



ISSN: 1749-3889 (print)
1749-3897 (online)

Bimonthly

Vol.22 (2016) No. 2
October

England, UK
www.NonlinearScience.org.uk
www.InterNonlinearScience.org

International Journal of **Nonlinear Science**

Edited by *International Committee for Nonlinear Science, WAU*
Published by *World Academic Union (World Academic Press)*

Academic House, 113 Mill Lane, Wavertree Technology Park, Liverpool, L13 4AH, UK
[www. World Academic Union .com](http://www.WorldAcademicUnion.com); www. World Academic Press .com

CONTENTS

67 Pricing of an Option with the Aid of Lie Symmetry Methods
Anupma Bansal, Meenakshi Mittal

73 Analysis of the Optimal Growth Path Based on Environment and Energy Resources
Huanhuan Zhu, Honglin Yang

80 Evolution of National Status in the International Oil Trade: A Complex Network Analysis
Mei Sun, Peng Wu, Cuixia Gao

86 Multistep Methods for System of Nonlinear Volterra Integral Equations of the First Kind
S. M. Torabi, A. Tari

93 A Matrix Inverse Pair and Elliptic Hypergeometric Summations
Taoyan Zhao, Xiaoyan Deng

100 Potential Benefit of U.S. Strategic Petroleum Reserve: A Dynamic Estimation
Yang Bai, Fanyi Meng

109 MHD Free Convection Flow through a Porous Medium Bounded by an Infinite Vertical Plate with Constant Heat Flux
Anuj Jhankal

113 Innovation Risk Propagation Model in Industrial Cluster with Time Lag
Jingjing Yao, Liang Jiang, Yusheng Kong

118 Exact Traveling Wave Solutions and Conservation Laws of (2+1) Dimensional Konopelchenko-Dubrovsky System
Emrullah Yasar , Ilker Burak Giresunlu

Copyright © World Academic Union (World Academic Press)

International Journal of Nonlinear Science (IJNS)

Bibliographic

ISSN: 1749-3889 (print), 1749-3897 (online), *Bimonthly*

Edited by International Editorial Committee of Nonlinear Science, WAU

Published by World Academic Union (World Academic Press)

Publisher Contact: Academic House, 113 Mill Lane

Wavertree Technology Park, Liverpool L13 4AH, England, UK

Email: publishing@wau.org.uk, publishing@WorldAcademicUnion.com

URL: **www. World Academic Union .com**

Contribution enquiries and submitting

Paper(s) should be submitted through the online system. To submit papers, please visit

www.NonlinearScience.org.uk

www.InterNonlinearScience.org

Editorial Board

Editor in Chief: *Boling Guo*, Institute of Applied Physics and Computational Mathematics, Beijing, 100088, China;
IJNS@ujs.edu.cn

Co-Editor in Chief: *Lixin Tian*, Nonlinear Scientific Research Center, Jiangsu University, Zhenjiang, Jiangsu, 212013;
China; tianlx@ujs.edu.cn, IJNS@ujs.edu.cn

Standing Members of Editorial Board:

Ghasem Alizahdeh Afrouzi, Department of Mathematics,
Faculty of Basic Sciences, Mazandaran University,
Babolsar, Iran; afrouzi@umz.ac.ir

Stephen Anco, Department of Mathematics, Brock
University, 500 Glenridge Avenue St. Catharines, ON
L2S 3A1, Canada ;sanco@brocku.ca

Adrian Constantin, Department of Mathematics, Lund
University, 22100 Lund, adrian@maths.lth.se
Sweden; adrian.constantin@math.lu.se ,

Ying Fan, Department of Management Science,
Institute of Policy and Management, Chinese
Academy of Sciences, Beijing 100080, China,
yfan@casipm.ac.cn.

Juergen Garloff, University of Applied Sciences/ HTWG
Konstanz, Faculty of Computer Science, Postfach
100543, D-78405 Konstanz, Germany;
garloff@htwg-konstanz.de

Tasawar Hayat, Department of mathematics, Quaid-I-
Azam University, Pakistan, pensy_t@yahoo.com

Yong Jiang, William Lee Innovation Center, University of
Manchester, Manchester, M60 1QD UK;
jianguk@hotmail.com

Zhujun Jing, Institute of Mathematics, Academy of
Mathematics and Systems Sciences, Chinese
Academy of Science, Beijing, 100080,
China; jingzj@math03.math.ac.cn

Yue Liu, Department of Mathematics, University of Texas,
Arlington, TX 76019, USA; yliu@uta.edu

Zengrong Liu, Department of Mathematics, Shanghai
University, Shanghai, 201800,
China; Zrongliu@online.sh.cn

Norio Okada, Disaster Prevention Research Institute,
Kyoto University , n_okada@drs.dpri.kyoto-u.ac.jp

Jacques Peyriere, Université Paris-Sud, Mathématiques,
bât. 42591405 ORSAY Cedex , France;

Jacques.Peyriere@free.fr,

Jacques.Peyriere@math.u-psud.fr

Weiyi Su, Department of Mathematics, Nanjing
University, Nanjing, Jiangsu, 210093,
China; suqiu@nju.edu.cn

Konstantina Trivisa, Department of Mathematics,
University of Maryland College Park, MD20472-
4015, USA; trivisa@math.umd.edu

Yaguang Wang, Department of Mathematics, Shanghai
Jiao Tong University, Shanghai, 200240, China;
ygwang@sjtu.edu.cn

Yiming Wei, Institute of Policy and management,
Chinese Academy of Science, Beijing, 100080,
China; ymwei@mail.casipm.ac.cn

Zhiying Wen, Department of Mathematics, Tsinghua
University, Beijing, 100084, China;
wenzy@mail.tsinghua.edu.cn

Lifeng Xi, Institute of Mathematics, Zhejiang Wanli
University, Ningbo 315100, China;
xilf@zwwu.edu.cn

Zhenyuan Xu, Faculty of Science, Southern Yangtze
University, Wuxi , Jiangsu 214063 ,
China; Xu_zhenyuan@yahoo.com

Huicheng Yin, Department of Mathematics, Nanjing
University, Nanjing, Jiangsu, 210093, China;
huicheng@nju.edu.cn

Pingwen Zhang, School of Mathematic Sciences, Peking
University, Beijing, 100871, China;
pzhang@pku.edu.cn

Secretary: Xuedi Wang, Xinghua Fan

Editorial office:

Academic House, 113 Mill Lane
Wavertree Technology Park
Liverpool L13 4AH, England, UK

Email:

china@nonlinearscience.org.uk

IJNS@ujs.edu.cn

editor@nonlinearscience.org.uk