fractal and fractional

IMPACT FACTOR 3.6

CITESCORE 4.6

an Open Access Journal by MDPI

Newly Developments in Fractional Laplacian: Numerical Methods and Inverse Problems

Guest Editors:

Dr. Zhao-peng Hao
Department of Mathematics, Purdue University, West Lafayette, United States

Dr. Rui Du
Department of mathematics, Southeast University, Nanjing 21189, China

Deadline for manuscript submissions:
closed (31 July 2023)

Message from the Guest Editors

During the past few decades, scientists have been exploring fractional calculus as a tool for developing more sophisticated but mathematically tractable models. The reason is that they can accurately describe complex physical phenomena, manifesting in long-range and nonlocal interactions, self-similar structures, sharp peaks, and memory effects. More and more people are accepting the fractional model as a promising remedy to the traditionally inaccurate integer-order model in many exciting applications. However, the efficient computation of this model on bounded domains is still challenging as highly accurate and efficient numerical methods are not yet available, which prevents its broader applications among the scientific and engineering community. This Special Issue will focus on recent developments in numerical methods, also welcomes the submission of PDE theory involving the new regularity results, and inverse fractional problems on model learning via optimal control and machine learning techniques.