

International Journal of Modern Nonlinear Theory and Application





www.scirp.org/journal/ijmnta

Journal Editorial Board

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

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 Texas A&M University, USA Prof. Prabir Daripa 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, 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

International Journal of Modern Nonlinear Theory and Application, 2013, 2, 107-151 Published Online June 2013 in SciRes (http://www.scirp.org/journal/ijmnta/)



TABLE OF CONTENTS

Volume 2 Number 2 June 2013 A Fractal Menger Sponge Space-Time Proposal to Reconcile Measurements and **Theoretical Predictions of Cosmic Dark Energy** Stability Solution of the Nonlinear Schrödinger Equation **On Integrability of Fully Rheonomous Affine Constraints** Pulse Soliton Solutions of the Modified KdV and Born-Infeld Equations Numerical Solution of Nonlinear Integro-Differential Equations with Initial Conditions by Bernstein Operational Matrix of Derivative Some Notes on the Paper "New Common Fixed Point Theorems for Maps on Cone Metric Spaces"

The figure on the front cover is from the article published in International Journal of Modern Nonlinear Theory and Application, 2013, Vol. 2, No. 2, pp. 107-121 by Mohamed S. El Naschie.

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©2013 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 assumes 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

Call for Papers





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

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

Subject Coverage

German Jordanian University, Jordan

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

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
- PhysicsApplied mechanics
- 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

What is SCIRP?

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science, by delivering superior scientific publications and scientific information solution provider that enable advancement in scientific research.

What is Open Access?

rt and Design

Advances in

Entomology

active Scier

ed Mathematic

Engineering

nilli i

in Agina

Idvances in Biologica

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, world-wide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

High visibility for maximum global exposure with open access publishing model
Rigorous peer review of research papers

- •Prompt faster publication with less cost
- •Guaranteed targeted, multidisciplinary audience



Soft

Website: http://www.scirp.org Subscription: sub@scirp.org Advertisement: service@scirp.org