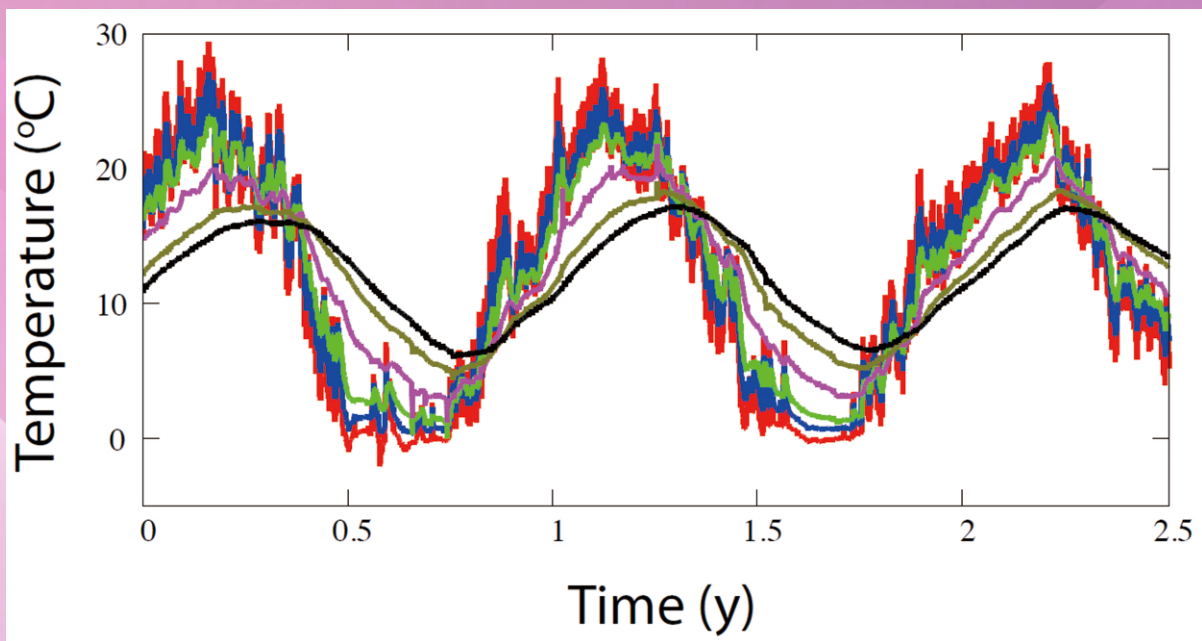


Journal of Modern Physics



Journal Editorial Board

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

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

Editor-in-Chief

Prof. Yang-Hui He

City University, UK

Executive Editor-in-Chief

Prof. Marko Markov

Research International, Buffalo Office, USA

Managing Executive Editor

Prof. Chang Liu

Wuhan University, China Email: cliu@acc-lab.whu.edu.cn

Editorial Board

Prof. Nikolai A. Sobolev	Universidade de Aveiro, Portugal
Prof. Yohannes Abate	California State University, USA
Dr. Mohamed Abu-Shady	Department of Applied Mathematics, Menoufia University, Egypt
Prof. Sadhan Kumar Adhikari	Universidade Estadual Paulista, Brazil
Dr. Hamid Alemohammad	Advanced Test and Automation Inc., Canada
Dr. Ksenofontov Alexandre	Moscow Engineering Physics Institute, Russia
Prof. Sami M. AL-Jaber	An-Najah National University, Palestine
Prof. Kerim R. Allakhverdiev	Institute of Physics, Azerbaijan Academy of Sciences, Azerbaijan
Prof. Roberto Oscar Aquilano	Universidad Nacional de Rosario, Argentina
Dr. Salvatore Capozziello	University of Naples Federico II, Italy
Prof. Riccardo Cerulli	Gran Sasso National Laboratory, INFN, Italy
Prof. Changle Chen	Celanese Corporation, USA
Prof. Stephen Robert Cotanch	NC State University, USA
Prof. Papadopoulos Demetrios	Aristotle University of Thessaloniki, Greece
Prof. Huashu Dou	Zhejiang Sci-Tech University, China
Prof. Constantin Fetecau	Gheorghe Asachi Technical University of Iasi, Romania
Prof. Ju Gao	The University of Hong Kong, China
Prof. Sachin Goyal	University of Michigan, USA
Dr. Wei Guo	Florida State University, USA
Dr. Alioscia Hama	Tsinghua University, China
Dr. Guangjin Hou	University of Delaware, USA
Prof. Cosmin Ilie	Los Alamos National Laboratory, USA
Prof. Preston B. Landon	The University of California, USA
Prof. Chunlei Liu	Carnegie Mellon University, USA
Dr. Ray Luo	University of California, USA
Prof. Karo Michaelian	National Autonomous University of Mexico, Mexico
Prof. Christophe J. Muller	University of Provence, France
Prof. Zdzislaw E. Musielak	University of Texas at Arlington, USA
Prof. Ambarish Nag	National Renewable Energy Laboratory, USA
Prof. Luciano Nunziante	University of Naples Federico II, Italy
Prof. Valery Obukhov	Tomsk State Pedagogical University, Russia
Dr. Jorge Pereira	The University of Notre Dame, USA
Prof. Tongfei Qi	University of Kentucky, USA
Prof. Richard Saurel	University of Aix Marseille I, France
Prof. Alejandro Crespo Sosa	Universidad Nacional Autónoma de México, Mexico
Dr. Bo Sun	Princeton University, USA
Prof. Mingzhai Sun	Ohio State University, USA
