Special Issue

Advances in Fractional Dynamics and Their Applications in Seismology

Message from the Guest Editors

Seismology is an interdisciplinary science of mathematics, physics, and computational methods, dedicated to probing the Earth's interior and locating subsurface resources such as hydrocarbons and minerals through the analysis of seismic wavefields. In recent years, fractional dynamics—governed by fractional differential equations—have shown great promise in modeling complex wave propagation phenomena that are difficult to capture with conventional wave equations. Applications of fractional models in seismology include seismic wave simulation and imaging in viscoacoustic and viscoelastic media, quasi-P and quasi-S wavefield decomposition and simulation in anisotropic formations, and one-way wavefield extrapolation and imaging. Efficient and robust numerical methods for solving fractional equations are crucial for advancing seismic modeling, imaging, and inversion in complex geological settings.

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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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