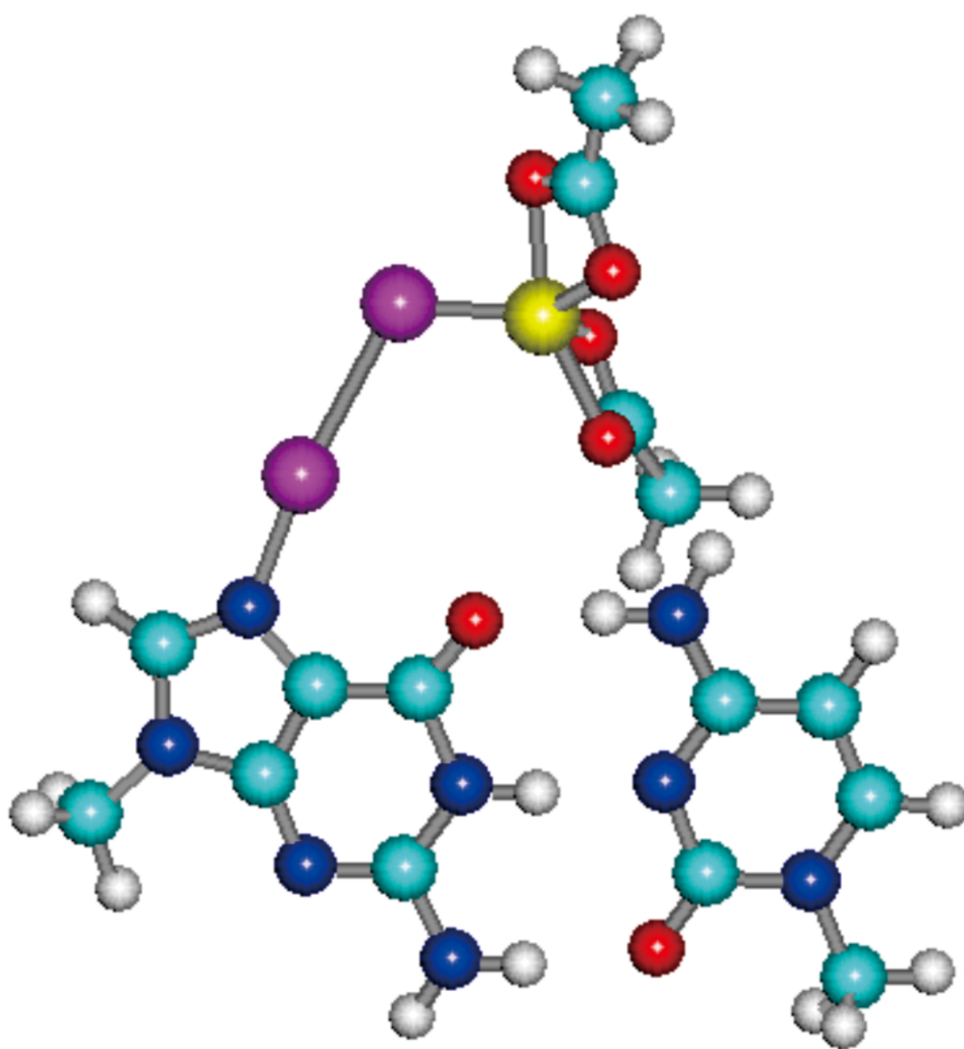


ISSN: 2150-4091 Volume 3, Number 7, July 2011



Scientific
Research

Natural Science



ISSN: 2150-4091



9 772150 409002 07

Editor-in-Chief
Kuo-Chen Chou

www.scirp.org/journal/ns/

Journal Editorial Board

ISSN: 2150-4091 (Print) ISSN: 2150-4105 (Online)

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

Editor-in-Chief

Prof. Kuo-Chen Chou

Gordon Life Science Institute, San Diego, California, USA

Editorial Advisory Board

Prof. James J. Chou

Harvard Medical School, USA

Prof. Reba Goodman

Columbia University, USA

Dr. Robert L. Heinrikson

Proteos, Inc., USA

Prof. Robert H. Kretsinger

University of Virginia, USA

Dr. P. Martel

Chalk River Laboratories, AFCL Research, Canada

Dr. Michael Mross

Vermont Photonics Technologies Corp., USA

Prof. Harold A. Scheraga

Baker Laboratory of Chemistry, Cornell University, USA

Editorial Board

Dr. Fridoon Jawad Ahmad

University of the Punjab, Pakistan

Prof. Marcello Alecci

University of L'Aquila, Italy

Prof. Hakan Arslan

Mersin University, Turkey

Dr. Giangiacomo Beretta

University of Milan, Italy

Dr. Bikas K. Chakrabarti

Saha Institute of Nuclear Physics, India

Dr. Brian Davis

Research Foundation of Southern California, USA

Dr. Mohamadreza B. Eslaminejad

Cell Sciences Research Center, Royan Institute, Iran

Dr. Marina Frontasyeva

Frank Laboratory of Neutron, Russia

Dr. Neelam Gupta

National Bureau of Animal Genetic Resources, India

Dr. Ignacy Kitowski

Maria Curie-Sklodowska University, Poland

Dr. Andrzej Komosa

Faculty of Chemistry, M. Curie-Sklodowska University, Poland

Dr. Yohichi Kumaki

Institute for Antiviral Research, Utah State University, USA

Dr. Petr Kuzmic

BioKin Ltd., USA

Dr. Ping Lu

Communications Research Centre, Canada

Dr. Dimitrios P. Nikolelis

University of Athens, Greece

Dr. Caesar Saloma

University of the Philippines Diliman, Philippines

Prof. Kenji Sorimachi

Dokkyo Medical University, Japan

Dr. Swee Ngim Tan

Nanyang Technological University, Singapore

Prof. Rodrick Wallace

New York State Psychiatric Institute, USA

Dr. Fuqiang Xu

National Magnetic Resonance Research Center, China

Dr. Weizhu Zhong

Pfizer Global Research and Development, USA

Editorial Assistant

Judy Liu

Scientific Research Publishing, USA Email: ns@scirp.org

Guest Reviewers (According to Alphabet)

