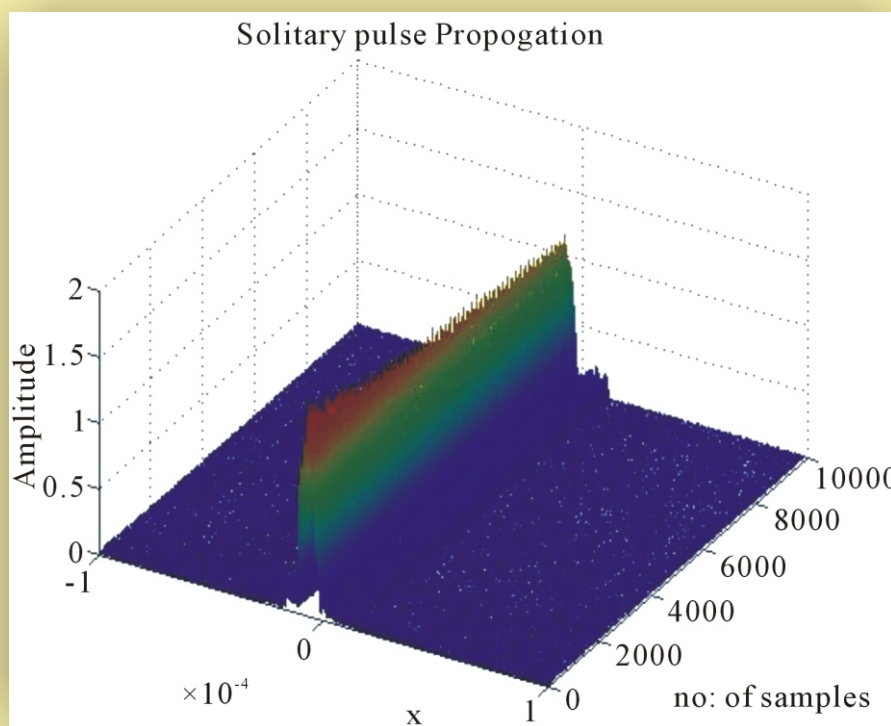




International Journal of Modern Nonlinear Theory and Application



ISSN: 2167-9479



Journal Editorial Board

ISSN: 2167-9479 (Print) ISSN: 2167-9487 (Online)

<http://www.scirp.org/journal/ijmmta>

Editor-in-Chief

Prof. Ahmad M. Harb

German Jordanian University, Jordan

Editorial Board

Prof. Nabil M. Abdel-Jabbar

American University of Sharjah, UAE

Dr. Eihab M. Abdel-Rahman

University of Waterloo, Canada

Prof. Ahmad Al-Qaisia

University of Jordan, Jordan

Prof. Jan Awrejcewicz

The Technical University of Lodz, Poland

Prof. Nabil Ayoub

German Jordanian University, Jordan

Prof. Cristian S. Calude

The University of Auckland, New Zealand

Prof. Seonho Cho

Seoul National University, South Korea

Prof. Prabir Daripa

Texas A&M University, USA

Prof. Bruce Henry

The University of New South Wales, Australia

Dr. Boon Leong Lan

Monash University, Australia

Prof. Hongyi Li

Bohai University, China

Dr. C. W. Lim

City University of Hong Kong, Hong Kong (China)

Prof. Gamal M. Mahmoud

Assiut University, Egypt

Prof. Lamine Mili

Virginia Polytechnic Institute and State University, USA

Prof. Zuhair Nashed

University of Central Florida, USA

Prof. Antonio Palacios

San Diego State University, USA

Dr. Samir M. Shariff

Taibah University, Saudi Arabia

Prof. Guo-Wei Wei

Michigan State University, USA

Prof. Pei Yu

University of Western Ontario, Canada

TABLE OF CONTENTS

Volume 1 Number 4

December 2012

Size Exclusion Mechanism, Suspension Flow through Porous Medium

H. Fallah, A. Fallah, A. Rahmani, M. Afkhami, A. Ahmadi.....113

Deriving the Exact Percentage of Dark Energy Using a Transfinite Version of Nottale's Scale Relativity

M. S. El Naschie, L. Marek-Crnjac.....118

Stability Behavior of the Zero Solution for Nonlinear Damped Vectorial Second Order Differential Equation

M. A. Ramadan, S. M. El-Kholy.....125

Modeling of Complex Solitary Waveforms for Micro-Width Doped ZnO Waveguides

R. E. Mohan, M. Sivakumar, K. S. Sreelatha.....130

The figure on the front cover is from the article published in *International Journal of Modern Nonlinear Theory and Application*, 2012, Vol. 1, No. 4, pp. 130-134 by Rosmin Elsa Mohan, M. Sivakumar and K. S. Sreelatha.