Dr. Sergei K. Suslov	Arizona State University, USA
Dr. Anca Tureanu	Academy of Finland, Finland
Dr. A. L. Roy Vellaisamy	City University of Hong Kong, China
Prof. Yuan Wang	University of California, Berkeley, USA
Prof. Magnus Willander	Linköping University, Sweden
Prof. Fan Yang	Fermi National Accelerator Laboratory, USA
Prof. Peter H. Yoon	University of Maryland, USA
Dr. S. Zerbini	University of Trento, Italy
Prof. Meishan Zhao	James Frank Institute, University of Chicago, USA
Prof. Pavel Zhuravlev	University of Maryland at College Park, USA

Table of Contents

Volume 5 Number 9

June 2014

Cumulant Structure Factors of Jellium

P. Ziesche, J. Cioslowski.....725

Why E Is Not Equal to mc^2

M. S. El Naschie.....743

Statistical Analysis of Subsurface Diffusion of Solar Energy with Implications for Urban Heat Stress

M. P. Silverman.....751

Photoacoustic Detection in the Michelson Interferometer Cavity

M. I. Abu Taha, A. S. Jabr.....763

Energy Levels of Spin-1/2 Particles with Yukawa Interaction

M. R. Shojaei, A. A. Rajabi, M. Farrokh, N. Zoghi-Foumani.....773

Disinfection of Microbes by Magnetized DC Plasma

A. R. Galaly, H. H. Zahran.....781

Emission of Thermal Photon in Heavy-Ion Collisions

P. Jain, Y. Kumar, D. Kumar.....792

The Third Kind Of Particles

S. X. Ren.....800

Quantum-Optical Foundations of Massive and Massless Particles

B. Ritchie.....870

The Light as Composed of Longitudinal-Extended Elastic Particles Obeying to the Laws of Newtonian Mechanics

A. Bacchieri.....884

About One-Dimensional Conservative Systems with Position Depending Mass

G. L. Velázquez, C. R. Martínez Prieto.....900

A Quantum Battle of the Sexes in Noninertial Frame

G. F. Weng, Y. Yu.....908

Journal of Modern Physics (JMP)

Journal Information

SUBSCRIPTIONS

The *Journal of Modern Physics* (Online at Scientific Research Publishing, 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 © 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.

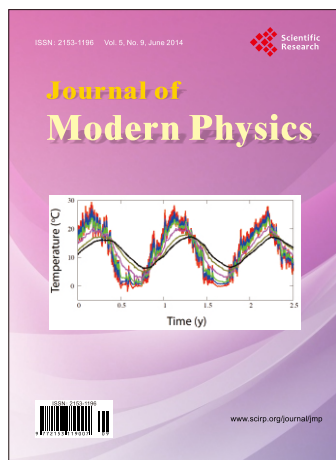
DISCLAIMER OF LIABILITY

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: jmp@scirp.org



Call for Papers

Journal of Modern Physics

ISSN Print: 2153-1196 ISSN Online: 2153-120X
<http://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.

Editor-in-Chief

Prof. Yang-Hui He

City University, UK

Executive Editor-in-Chief

Prof. Marko Markov

Research International, Buffalo Office, USA

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

<http://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



**Scientific
Research**

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

Subscription: sub@scirp.org

Advertisement: service@scirp.org