JOURNAL EDITORIAL BOARD
ISSN 2327-4352 (Print) ISSN 2327-4379 (Online)
http://www.scirp.org/journal/jamp

Editor-in-Chief
Prof. Wen-Xiu Ma
University of South Florida, USA

Editorial Board (According to Alphabet)

Dr. Izhhar Ahmad
King Fahd University of Petroleum and Minerals, Saudi Arabia

Dr. S. Joseph Antony
University of Leeds, UK

Prof. Roberto Oscar Aquilano
Instituto de Física Rosario, Argentina

Prof. Ping-Hei Chen
National Taiwan University, Chinese Taipei

Prof. Wanyang Dai
Nanjing University, China

Dr. Steven B. Damelin
The American Mathematical Society, USA

Prof. Beih El-Sayed El-Desouky
Mansoura University, Egypt

Prof. Chaudry Masood Khalique
North-West University, South Africa

Dr. Ki Young Kim
Samsung Advanced Institute of Technology, South Korea

Prof. Xiang Li
Beijing University of Chemical Technology, China

Prof. Xing Lü
Beijing Jiaotong University, China

Dr. Jafar Fawzi Mansi AlOmari
Al-Balqa’ Applied University, Jordan

Prof. Rosa Pardo
Complutense University of Madrid, Spain

Prof. Sanzheng Qiao
McMaster University, Canada

Dr. Daniele Ritelli
University of Bologna, Italy

Dr. Babak Daneshvar Rouyendeh
Atılım University, Turkey

Prof. Morteza Seddighin
Indiana University East, USA

Dr. Marco Spadini
University of Florence, Italy

Dr. Divine Tito Fongha Wanduku
Keiser University, USA

Prof. Ping Wang
Penn State University Schuylkill, USA
# Table of Contents

**Volume 3  Number 12  December 2015**

**Thermal Properties and Phonon Dispersion of Bi$_2$Te$_3$ and CsBi$_4$Te$_6$ from First-Principles Calculations**  
S. Li, C. Persson .................................................................................................................. 1563

**Analytical Treatment of the Evolutionary (1 + 1)-Dimensional Combined KdV-mKdV Equation via the Novel (G'/G)-Expansion Method**  
Md. N. Alam, F. B. M. Belgacem, M. A. Akbar ........................................................................... 1571

**Mixed Convection MHD Flow of a Casson Nanofluid over a Nonlinear Permeable Stretching Sheet with Viscous Dissipation**  
P. Besthapu, S. Bandari ........................................................................................................ 1580

**The 4-Acyclic Edge Coloring of Graphs with Large Girths**  
Y. W. Wu, Y. Xia .................................................................................................................. 1594

**Filtering Function Method for the Cauchy Problem of a Semi-Linear Elliptic Equation**  
H. W. Zhang, X. J. Zhang ..................................................................................................... 1599

**Semi-Conducting Behavior of Plio-Quaternary Basaltic Lava Flows from Hemat Madam Volcano, Sana’a-Amran Volcanic Field, Yemen**  
M. R. Eraky, M. Th. S. Heikal ............................................................................................... 1610

**Sums of Squares of Fibonacci Numbers with Prime Indices**  
A. Gnanam, B. Anitha ........................................................................................................... 1619

**The New Infinite Sequence Complexion Solutions of a Kind of Nonlinear Evolutionary Equations**  
L. Yi, J. D. Bao, Taogetusang ............................................................................................... 1624

**Natural Transform for Solving Fractional Models**  
A. S. Abdel-Rady, S. Z. Rida, A. A. M. Arafa, H. R. Abedl-Rahim ......................................... 1633

**Option Pricing with Stochastic Volatility**  
R. Giandomenico ................................................................................................................ 1645

**Anomalous Viscosity of Vortex Hall States in Graphene**  
R. Musah, S. Y. Mensah, I. Y. Seini, S. S. Abukari ................................................................ 1654

