Hindawi Publishing Corporation
Abstract and Applied Analysis
Volume 2013, Article ID 195429, 1 page
http://dx.doi.org/10.1155/2013/195429

Editorial

Advanced Theoretical and Applied Studies of Fractional Differential Equations

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Received 7 March 2013; Accepted 7 March 2013

Fractional calculus (fractional derivatives and fractional integrals together with their applications) is undergoing a rapid development, from both theoretical as well as applied viewpoints. Such a tool is an emergent topic, and within its framework new concepts and applications, which lead to a challenging insight, have appeared during the last few decades.

It may be the nonlocal property of fractional operators that could have motivated the rising of numerous new and important applications in many branches of applied sciences and engineering. Among other applications, modeling of the dynamics of processes through complex media using fractional calculus is an important one and has significantly contributed to the popularity of the subject.

Therefore, the goal of this special issue was focused on related topics with high current interest, both from theoretical and practical points of view.

We received 70 manuscripts and only 35 highest quality papers were accepted from the areas of mathematics, physics, engineering, biology, and other fields. This special issue contains the research papers on the existence theory of initial and boundary value problems of fractional order, numerical solutions of fractional differential equations, and modeling of real-world problems using fractional calculus.

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