Special Issue

Fractal Theory in Cement-Based Materials: Investigations and Applications

Message from the Guest Editors

Fractal theory is a useful tool to investigate the microstructures and properties of materials. The most used building materials are cement-based materials. Cement-based materials have a wide range of applications in construction and engineering, including normal concrete, UHPC (ultra-high-performance concrete), recycled concrete, repair materials and grouting materials. During the service of these materials, cracks and the deterioration of physical properties may occur due to various reasons, such as load action, environmental influence, material defects, etc. Fractal theory could be applied to study the micro and meso structure and physical properties of different types of cement-based materials. This Special Issue aims to conduct an in-depth study of the fractal theory of cement-based materials, which can not only improve our understanding of the properties of cement-based materials, but also provide important support for the optimal design and safe use of cement-based materials. Topics that are invited for submission include (but are not limited to):

- fractal theory
- cement-based materials
- crack shape
- tortuosity
- physical properties
- pore structure
- microstructure

Guest Editors

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Deadline for manuscript submissions

closed (30 October 2024)

Fractal and Fractional

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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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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).

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