**Shape Identification for Stokes-Oseen Problem Based on Domain Derivative Method**  
W. J. Yan, J. Y. Hou ............................................................................................................. 1662

**Electron Ionization Cross Sections of PF$_3$ Molecule**  
R. Kumar ............................................................................................................................. 1671
The Nonideality Coefficient of Current-Voltage Characteristics for Asymmetric p-n-Junctions in a Microwave Field
G. Gulyamov, M. G. Dadamirzaev, H. Y. Mavlyanov

Active and Capacitive Conductance of the Diode in a Strong Microwave Field
M. G. Dadamirzaev

Numerical Solution of MHD Convection and Mass Transfer Flow of Viscous Incompressible Fluid about an Inclined Plate with Hall Current and Constant Heat Flux
M. Wahiduzzaman, R. Biswas, Md. E. Ali, Md. S. Khan, I. Karim

Viscous and Joules Dissipation on MHD Flow past a Stretching Porous Surface Embedded in a Porous Medium
Md. S. Uddin

General Theory of Antithetic Time Series
P. Ngnepieba, D. Ridley

The figure on the front cover is from the article published in Journal of Applied Mathematics and Physics, 2015, Vol. 3, No. 12, pp. 1563-1570 by Shen Li and Clas Persson.
Journal of Applied Mathematics and Physics (JAMP)

Journal Information

SUBSCRIPTIONS


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)
E-mail: sub@scirp.org

COPYRIGHT

COPYRIGHT AND REUSE RIGHTS FOR THE FRONT MATTER OF THE JOURNAL:
Copyright © 2015 by Scientific Research Publishing Inc.
This work is licensed under the Creative Commons Attribution International License (CC BY).
http://creativecommons.org/licenses/by/4.0/

COPYRIGHT FOR INDIVIDUAL PAPERS OF THE JOURNAL:
Copyright © 2015 by author(s) and Scientific Research Publishing Inc.

REUSE RIGHTS FOR INDIVIDUAL PAPERS:
Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

DISCLAIMER OF LIABILITY
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: jamp@scirp.org
Journal of Applied Mathematics and Physics is an international journal dedicated to the latest advancement of applied mathematics and physics. The goal of this journal is to provide a platform for researchers and scientists all over the world to promote, share, and discuss various new issues and developments in different areas of applied mathematics and physics. We aim to publish high quality research articles in terms of originality, depth and relevance of content, and particularly welcome contributions of interdisciplinary research on applied mathematics, physics and engineering.

**Subject Coverage**

The journal publishes original papers including but not limited to the following fields:

- Applications of Systems
- Applied Mathematics
- Applied Non-Linear Physics
- Applied Optics
- Applied Solid State Physics
- Biophysics
- Computational Physics
- Condensed Matter Physics
- Control Theory
- Cryptography
- Differentiable Dynamical Systems
- Engineering and Industrial Physics
- Experimental Mathematics
- Fluid Mechanics
- Fuzzy Optimization
- Geophysics
- Integrable Systems
- Laser Physics
- Methodological Advances
- Multi-Objective Optimization
- Nanoscale Physics
- Nonlinear Partial Differential Equations
- Non-Linear Physics
- Nuclear Physics
- Numerical Computation
- Optical Physics
- Portfolio Selection
- Riemannian Manifolds
- Scientific Computing
- Set-Valued Analysis
- Soliton Theory
- Space Physics
- Symbolic Computation
- Topological Dynamic Systems
- Variational Inequality
- Vector Optimization

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**

The journal publishes the highest quality original full articles, communications, notes, reviews, special issues and books, covering both the experimental and theoretical aspects including but not limited to the above materials, techniques and studies. Papers are acceptable provided they report important findings, novel insights or useful techniques within the scope of the journal. All manuscripts must be prepared in English, and are subjected to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by prints in hard copy.

**Website and E-Mail**

http://www.scirp.org/journal/jamp E-mail: jmp@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 with its publication.

What is Open Access?
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, worldwide, 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

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