Special Issue

Nonlinear Dynamics in Complex Systems via Fractals and Fractional Calculus

Message from the Guest Editor

Nowadays, advances in the knowledge of nonlinear dynamical systems and processes as well as their unified repercussions allow us to include some typical complex phenomena taking place in nature, from nanoscale to galactic scale, in a unitary comprehensive manner. After all, any of these systems called generic dynamical systems, chaotic systems or fractal systems have something essential in common and can be considered to belong to the same class of complex phenomena, discussed here. The available physical, biological and financial data and technological complex systems can be managed by the same conceptual approach, both analytically and through a computer simulation, using effective nonlinear dynamics methods. Currently, the utilization of fractional-order partial differential equations in real physical systems is commonly encountered in the fields of theoretical science and engineering applications. This means that the productive, efficacious computational tools required for analytical and numerical estimations of such physical models, and our reliance on their development in referenced works, are welcome.

Guest Editor

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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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