

# Advances in Pure Mathematics



https://www.scirp.org/journal/apm

# **Journal Editorial Board**

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

https://www.scirp.org/journal/apm

#### **Editor-in-Chief**

Prof. Leo Depuydt

#### **Editorial Board**

Dr. Taher S. H. Abdelmonem Prof. Ravi P. Agarwal Prof. Rafik Aramyan Prof. Józef Banas Prof. Serdar Beji Prof. Constantin Buse Prof. Chuanmiao Chen Dr. Claudio Cuevas Prof. Dragan S. Djordjevic Dr. Ozgur EGE Prof. Hala J. El-Khozondar Prof. Rifa Jarallah El-Khozondar Prof. Ahmed M. A. El-Sayed Prof. Cristescu Gabriela Prof. Hongva Gao Prof. Aleksander Grytczuk Prof. Yuxia Guo Dr. Sevdzhan Hakkaev Dr. Chengchun Hao Prof. Tianxiao He Prof. Wei He Prof. Tingzhu Huang Prof. Huzoor H. Khan Prof. Shaban Khidr Prof. Toshitake Kohno Prof. Vichian Laohakosol Prof. V. Lokesha Dr. Jingjing Ma Prof. Elimhan N. Mahmudov Dr. Lucia Marino **Prof. Ming Mei** Dr. Vishnu Naravan Mishra Dr. M. T. Mustafa Dr. Mahammad A. Nurmammadov Prof. Jyotindra C. Prajapati Dr. Marius Rădulescu

Dr. Madhu Ram Prof. Jingli Ren Dr. Gábor Sági Prof. Bayram Sahin Prof. Samir H. Saker Dr. Bessem Samet Dr. Yongli Song Prof. Hari M. Srivastava Prof. Yeong-Jeu Sun **Dr. Néstor Thome** Prof. Aydin Tiryaki **Prof. Gabor Toth** Prof. Amitabha Tripathi Prof. Nodari Vakhania Prof. Qingwen Wang Dr. Yanjin Wang Prof. Changjin Xu **Dr. Jasang Yoon** Prof. Mohamed F. Yousif Dr. Shijun Zheng Prof. Changjiang Zhu

Brown University, USA

Mansoura University, Egypt Texas A&M University-Kingsville, USA Russian-Armenian University, Armenia Bronislaw Markiewicz State School of Higher Vocational Education in Jaroslaw, Poland Istanbul Technical University, Turkey West University of Timisoara, Romania Central South University, China Federal University of Pernambuco, Brazil University of Nis, Serbia Celal Bayar University, Turkey Islamic University of Gaza, Palestine Al-Aqsa University, Palestine Alexandria University, Egypt Aurel Vlaicu University of Arad, Romania Hebei University, China University of Zielona Góra and Jan Pawel II Western, Poland Tsinghua University, China University of Kansas, USA Chinese Academy of Sciences, China Illinois Wesleyan University, USA Nanjing Normal University, China University of Electronic Science & Technology of China, China Aligarh Muslim University, India Beni-Suef University, Egypt The University of Tokyo, Japan Kasetsart University, Thailand Vijayanagara Sri Krishnadevaraya University, India University of Houston-Clear Lake, USA Istanbul Technical University, Turkey Catania University, Italy McGill University, Canada Indira Gandhi National Tribal University, India Qatar University, Qatar Shamakhy Astrophysical Observatory, Azerbaijan National Academy of Sciences, Azerbaijan Charotar University of Science and Technology, India Institute of Mathematical Statistics and Applied Mathematics "Gheorghe Mihoc-Caius Iacob" of the Romanian Academy, Romania University of Jammu, India Zhengzhou University, China Alfréd Rényi Institute of Mathematics and BUTE, Hungary Inonu University, Turkey Mansoura University, Egypt Tunis College of Sciences and Techniques, Tunisia Tongji Universtiy, China University of Victoria, Canada I-Shou University, Chinese Taipei Universitat Politècnica de València, Spain Izmir University, Turkey Rutgers University, USA Indian Institute of Technology, India Georgian Academy of Sciences, Mexico Shanghai University, China Institute of Applied Physics and Computational Mathematics, China Guizhou Key Laboratory of Economics System Simulation, China University of Texas Rio Grande Valley, USA The Ohio State University, USA Georgia Southern University, USA South China University of Technology, China



