



Fractional-Order Circuits, Systems, and Signal Processing

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Message from the Guest Editors

Dear Colleagues,

Fractional calculus is the branch of mathematics that generalizes the operations of classical calculus. The dynamics of real-world systems can be more effectively captured using the concepts of fractional calculus compared to classical calculus-based models. This is due to the additional degrees-of-freedom (extra ‘tuning knobs’) available in a fractional-order transfer function, which, in turn, enhances the design flexibility. The application of numerical approximation methods has resulted in effective fractional-order systems for various engineering disciplines, such as linear and non-linear circuit theory, signal processing, biomedicine, control theory, etc. In recent years, optimization (both classical and metaheuristic) techniques have also been exploited by researchers to obtain robust fractional-order models.

The focus of this Special Issue is to further advance the theory, design, realization, and application domain of fractional-order systems.

