



International Congress on Fundamental and Applied Sciences

22-26 August 2016 Istanbul-Turkey

ICFAS2016

Book of Abstracts

icfas2016.yildiz.edu.tr

ICFAS2016 Committees

Conference Chairman

Muhammet Kurulay, Yildiz Technical University

Scientific Committee

Abdelouahab Kadem, University of Setif
Abdul Halim Shaari, University Putra Malaysia
Adem C. Cevikel, Yildiz Technical University
Adem Kilicman, University Putra Malaysia
Ahmet Altindal, Yildiz Technical University
Ahmet Bekir, Osman Gazi University
Alaattin Esen, Inonu University
Ali Erdogmus, Yildiz Technical University
Allaberen Ashyralyev, ITTU, Turkmenistan
Barbaros Akkurt, Istanbul Technical University
Barbaros Nalbantoğlu, Yildiz Technical University
Bayram Ali İbrahimoglu, Mathematics, Yildiz Technical University
Doğan Kaya, Istanbul Commerce University
Emre Kolotoglu, Yildiz Technical University
Erol Kam, Yildiz Technical University
Fatih Demirkale, Yildiz Technical University
Fudziah Ismail, University Putra Malaysia
Habshah Midi, University Putra Malaysia
Halimah Mohamed Kamari, University Putra Malaysia
Hj. Mohd Basyaruddin Abdul Rahman, University Putra Malaysia
Hj. Sidek Hj. Abd Aziz, University Putra Malaysia
Ibrahim Demir, Yildiz Technical University
Ismail Kocacaliskan, Yildiz Technical University
Intan Safinar Ismail, University Putra Malaysia
Japar Sidik Bujang, University Putra Malaysia
Kadriye Simsek Alan, Yildiz Technical University
Kemal Ozdogan, Yildiz Technical University
Khalid Jbilou, LMPA
Khozirah Shaari, University Putra Malaysia
Leong Wah June, University Putra Malaysia
Lim Kean Pah, University Putra Malaysia
Mashitah Shikh Maidin, University Putra Malaysia
Maslina Darus, University Kebangsaan Malaysia
Masood Khalique, North-West University
Muhammet Arıcı, Yildiz Technical University
M. Ali Akinlar, Yildiz Technical University
M. Arif Kaya, Yalova University
M. Kasım Sener, Yildiz Technical University
M. Zeki Durak, Yildiz Technical University
Mert Bal, Yildiz Technical University
Metin Tulu, Yildiz Technical University
Muhammed Uludag, Galatasaray University

Murat Osmanoglu, Yildiz Technical University
Mustafa Inc, Firat University
Muttalip Ozavsar, Yildiz Technical University
Norazak Senu, University Putra Malaysia
Omer Akin, TOBB University of Economy & TEchnology
Omer Altun, University Putra Malaysia
Osman Sagdic, Yildiz Technical University
Ozgur Yildirim, Mathematics, Yildiz Technical University
Ozkan Guner, Çankırı Karatekin University
Tulin Arasoglu, Yildiz Technical University
Semiha Erisen, Yildiz Technical University
Senay Vural Korkut, Yildiz Technical University
Sezgin Celik, Yildiz Technical University
Shahrizim Zulkifly, University Putra Malaysia
Ugur Erkan, Gaziosmanpasa University
Umi Kalsom Yusuf, University Putra Malaysia
Vedat Siap, Yildiz Technical University
Vishnu Narayan Mishra, Sardar Vallabhbhai National Institute of Technology
Yılmaz Kaya, Ondokuz Mayıs University
Zainal Abidin Talib, University Putra Malaysia
Zulkifly Abbas, University Putra Malaysia
Wan Md Zin Wan Yunus, National Defence University of Malaysia

Organizing Committee

Ali Erdogmus, Yildiz Technical University
Arife Aysun Karaaslan, Işık University
Aysegul Bayram, Yildiz Technical University
Elif Segah Oztas, Yildiz Technical University
Erhan Cene, Yildiz Technical University
Erol Kam, Yildiz Technical University
Ismail Aydoğdu, Yildiz Technical University
Ismail Kocacaliskan, Yildiz Technical University
M. Fatih Karaaslan, Yildiz Technical University
Meltem Uzun, Yildiz Technical University
Mirsad Yesiltepe, Yildiz Technical University
Semiha Erisen, Yildiz Technical University
Sumeyra Elmaci, Yildiz Technical University
Vedat Siap, Yildiz Technical University
Yaprak Guldoğan, Yildiz Technical University
Yasin Ucan, Yildiz Technical University

Sponsors

Arbella Makarna
Çobanpınar Su
Güngören Belediyesi
Kurukahveci Mehmet Efendi
Turkish Airlines

ID–ICFAS2016: 1277

New type of variational iteration method for fractional differential equations

OMER FIRAT¹, MUAMMER AYATA², OMER ACAN³, AND GALIP OTURANC⁴

¹*Department of Mathematics, Faculty of Arts and Science, Kilis 7 Aralik University, Kilis, Turkey,
ofirat27@gmail.com*

²*Department of Mathematics, Science Faculty, Selcuk University, Konya, Turkey,
m.ayata@selcuk.edu.tr*

³*Department of Mathematics, Faculty of Arts and Science, Siirt University, Siirt, Turkey,
omeracan@yahoo.com*

⁴*Department of Mathematics, Science Faculty, Selcuk University, Konya, Turkey,
goturanc@selcuk.edu.tr*

Abstract

In this presentation, we define new version type of variational iteration method (C–VIM) based on the newly defined fractional derivative called conformable fractional derivative. Then this method applied to non-linear fractional order ordinary differential equations (FODEs). Solutions by using C–VIM will compare with classical variational iteration (VIM) and some other numerical methods. Finally, solutions are illustrated by graphics and tables to show the efficiency of the new technique.

Keywords : Fractional derivative, Conformable derivative, Variational iterative method, Fractional order ODEs

General area of research : Mathematics