dedicated to the foundations (structure and axiomatic basis, in particular) of mathematical theories, not only from a crisp or strictly classical sense, but also from a fuzzy and generalized sense. This includes the more innovative current scientific trends, devoted to discover and solve new challenging problems. The prime goal of *Axioms* is to publish first-class, original research articles under an open access policy with minimal fees for the authors. We would be pleased to welcome you as one of our authors.

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