Special Issue

Analysis of Heat Conduction and Anomalous Diffusion in Fractional Calculus

Message from the Guest Editors

The classical Fourier law of heat conduction assumes that the heat flux is proportional to the temperature gradient, which leads to a linear heat conduction equation. However, this law can only sometimes accurately describe heat conduction in complex materials. The use of fractional differential operators in the heat conduction equation has been shown to be effective in modeling non-local and memory effects in heat conduction. This behavior has been observed in many physical systems, including biological systems and porous media. Thus, fractional calculus in thermal conduction and diffusion is an interesting research area that provides useful tools to investigate the anomalous thermodynamic process in several fields, such as physics, fluid dynamics, chemistry, and biology, among others. Its relevance lies in its ability to capture the complexity of these systems and provide a more accurate description of their behavior. We invite researchers to submit original research and review articles on the recent developments in fractional differential equations in anomalous diffusion and thermal conduction and their applications in science, technology, and engineering.

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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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