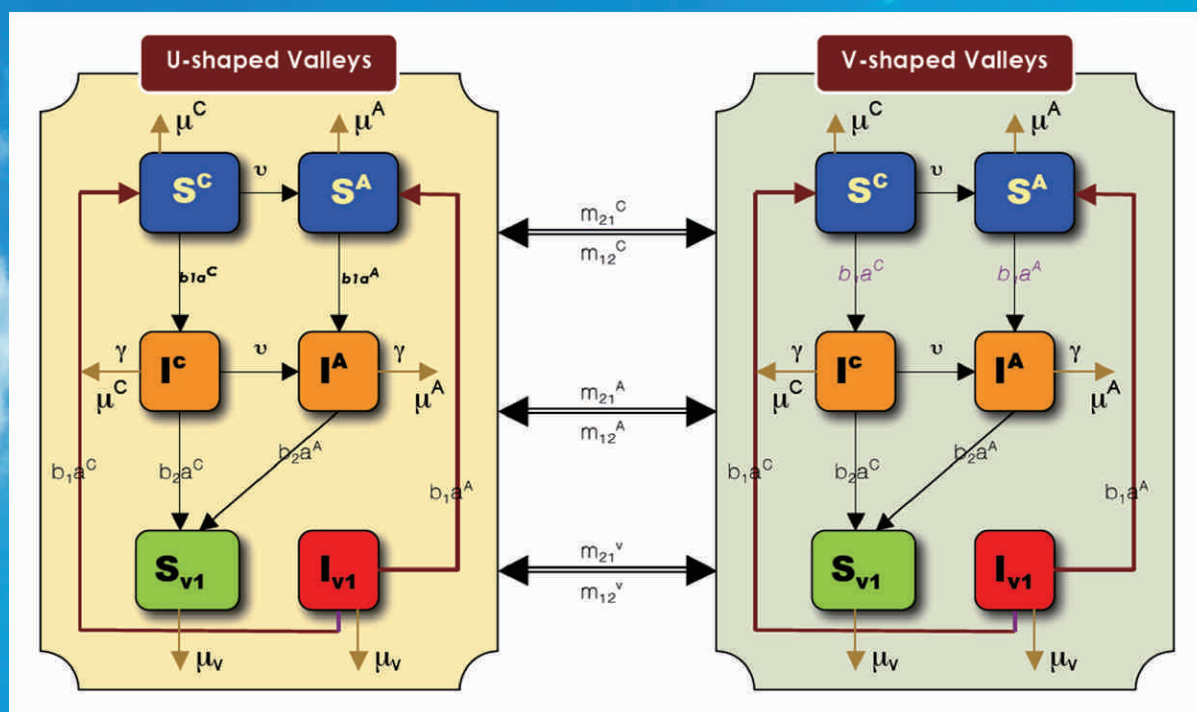


Applied Mathematics



ISSN: 2152-7385



Journal Editorial Board

ISSN Print: 2152-7385

ISSN Online: 2152-7393

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

Editor-in-Chief

Prof. Chris Cannings

University of Sheffield, UK

Editorial Board

Prof. Tamer Başar

University of Illinois at Urbana-Champaign, USA

Prof. Leva A. Beklaryan

Russian Academy of Sciences, Russia

Dr. Aziz Belmiloudi

Institut National des Sciences Appliquees de Rennes, France

Dr. Anjan Biswas

Delaware State University, USA

Prof. Mark Broom

City University, UK

Prof. Amares Chattopadhyay

Indian School of Mines, India

Prof. Badong Chen

Xi'an Jiaotong University, China

Prof. Ljubomir Ciric

University of Belgrade, Serbia

Prof. Jose Alberto Cuminato

University of Sao Paulo, Spain

Prof. Konstantin Dyakonov

University of Barcelona, Spain

Prof. Anwar H. Joarder

King Fahd University of Petroleum and Minerals, Saudi Arabia

Prof. Palle Jorgensen

University of Iowa, USA

Dr. Vladimir A. Kuznetsov

Bioinformatics Institute, Singapore

Prof. Kil Hyun Kwon

Korea Advanced Institute of Science and Technology, South Korea

Prof. Hong-Jian Lai

West Virginia University, USA

Dr. Goran Lesaja

Georgia Southern University, USA

Prof. Tao Luo

Georgetown University, USA

Prof. Addolorata Marasco

University of Naples Federico II, Italy

Prof. María A. Navascués

University of Zaragoza, Spain

Dr. Donatus C. D. Oguamanam

Ryerson University, Canada

Prof. Alexander S. Rabinowitch

Moscow State University, Russia

Prof. Yuriy V. Rogovchenko

University of Agder, Norway

Dr. Epaminondas Sidiropoulos

Aristotle University of Thessaloniki, Greece

Prof. Sergei Silvestrov

Mälardalen University, Sweden

Prof. Hari M. Srivastava

University of Victoria, Canada

Prof. Jacob Sturm

Rutgers University, USA

Prof. Mikhail Sumin

Nizhnii Novgorod State University, Russia

Table of Contents

Volume 5 Number 10

June 2014

A Global Stability Analysis of a Susceptible-Infected-Removed-Prevented- Controlled Epidemic Model

M. A. Yau, H. S. Ndakwo, A. M. Umar.....1393

Diophantine Equations and the Freeness of Möbius Groups

M. Gutan.....1400

Behavior of the Numerical Integration Error

T. Marinov, J. Omojola, Q. Washington, L. Banks.....1412

A New Correction Algorithm of the Eccentric Ultrasonovision Time Image in the Casing Hole

J. H. Tu, B. Yang.....1427

Application of Classification of Traveling Wave Solutions to the Zakhrov-Kuznetsov-Benjamin-Bona-Mahony Equation

