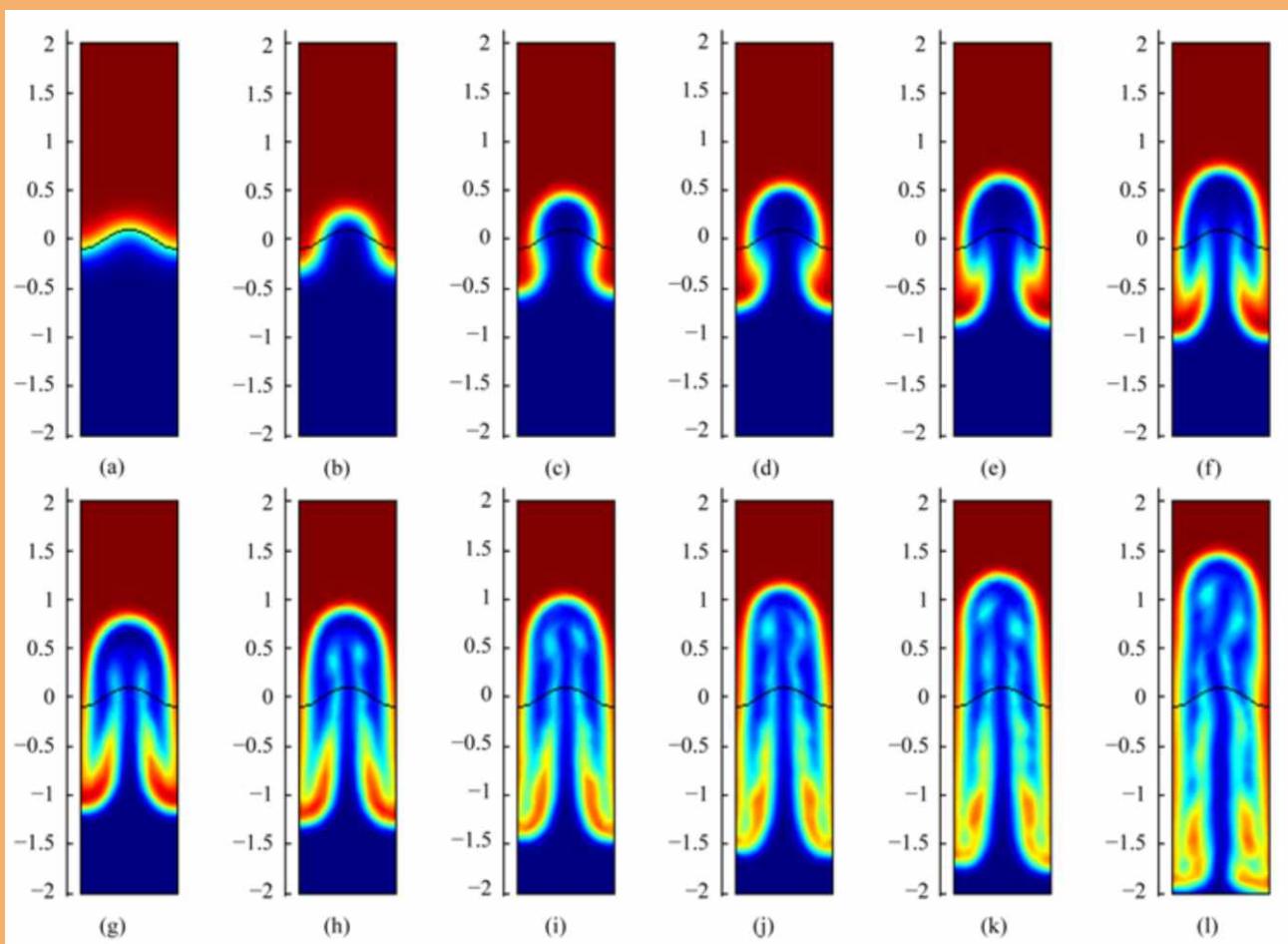


# Advances in Pure Mathematics



# Journal Editorial Board

ISSN 2160-0368 (Print) ISSN 2160-0384 (Online)

