fractal and fractional

IMPACT FACTOR 5.4

CITESCORE 3.6

an Open Access Journal by MDPI

Fractional Calculus in the Design, Control and Implementation of Complex Systems

Guest Editors:

Dr. Miguel A. Platas-Garza
Facultad de Ingeniería Mecánica y Eléctrica, Universidad Autónoma de Nuevo León, San Nicolás de los Garza 66455, Mexico

Dr. Cornelio Posadas-Castillo
Department of Electrical and Mechanical Engineering, University of Nuevo Leon, San Nicolás de los Garza 66455, Mexico

Dr. Ernesto Zambrano-Serrano
Facultad de Ingeniería Mecánica y Eléctrica, Universidad Autónoma de Nuevo León, San Nicolás de los Garza 66455, Mexico

Deadline for manuscript submissions:
26 September 2024

Message from the Guest Editors

Fractional calculus studies the generalization of the differentiation operator in the case where the order is permitted to be any real or complex number. Particularly, fractional derivatives are considered non-local operators because they provide the memory effect in temporary applications. The ability to describe the hereditary characteristics of a system and its memory is the most fundamental advantage of fractional calculus over integer calculus. If the fractional differential operator is introduced into a system, the system can produce new complex dynamic behaviors.

Complex systems are of great significance in practical applications such as encryption, secure communication, random sequence, key design, signal processing, and signal detection. As such, it would be significant and necessary to control and analyze the complexity of these systems.

This Special Issue aims to introduce and discuss new results and new methods related to fractional calculus applications, and new results for control and analysis of nonlinear complex systems.