

Special Issue

Distributed Control and Optimization of Fractional-Order Systems: Theory and Applications

Message from the Guest Editors

Currently, the distributed optimal control of fractional-order systems finds significant applications in various fields, such as networked control systems, smart grids, UAV formations, robotic swarm control, and biomedical engineering. The primary aim of this Special Issue is to disseminate the latest findings, new research advancements, future trends, and innovations in the distributed control and optimization of fractional-order systems. Both theoretical and experimental research are encouraged. Additionally, high-quality reviews and survey papers are welcome. The submitted papers may focus on, but are not necessarily limited to, the following areas:

- Optimal control of fractional-order nonlinear systems;
- Distributed coordination of fractional-order networked systems;
- Distributed optimization of fractional-order networked systems;
- Distributed Nash equilibrium of games between fractional-order networked systems;
- Fault detection filtering and fault tolerant control of fractional-order networked systems;
- Safety-critical control of fractional-order cyber-physical systems subject to various network attacks.

Guest Editors

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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.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 19.3 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).