International Journal of Modern Nonlinear Theory and Application (IJMNTA)

Journal Information

SUBSCRIPTIONS

The *International Journal of Modern Nonlinear Theory and Application* (Online at Scientific Research Publishing, www.SciRP.org) is published quarterly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$39 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements

Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: sub@scirp.org

COPYRIGHT

Copyright©2012 Scientific Research Publishing, Inc.

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as described below, without the permission in writing of the Publisher.

Copying of articles is not permitted except for personal and internal use, to the extent permitted by national copyright law, or under the terms of a license issued by the national Reproduction Rights Organization.

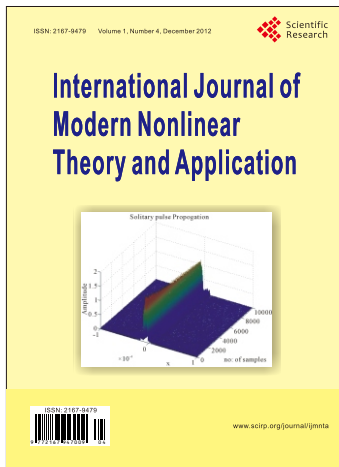
Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: ijmnta@scirp.org



International Journal of Modern Nonlinear Theory and Application

ISSN: 2167-9479 (Print) ISSN: 2167-9487 (Online)
<http://www.scirp.org/journal/ijmnta>

International Journal of Modern Nonlinear Theory and Application (IJMNTA) is an international peer-reviewed journal dedicated to publishing original papers on all topics related to nonlinear dynamics and its applications such as, electrical, mechanical, civil, and chemical systems and so on. The contributions concerned will be discussion of a practical problem, the formulating nonlinear model, and determination of closed form exact or numerical solutions.

Editor-in-Chief

Prof. Ahmad M. Harb

German Jordanian University, Jordan

Editorial Board

Prof. Nabil M. Abdel-Jabbar
Dr. Eihab M. Abdel-Rahman
Prof. Ahmad Al-Qaisia
Prof. Jan Awrejcewicz
Prof. Nabil Ayoub
Prof. Cristian S. Calude
Prof. Seonho Cho
Prof. Prabir Daripa
Prof. Bruce Henry
Dr. Boon Leong Lan

Prof. Hongyi Li
Dr. C. W. Lim
Prof. Gamal M. Mahmoud
Prof. Lamine Mili
Prof. Zuhair Nashed
Prof. Antonio Palacios
Dr. Samir M. Shariff
Prof. Guo-Wei Wei
Prof. Pei Yu

Subject Coverage

This journal invites original papers and review papers that address the following issues in modern nonlinear Theory and its applications. The interested topics that may be covered, but not limited to:

- Application of Modern Nonlinear Theory in:
 - Biology
 - Business
 - Chemical systems
 - Electrical and power systems
 - Fluid mechanics
 - Mechanical systems
 - Medicine
 - Physics
- Applied mechanics
- Bifurcation and Chaos
- Chaos control
- Classic control systems
- Electrical drives and power electronics
- Fractal order systems
- High dimensional chaos and applications
- Intelligent control systems (Fuzzy, Neural, Genetic...)
- Nonlinear control
- Nonlinear differential equations and applications
- Nonlinear dynamic stability
- Nonlinear dynamics
- Nonlinear mathematical physics
- Nonlinear optical physics & materials
- Nonlinear oscillations
- Nonlinear phenomena
- Nonlinear science and numerical simulation
- Power systems and energy
- Security in communication systems

We are also interested in: 1) Short Reports—2-5 page papers where an author can either present an idea with theoretical background but has not yet completed the research needed for a complete paper or preliminary data; 2) Book Reviews—Comments and critiques.

Notes for Intending Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. For more details about the submission, please access the website.

Website and E-Mail

<http://www.scirp.org/journal/ijmnta>

E-mail: ijmnta@scirp.org

TABLE OF CONTENTS

Volume 1 Number 4

December 2012

Size Exclusion Mechanism, Suspension Flow through Porous Medium H. Fallah, A. Fallah, A. Rahmani, M. Afkhami, A. Ahmadi.....	113
Deriving the Exact Percentage of Dark Energy Using a Transfinite Version of Nottale's Scale Relativity M. S. El Naschie, L. Marek-Crnjac.....	118
Stability Behavior of the Zero Solution for Nonlinear Damped Vectorial Second Order Differential Equation M. A. Ramadan, S. M. El-Kholy.....	125
Modeling of Complex Solitary Waveforms for Micro-Width Doped ZnO Waveguides R. E. Mohan, M. Sivakumar, K. S. Sreelatha.....	130