Special Issue

Analysis and Applications of Fractional Calculus in Computational Physics

Message from the Guest Editors

Fractional calculus is a powerful tool that enables more efficient modeling of physical processes in complex physical systems. It is used in the modeling of anomalous dissipative processes, describing physical systems with nonlinear behavior, modeling of electromagnetic field propagation in fractal and anisotropic media, consideration of memory effects in quantum mechanics, describing viscoelastic materials with fractional damping in classical mechanics, overcoming approximation of local equilibrium and locality in general in thermodynamics, etc. Contemporary research and analysis of physical models with complex initial and boundary conditions indicate the need to further develop and understand fractional operators. In addition, the analysis of fractional models often requires the specialized methods for solving fractional differential equations. This Special Issue aims to present the advancement of fractional operators and methods of solving fractional differential equations, and the novelty in applications of fractional calculus in physics.

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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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