



ICPAS-2016

2nd International Conference on Pure & Applied
Sciences 01-05 June 2016

PROCEEDINGS

Editors

Prof. Mahmoud Abdel-Aty

Zewail City of Science and Technology, Egypt

Prof. Mustafa Bayram

Uskudar University

Assoc. Prof. Aydin Secer

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Conformable Fractional Reduced Differential Transform Method for PDEs

Muammer Ayata

Department Of Mathematics, Science Faculty, Selcuk University, Konya 42003, Turkey
E-mail: m.ayata@selcuk.edu.tr

Omer Firat

*Department Of Mathematics, Faculty Of Arts And Science, Kilis 7 Aralik University,
Kilis, Turkey*
E-mail: ofirat27@gmail.com

Omer Acan

Department Of Mathematics, Faculty Of Arts And Science, Siirt University, Siirt, Turkey
E-mail: omeracan@yahoo.com

Yildiray Keskin

Department of Mathematics, Science Faculty, Selcuk University, Konya 42003, Turkey
E-mail: yildiraykeskin@yahoo.com

Abstract: In this presentation we introduce conformable fractional reduced differential transform method (CFRDTM). This method is a new version of known reduced differential transformation method (RDTM) based on conformable fractional derivative to solve linear and nonlinear fractional partial differential equations (PDEs). First, some basic definitions and theorems of CFRDTM are presented. Second, the general algorithm for this method to solve linear and nonlinear fractional PDEs is given. And then to better understand, the presented new method is supported by two numerical examples. Finally, the results obtained are illustrated by the aid of graphics and the tables. The applications show that this new technique CFRDTM is reliable and introduces a significant improvement in solving linear and nonlinear fractional PDEs.

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Approached sentinels for the parabolic problems

Segeueni Fouzia

Mathematics Departement. Faculty of science, Ahmed benbella University, Algeria
E-mail: fouzia.segueni@yahoo.fr

Abstract: Modelling ecological and environmental problems gives to the study of mathematical diffusion systems with missing data. In the article we solve the parameter identification problem of the pollution terms in dissipative systems with incomplete initial condition. To this aim the so-called sentinel method of J.-L. Lions of the 1990s is used instead of the least-square classical one. The problem of existence of approximate sentinel is equivalent to a null-controllability problem not trivial.