L. Yang.....1432

Adomian Decomposition Method with Green's Function for Solving Tenth-Order Boundary Value Problems

W. Al-Hayani.....1437

Characterization of Self Dual Lattices in \mathbb{R} , \mathbb{R}^2 and \mathbb{R}^3

C. de Souza, D. W. Kammler.....1448

A New Modification of the Method of lines for First Order Hyperbolic PDEs

F. M. Alabdali, H. O. Bakodah.....1457

Application of Trial Equation Method for Solving the Getmanou Equation

L. Yang.....1463

Probability Theory Predicts That Chunking into Groups of Three or Four Items Increases the Short-Term Memory Capacity

M. Osaka.....1474

Modeling and Design of Real-Time Pricing Systems Based on Markov Decision Processes

K. Kobayashi, I. Maruta, K. Sakurama, S. Azuma.....1485

Optimal Dividend Problem for a Compound Poisson Risk Model

Y. Shen, C. C. Yin.....1496

A Pure Mathematical Relationship between Pitch and Position for Stringed Instruments

N. Yang, D. W. Zhang, Y. L. Tian.....1503

New Exact Traveling Wave Solutions for Some Coupled BBM Equations

Y. Zhao, Q. Xu.....1508

A Closed-Form Solution of a Kinetic Integral Equation for Rarefied Gas Flow in a Cylindrical Duct

C. H. Kamphorst, P. Rodrigues, L. B. Barichello.....1516

Harmonic Solutions of Duffing Equation with Singularity via Time Map

J. Xia, S. W. Zheng, B. H. Lv, C. H. Shan.....1528

Formulation of a Vector SIS Malaria Model in a Patchy Environment with Two Age Classes

J. Wairimu, S. Gauthier, W. Ogana.....1535

Approximate Solutions to the Discontinuous Riemann-Hilbert Problem of Elliptic Systems of First Order Complex Equations

G. C. Wen, Y. H. Zhang, D. C. Chen.....1546

Production Planning of a Failure-Prone Manufacturing/Remanufacturing System with Production-Dependent Failure Rates

A. F. Kouedeu, J.-P. Kenné, P. Dejax, V. Songmene, V. Polotski.....1557

A Family of Generalized Stirling Numbers of the First Kind

B. S. El-Desouky, N. A. El-Bedwehy, A. Mustafa, F. M. A. Menem.....1573

On q -Deformed Calculus in Quantum Geometry

O. S. Maliki, E. I. Ugwu.....1586

The Sign Test with Ties Included

J. B. Marshall.....1594

A Note on the Almost Sure Central Limit Theorem in the Joint Version for the Maxima and Partial Sums of certain Stationary Gaussian Sequences

Y. F. Wang, Q. Y. Wu.....1598

An Improved Algorithm for the Solution of Generalized Burger-Fishers Equation

M. O. Olayiwola.....1609

Particle Swarm Optimized Optimal Threshold Value Selection for Clustering based on Correlation Fractal Dimension

A. Yarlagadda, J. V. R. Murthy, M. H. M. Krishna Prasad.....1615

A Note on the Nullity of Unicyclic Graphs

S. B. Hu.....1623

Applied Mathematics (AM)

Journal Information

SUBSCRIPTIONS

The *Applied Mathematics* (Online at Scientific Research Publishing, www.SciRP.org) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$89 per copy.

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 AND REUSE RIGHTS FOR THE FRONT MATTER OF THE JOURNAL:

Copyright © 2014 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 © 2014 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.

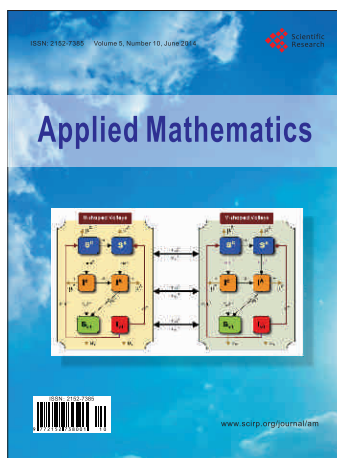
DISCLAIMER OF LIABILITY

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: am@scirp.org



Call for Papers

Applied Mathematics (AM)

ISSN Print: 2152-7385 ISSN Online: 2152-7393

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

Applied Mathematics (AM) is an international journal dedicated to the latest advancement of applied mathematics. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of applied mathematics.

Subject Coverage

All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed hard copy. The journal publishes original papers including but not limited to the following fields:

- | | | |
|--|----------------------------|-----------------------------------|
| ● Applied Probability | ● Evolutionary Computation | ● Matrix Computations |
| ● Applied Statistics | ● Financial Mathematics | ● Neural Networks |
| ● Approximation Theory | ● Fuzzy Logic | ● Nonlinear Processes in Physics |
| ● Chaos Theory | ● Game Theory | ● Numerical Analysis |
| ● Combinatorics | ● Graph Theory | ● Operations Research |
| ● Complexity Theory | ● Information Theory | ● Optimal Control |
| ● Computability Theory | ● Inverse Problems | ● Optimization |
| ● Computational Methods in Mechanics and Physics | ● Linear Programming | ● Ordinary Differential Equations |
| ● Continuum Mechanics | ● Mathematical Biology | ● Partial Differential Equations |
| ● Control Theory | ● Mathematical Chemistry | ● Probability Theory |
| ● Cryptography | ● Mathematical Economics | ● Statistical Finance |
| ● Discrete Geometry | ● Mathematical Physics | ● Stochastic Processes |
| ● Dynamical Systems | ● Mathematical Psychology | ● Theoretical Statistics |
| ● Elastodynamics | ● Mathematical Sociology | |

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 submissions, please access the website.

Website and E-mail

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

E-mail: am@scirp.org