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Advances on Integrodifferential Equations and Transforms

H.M. Srivastava, Xiao-Jun Yang, Dumitru Baleanu, Juan J. Nieto, & Jordan Hristov
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Editorial

Advances on Integro-differential Equations and Transforms

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It is indeed a fairly common practice for scientific research journals and scientific research periodicals to publish special issues as well as conference proceedings. Quite frequently, these special issues are devoted exclusively to specific topics and/or are dedicated respectfully to commemorate the celebrated works of renowned research scientists. This special issue is an outcome of the ongoing importance and popularity of such topics as the theory and applications of various families of differential, integral, and integro-differential equations as well as their *fractional* counterparts and associated integral and other transformations. We choose here to summarize most (if not all) of the main investigations which are contained in *this* special issue.

To begin with, C. Bianca et al. have investigated the existence problems for a partial integro-differential equation with thermostat and time delay. Several Krasnoselskii type hybrid fixed point theorems together with their applications involving fractional integral equations are presented in the work by H. M. Srivastava et al. N. Wan et al. have studied the stabilized discretization in spline element method for solutions of some two-dimensional Navier-Stokes problems. Algorithmic investigation for a system of integral equations has been presented by Abdujabar Rasulov, Adem Kilicman, Zainidin Eshkuvatov, and Gulnora Raimova. I. Area et al. have derived fractional derivatives and primitives of several periodic functions. Applications of a local fractional functional method in solving diffusion equations on Cantor sets are discussed by Y. Cao et al. A study of higher-order sequential

fractional differential inclusions with nonlocal three-point boundary conditions is presented by B. Ahmad and S. K. Ntouyas. D. Liu et al. have considered the Gerber-Shiu expected penalty function for the risk model with dependence and a constant dividend barrier. Some generalizations of convex functions on fractal sets are given by H. Mo and X. Sui. H. Guo et al. have successfully applied a Jacobi-collocation method for the second kind Volterra integral equations with a smooth kernel. Solutions of initial-boundary value problems for local fractional differential equation by means of local fractional Fourier series method are presented by Y. Zhang. X.-F. Niu et al., on the other hand, have studied some local fractional derivative boundary value problems for the Tricomi equation arising in fractal transonic flow. Existence of solutions for fractional q -integrodifference equations with nonlocal fractional q -integral conditions is discussed by S. Asawasamrit et al. Further generalizations of the celebrated Hölder's inequality and related results on fractal space are presented by G.-S. Chen et al. Q. M. Ul Hassan et al. introduce and study an analytical technique for finding solutions for higher-order nonlinear fractional evolution equations. Applications of some expansion techniques for solving the time-fractional modified Camassa-Holm (MCH) equation are discussed by M. Shakeel et al. N. K. Ashirbayev et al. consider the problem of solvability of an integral equation of Volterra-Wiener-Hopf type. Exact solutions of some nonlinear wave equations by the exp-function method are derived by M. Hu et al. E. Malkawi and D. Baleanu have

investigated some fractional Killing-Yano tensors and Killing vectors using the Caputo (or, more accurately, the Liouville-Caputo) derivative in one- and two-dimensional curved space.

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