# **Table of Contents**

Volume 12 Numb	ber 4	April 2022
Distributed Alternating Di	rection Method of Multipliers for Multi-Objective (	Optimization
H. Deng, Y. D. Xu		249
A Count Sketch Maximal V Projection for Highly Over	Weighted Residual Kaczmarz Method with Oblique determined Linear Systems	
P. Zhang, L. Y. Li, P. P. Zhai	ng	260
Caristi's Fixed Point Theor	rem in G-Cone Metric Spaces and Application	
O. K. Adewale, C. Iluno, A.	Y. Adetowubo	
Representations of Ten-Di	mensional Levi Decomposition Lie Algebras	
N. M. P. S. K. Bandara, G. T.	hompson	
Erratum to "Solutions of In Vol. 10, No. 9, (2020) 540-	ndefinite Equations", [Advances in Pure Mathemati 544]	CS
Z. Y. Liang		
The Exponential Function	as Split Infinite Product	
P. Doroszlai, H. Keller		
Inequalities for Higher Or	der Riesz-Laguerre Transforms	
A. Elobied, A. Siddig, S. Wid	atalla	
The Deny Proof of the Pali	ndrome Number Conjecture	
M. Z. Wang, Z. X. He, M. Y.	Wang	

## Advances in Pure Mathematics (APM) Journal Information

#### SUBSCRIPTIONS

The *Advances in Pure Mathematics* (Online at Scientific Research Publishing, <u>https://www.scirp.org/</u>) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates: Print: \$79 per issue. To subscribe, please contact Journals Subscriptions Department, E-mail: <u>sub@scirp.org</u>

#### 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: <u>sub@scirp.org</u>

#### COPYRIGHT

#### Copyright and reuse rights for the front matter of the journal:

Copyright © 2022 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 © 2022 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



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

ISSN 2160-0368 (Print) ISSN 2160-0384 (Online) https://www.scirp.org/journal/apm

Advances in Pure Mathematics (APM) is an international journal dedicated to the latest advancements in ordered algebraic structures. 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 ordered algebraic structures.

# Subject Coverage

This journal invites original research and review papers that address the following issues. Topics of interest include, but are not limited to:

- Applied Harmonic Analysis
- Approximation Theory
- Asymptotic Methods
- Bifurcation Theory
- Coding Theory
- Combinatorics
- Complex Analysis
- Convex Analysis
- Difference Equations
- Differential Equations
- Dynamical Systems
- Fixed-Point Theory
- Fourier Analysis
- Fractals
- Fractional Analysis

- Functional Differential Equations
- Fuzzy Mathematics
- Geometry
- Geometry of Banach Spaces
- Integral Equations
- Mathematical Biology, including Population Dynamics
- Mathematical Physics
- Matrix Theory
- Moment Theory
- Number Theory
- Numerical Analysis
- Operator Theory
- Optimal Control
- Optimization Wavelets

- Partial Differential Equations
- Probability
- Reaction-Diffusion Problems, Discrete Mathematics

**Call for Papers** 

- Scattering Theory
- Semigroups of Operators
- Signal Theory
- Special Functions
- Statistics
- Stochastic Process
- Topology and Applications
- Transport Theory
- Variational Methods

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the APM.

# **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

https://www.scirp.org/journal/apm E-mail: apm@scirp.org

- Ultrametric Analysis

#### 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?

Art and Design Review

Advances in

Advances in Biological

Entomolog

Applied Mathematics

Engineering

nii ili a

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

Soft

- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience



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