

Special Issue

Fractional Operators and Symmetries in Mathematical Physics

Message from the Guest Editors

Fractional calculation appears as a generalization of the derivative of integer order in order to obtain more general results when applied to modeling natural phenomena and real problems, represented in this case by fractional differential equations, that is, differential equations involving fractional derivatives and integrals. What has enabled a very interesting approach and is already known in the study of nonlinear differential equations in the case of integer order is the theory of Lie group transformations. This has been employed in the field of fractional calculus, providing important results, especially when obtaining invariant solutions via Lie symmetries or order reductions in the studied equations.

This Special Issue is devoted to new developments in the theory of Lie symmetries applied to fractional differential equations, having as main objectives the Lie symmetries for fractional models, used both to reduce the differential equations investigated and to obtain their analytical or numerical solutions. Another motivation is the investigation of this theory, considering the geometric aspects, in which we can cite the main result, the conservation law involved.

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About the Journal

Message from the Editor-in-Chief

Fractal and Fractional (*Fractal Fract.*) is a scholarly online journal which provides a forum for discussion on new original models and methods in fractals and fractional calculus both from theory and applications. It is a peer-reviewed, open access journal that publishes high quality original research articles, review papers and short communications.

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