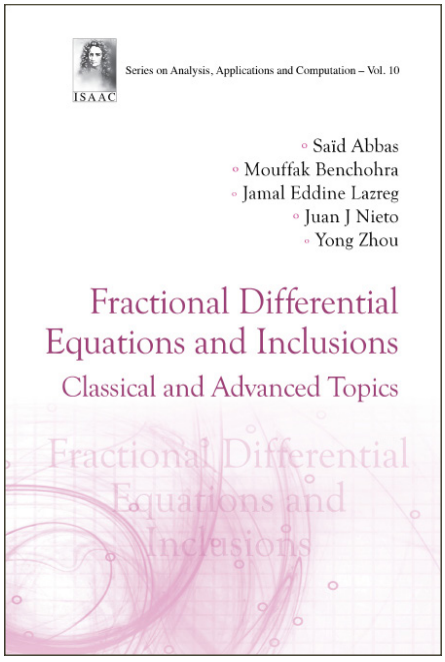
Fractional Differential Equations and Inclusions

Classical and Advanced Topics



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ABOUT THE BOOK

This monograph is devoted to the existence and stability (Ulam–Hyers–Rassias stability and asymptotic stability) of solutions for various classes of functional differential equations or inclusions involving the Hadamard or Hilfer fractional derivative. Some equations present delay which may be finite, infinite, or state-dependent. Others are subject to impulsive effect which may be fixed or non-instantaneous.

Readers will find the book self-contained and unified in presentation. It provides the necessary background material required to go further into the subject and explores the rich research literature in detail. Each chapter concludes with a section devoted to notes and bibliographical remarks and all abstract results are illustrated by examples. The tools used include many classical and modern nonlinear analysis methods such as fixed-point theorems, as well as some notions of Ulam stability, attractivity and the measure of non-compactness as well as the measure of weak noncompactness. It is useful for researchers and graduate students for research, seminars, and advanced graduate courses, in pure and applied mathematics, physics, mechanics, engineering, biology, and all other applied sciences.

READERSHIP

Researchers and graduate students for research, seminars, and advanced graduate courses, in pure and applied mathematics, physics, mechanics, engineering, biology, and other applied sciences.

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