Special Issue

Applications of Functional Analysis in Quantum Physics

Message from the Guest Editor

Functional analytic methods have been an essential mathematical tool for quantum mechanics since the very first years of the development of quantum theory, starting with the seminal work by von Neumann. Great developments in the theory of operators in Hilbert spaces have helped very much in the understanding of quantum theory through a large variety of models. The objective of this Special Issue is to foster the extension of investigation in this field. In addition to the traditional fields, this special issue will accept papers of high quality, including but not limited to:

- Theory of operators on Hilbert and Banach spaces: applications of quantum mechanics and quantum field theory
- Scattering theory
- Locally convex spaces, Gelfand triplets, frames, and the theory of operators on these structures
- Self-adjoint extensions of symmetric operators and point potentials
- Regularization theory and point potentials
- Rigorous theory of quantum resonances
- Groups and algebra representations as operators on Hilbert, Banach, locally convex spaces, Gelfand triplets, frames, nets, etc
- PT symmetries and non-Hermitian Hamiltonians in quantum theory

Guest Editor

Prof. Dr. Manuel Gadella

Departamento de Física Teórica, Atómica y Optica and IMUVA, Universidad de Valladolid, 47011 Valladolid, Spain

Deadline for manuscript submissions

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

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Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

Editor-in-Chief

Prof. Dr. Francisco Chiclana
School of Computer Science and Informatics, De Montfort University, The Gateway, Leicester LE1 9BH, UK

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