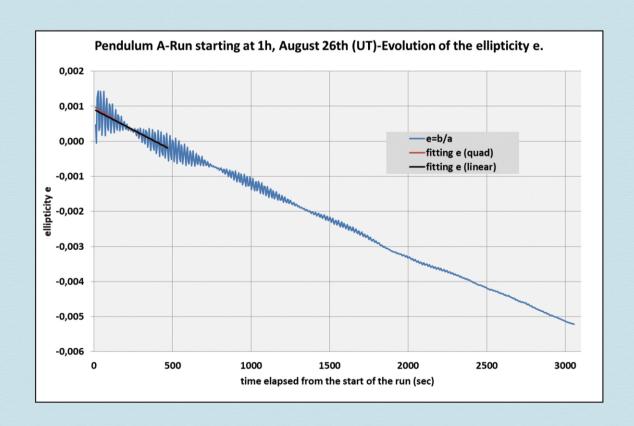


Journal of Modern Physics





ISSN: 2153-1196

Journal Editorial Board

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

......

Editorial Board

Prof. Nikolai A. SobolevUniversidade de Aveiro, PortugalProf. Mohamed Abu-ShadyMenoufia University, Egypt

Dr. Hamid Alemohammad Advanced Test and Automation Inc., Canada

Prof. Emad K. Al-Shakarchi Al-Nahrain University, Iraq

Dr. Francesco Bajardi Scuola Superiore Meridionale, Italy

Prof. Antony J. Bourdillon UHRL, USA

Dr. Swarniv Chandra Government General Degree College, India

Prof. Tsao Chang Fudan University, China

Prof. Wan Ki Chow The Hong Kong Polytechnic University, China

Prof. Jean Cleymans University of Cape Town, South Africa

Prof. Stephen Robert Cotanch NC State University, USA

Prof. Claude DaviauMinistry of National Education, FranceProf. Rami Ahmad El-NabulsiChiang Mai University, ThailandProf. Peter Chin Wan FungThe University of Hong Kong, China

Prof. Peter Chin Wan FungThe University of Hong Kong, ChinaProf. Ju GaoThe University of Hong Kong, ChinaProf. Robert GolubNorth Carolina State University, USA

Dr. Sachin GoyalUniversity of California, USADr. Wei GuoFlorida State University, USAProf. Karl HessUniversity of Illinois, USA

Prof. Peter Otto Hess Universidad Nacional Autónoma de México, Mexico

Prof. Ahmad A. Hujeirat University of Heidelberg, Germany

Prof. Haikel JelassiNational Center for Nuclear Science and Technology, TunisiaProf. Magd Elias KahilOctober University for Modern Sciences and Arts (MSA), Egypt

Prof. Santosh Kumar Karn Dr. APJ Abdul Kalam Technical University, India

Prof. Sanjeev Kumar Dr. Bhimrao Ambedkar University, India

Dr. Giuseppe LeviBologna University, ItalyProf. Yu-Xian LiHebei Normal University, ChinaProf. Anton A. LipovkaSonora University, Mexico

Prof. Wu-Ming Liu Chinese Academy of Sciences, China

Dr. Ludi MiaoCornell University, USADr. Grégory MoreauParis-Saclay University, FranceProf. Christophe J. MullerUniversity of Provence, FranceDr. Rada NovakovicNational Research Council, Italy

Dr. Vasilis OikonomouAristotle University of Thessaloniki, GreeceProf. Vinod PrasadSwami Sharddhanand College Delhi, India

Prof. Tongfei QiUniversity of Kentucky, USAProf. Mohammad Mehdi RashidiUniversity of Birmingham, UK

Prof. Haiduke SarafianThe Pennsylvania State University, USAProf. Kunnat J. SebastianUniversity of Massachusetts, USA

Dr. Ramesh C. Sharma Ministry of Defense, India

Dr. Reinoud Jan Slagter Astronomisch Fysisch Onderzoek Nederland, Netherlands

Dr. Giorgio SonninoUniversité Libre de Bruxelles, Belgium

Prof. Yogi Srivastava Northeastern University, USA

Dr. Mitko Stoev South-West University "Neofit Rilski", Bulgaria

Dr. A. L. Roy Vellaisamy City University of Hong Kong, China

Prof. Lev Zalman VilenchikFelicitex Therapeutics, USAProf. Anzhong WangBaylor University, USAProf. Cong WangBeihang University, China

Prof. Yuan Wang University of California, Berkeley, USA

Prof. Peter H. YoonUniversity of Maryland, USAProf. Meishan ZhaoUniversity of Chicago, USA

Prof. Pavel Zhuravlev University of Maryland at College Park, USA



ISSN Online: 2153-120X ISSN Print: 2153-1196

Table of Contents

Volume 13 Number 12 December 2022

Electron Mass Is Specified by Five Fundamental Constants, α , \hbar , G , Λ , and Ω_{Λ} , from Quantum Mechanics and General Relativity	
T. R. Mongan.	1519
Exact Inversion of Pentadiagonal Matrix for Semi-Analytic Solution of 2D Poisson Equation	
S. B. Gueye	1525
Organizing and Disorganizing Resonances of Microtubules, Stem Cells, and Proteins Calculated by a Quantum Equation of Coherence	
H. J. H. Geesink, M. Schmieke	1530
The Origin of Power and Acceleration of High-Redshift Galaxies in the Unicentric Model of the Universe	
A. A. Hujeirat	1581
Confirmation of 24 h 50 min Lunar Periodicity, Apparently Inexplicable by Classical Factors, in Precession of Allais Pendulum	
T. Goodev, D. Olenici, L-B. Deloly, R. Verreault	1598

Journal of Modern Physics (JMP) Journal Information

SUBSCRIPTIONS

The *Journal of Modern Physics* (Online at Scientific Research Publishing, https://www.scirp.org/) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$89 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 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: jmp@scirp.org



Call for Papers

Journal of Modern Physics

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

Journal of Modern Physics (JMP) is an international journal dedicated to the latest advancement of modern physics. 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 modern physics.

Subject Coverage

Journal of Modern Physics publishes original papers including but not limited to the following fields:

Biophysics and Medical Physics
Complex Systems Physics
Computational Physics
Condensed Matter Physics
Cosmology and Early Universe
Earth and Planetary Sciences
General Relativity
High Energy Astrophysics
High Energy/Accelerator Physics
Instrumentation and Measurement
Interdisciplinary Physics
Materials Sciences and Technology
Mathematical Physics
Mechanical Response of Solids and Structures

New Materials: Micro and Nano-Mechanics and Homogeneization Non-Equilibrium Thermodynamics and Statistical Mechanics Nuclear Science and Engineering Optics
Physics of Nanostructures
Plasma Physics
Quantum Mechanical Developments
Quantum Theory
Relativistic Astrophysics
String Theory
Superconducting Physics
Theoretical High Energy Physics
Thermology

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

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