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Contact Interactions and Solvable Models in Quantum Mechanics

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Deadline for manuscript submissions:
closed (15 June 2022)

Message from the Guest Editors

The aim and scope of this Special Issue is to promote papers dedicated to the study of the spectral features of Hamiltonians of the Schrödinger Operators perturbed by contact interactions in different dimensions, using some particular potentials, to further investigate the solvability of the models proposed.

Thus, it should be possible to investigate in detail the energy levels of such systems by means of mathematical machineries such as renormalization techniques of particular features of the operators involved.

Possible applications of this theoretical setting might be models of materials that could be regarded as essentially two-dimensional, most of all in view of the main scope of the journal.

The papers accepted and published in this Section could provide crucial examples and possible new research lines of symmetric and asymmetric properties emerging from every single study conducted, using all the theoretical tools involved.

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Special Issue

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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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