Special Issue

Spectral Methods for Fractional Functional Models

Message from the Guest Editors

It is a well-established fact that many powerful tools, such as partial differential equations, integral equations, and integro-differential equations, have been used to model a wide variety of nonlinear phenomena, ranging from nonlinear optics to plasma physics, circuit theory, and biology. Today, such tools, combined with fractional operators, provide effective methods for describing nonlinear phenomena, which have been the subject of much research. Such problems can be handled with a wide range of useful methods including finite difference methods, radial basis function methods, and spectral methods (collocation, Galerkin, and Tau). The key goal of the current Special Issue is to present the latest research on the solutions to the above problems involving fractional operators using spectral methods. Potential topics include, but are not limited to, the following areas:

- Spectral Methods for Fractional Partial Differential Equations
- Spectral Methods for Fractional Integral Equations
- Spectral Methods for Integro-Differential Equations Involving Fractional Operators
- Spectral Methods for Systems of Fractional Differential Equations

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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 peerreviewed, open access journal that publishes high quality original research articles, review papers and short communications.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 19.9 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).