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

## Editor-in-Chief

**Prof. Dexing Kong**

Zhejiang University, China

## Editorial Board

**Dr. Taher S. H. Abdelmonem**

Mansoura University, Egypt

**Dr. Adel Ahmed Attiya**

University of Mansoura, Egypt

**Prof. Józef Banaś**

Bronislaw Markiewicz State School of Higher

Vocational Education in Jarosław, Poland

**Prof. Constantin Buse**

West University of Timisoara, Romania

**Prof. Sumit Chandok**

Punjab Technical University, India

**Prof. Muhammad A. Chaudhry**

King Fahd University of Petroleum and Minerals, Saudi Arabia

**Prof. Leo Depuydt**

Brown University, USA

**Prof. Dragan S. Djordjević**

University of Nis, Serbia

**Prof. Ahmed M. A. El-Sayed**

Alexandria University, Egypt

**Prof. Marisa Fernandez**

Universidad del País Vasco, Spain

**Dr. Flaminio Flamini**

University of Rome II, Italy

**Prof. Cristescu Gabriela**

Aurel Vlaicu University of Arad, Romania

**Prof. Hongya Gao**

Hebei University, China

**Prof. Aleksander Grytczuk**

University of Zielona Góra and Jan Paweł II Western, Poland

**Prof. Yuxia Guo**

Tsinghua University, China

**Dr. Sevdzhan Hakkaev**

University of Kansas, USA

**Dr. Chengchun Hao**

Chinese Academy of Sciences, China

**Prof. Tianxiao He**

Illinois Wesleyan University, USA

**Prof. Wei He**

Nanjing Normal University, China

**Prof. Tingzhu Huang**

University of Electronic Science & Technology of China, China

**Prof. Shuichi Izumiya**

Hokkaido University, Japan

**Prof. Toshitake Kohno**

The University of Tokyo, Japan

**Prof. Vichian Laohakosol**

Kasetsart University, Thailand

**Dr. Jingjing Ma**

University of Houston-Clear Lake, USA

**Prof. Elimhan N. Mahmudov**

Istanbul Technical University, Turkey

**Prof. Ming Mei**

McGill University, Canada

**Dr. M. T. Mustafa**

Qatar University, Qatar

**Prof. Rer. nat. Mara D. Neusel**

Texas Tech University, USA

**Dr. Marek Niezgoda**

University of Life Sciences in Lublin, Poland

**Prof. Jyotindra C. Prajapati**

Charotar University of Science and Technology, India

**Dr. Marius Rădulescu**

Institute of Mathematical Statistics and Applied Mathematics "Gheorghe Mihoc-Caius Iacob" of the Romanian Academy, Romania

**Prof. Jingli Ren**

Zhengzhou University, China

**Prof. Bayram Sahin**

Inonu University, Turkey

**Dr. Samir H. Saker**

Mansoura University, Egypt

**Dr. Bessem Samet**

Tunis College of Sciences and Techniques, Tunisia

**Dr. Yongli Song**

Tongji University, China

**Prof. Yeong-Jeu Sun**

I-Shou University, Chinese Taipei

**Dr. Néstor Thome**

Universidad Politécnica de Valencia, Spain

**Prof. Aydin Tiryaki**

Izmir University, Turkey

**Prof. Gabor Toth**

Eötvös Loránd University, Hungary

**Dr. Amitabha Tripathi**

Indian Institute of Technology, India

**Prof. Nodari Vakhania**

Georgian Academy of Sciences, Mexico

**Prof. Jose C. Valverde**

University of Castilla-La Mancha, Spain

**Prof. Qingwen Wang**

Shanghai University, China

**Dr. Yanjin Wang**

Institute of Applied Physics and Computational Mathematics, China

**Dr. Jasang Yoon**

The University of Texas-Pan American, USA

**Prof. Norio Yoshida**

University of Toyama, Japan

**Prof. Mohamed F. Yousif**

The Ohio State University, USA

**Dr. Shijun Zheng**

Georgia Southern University, USA

**Prof. Changjiang Zhu**

Huazhong Normal University, China

## Table of Contents

Volume 5 Number 5

April 2015

### Least-Squares Finite Element Method for the Steady Upper-Conveeted Maxwell Fluid

- S. L. Zhou, L. Hou..... 233

### The Harmonic Neutron Hypothesis: Prime Number Factor Patterns and Their Relationship to the Hierarchy of the Fundamental Particles and Bosons

- D. W. Chakeres, R. Vento..... 240

### A Characteristics-Mix Stabilized Finite Element Method for Variable Density Incompressible Navier-Stokes Equations

- F. Xiong, L. Q. Mei, Y. Li, W. Zhang..... 251

### Bell's Ternary Quadratic Forms and Tunnel's Congruent Number Criterion Revisited

- W. Hürlimann..... 267

### The Initial Boundary Value Problem for Modified Zakharov System

- L. Li, S. M. Fang..... 278

### Index- $p$ Abelianization Data of $p$ -Class Tower Groups

- D. C. Mayer..... 286

### On Simple Completely Reducible Binary-Lie Superalgebras over $\mathfrak{sl}_2(\mathbb{F})$

- M. Arenas..... 314

## **Advances in Pure Mathematics (APM)**

### **Journal Information**

#### **SUBSCRIPTIONS**

The *Advances in Pure Mathematics* (Online at Scientific Research Publishing, [www.ScirP.org](http://www.ScirP.org)) is published monthly by Scientific Research Publishing, Inc., USA.

#### **Subscription rates:**

Print: \$79 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: [sub@scirp.org](mailto:sub@scirp.org)

#### **SERVICES**

##### **Advertisements**

Advertisement Sales Department, E-mail: [service@scirp.org](mailto:service@scirp.org)

##### **Reprints (minimum quantity 100 copies)**

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

E-mail: [sub@scirp.org](mailto: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: [apm@scirp.org](mailto:apm@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



Scientific  
Research  
Publishing

Website: <http://www.scirp.org>

Subscription: sub@scirp.org

Advertisement: service@scirp.org