Salvador Alfaro

Fan Peng

John R. Williams

Takayuki Ban

Mohd. Yusri bin Abd. Rahman

Jamshed Hussain Zaidi

Marina Frontasyeva

Toshifumi Satoh

Nenghui Zhang

Tomski Grigori

Ruediger Schweiss

Hongzhi Zhong

Toshiyuki Kimura

Shahida Waheed

Junwu Zhu

Rafael Luque

TABLE OF CONTENTS

Volume 3, Number 7, July 2011

ASTRONOMY & SPACE SCIENCES

New test for cosmological time variation of the fine-structure constant from the analysis of quasar spectra

L. D. Thong, N. T. T. Huong.....503

Strong limit on $\Delta\alpha/\alpha$ from the analysis of Fe II absorption line multiplets

L. D. Thong, N. T. T. Huong.....508

Interacting generalized chaplygin gas model in bianchi type-I universe

R. Chaubey.....513

EARTH SCIENCE

The relationship of mineral and geochemical composition to artificial radionuclide partitioning in Yenisei river sediments downstream from mining-and-chemical combine Rosatom

B. Lydia, A. Svetlana.....517

CHEMISTRY

Hydrolysis—Hydrogenation of soybean oil and tallow

G. C. Díaz, R. S. Perez, N. de la C. O. Tapanes, D. A. G. Aranda, A. A. Arceo.....530

Thermochemical parameters of 1,2,3,4-tetrahydroquinoline adducts of some divalent transition metal bromides

P. O. Dunstan.....535

Synthesis, spectral characterization, catalytic and biological studies of new Ru(II) carbonyl Schiff base complexes of active amines

V. V. Raju, K. P. Balasubramanian, C. Jayabalakrishnan, V. Chinnusamy.....542

Analysis of macro and micro nutrients in some Indian medicinal herbs grown in Jaunpur (u.p.) soil

A. Kumar, R. P. Singh, N. P. Singh.....551

A two-parameter mathematical model for immobilized enzymes and Homotopy analysis method

R. A. Joy, A. Meena, S. Loghambal, L. Rajendran.....556

A new approach for reduction of methylene green with ascorbic acid by de-oxygenation through carbon dioxide

R. Azmat, N. Qamar, R. Naz.....566

LIFE SCIENCE**A quantum-chemical model of the inhibition mechanism of viral DNA HIV-1 replication by Iodine complex compounds**

G. A.-R. Yuldasheva, G. M. Zhidomirov, A. I. Ilin.....573

PHYSICS**The common physical origin of the glass transition, macromolecular entanglement and turbulence**

J.-L. Wu.....580

Quantum molecular dynamics simulation for multifragmentation resulting from an expanding nuclear matter

A. Abdel-Hafiez, M. A. Khalifa, A. Abd El-Daiem.....594

The wave-corpuscle properties of microscopic particles in the nonlinear quantum-mechanical systems

X. F. Pang.....600

X and γ -rays emission probabilities of ^{131}I and ^{133}Xe

P. Yalçın, A. Baştuğ.....617

Closed virial equations for hard parallel cubes and squares

L. V. Woodcock.....622

Centrifugal force: an appreciation

K. E. Kenyon.....633

This figure on the front cover is from the article published in Natural Science, 2011, Vol. 3, No. 7, pp. 573-579 by Gulnara Abd-Rashidovna Yuldasheva, Georgii Mihailovich Zhidomirov, Aleksandr Ivanovich Ilin.

Natural Science (NS)

Journal Information

SUBSCRIPTIONS

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

Subscription rates:

Print: \$79 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© 2011 Scientific Research Publishing, Inc.

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as described below, without the permission in writing of the Publisher.

Copying of articles is not permitted except for personal and internal use, to the extent permitted by national copyright law, or under the terms of a license issued by the national Reproduction Rights Organization.

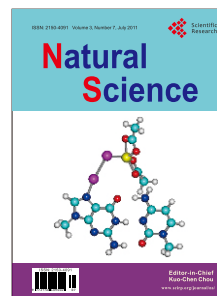
Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

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: ns@scirp.org



Editor-in-Chief

Prof. Kuo-Chen Chou

Gordon Life Science Institute, San Diego, California, USA

Editorial Board

Dr. Fridoon Jawad Ahmad
Prof. Marcello Alecci
Prof. Hakan Arslan
Dr. Giangiacomo Beretta
Dr. Bikas K. Chakrabarti
Dr. Brian Davis
Dr. Mohamadreza B. Eslaminejad
Dr. Marina Frontasyeva
Dr. Neelam Gupta
Dr. Ignacy Kitowski
Dr. Andrzej Komosa
Dr. Yohichi Kumaki
Dr. Petr Kuzmic
Dr. Ping Lu
Dr. Dimitrios P. Nikolelis
Dr. Caesar Saloma
Prof. Kenji Sorimachi
Dr. Swee Ngin Tan
Prof. Rodrick Wallace
Dr. Fuqiang Xu
Dr. Weizhu Zhong

University of the Punjab, Pakistan
University of L'Aquila, Italy
Mersin University, Turkey
University of Milan, Italy
Saha Institute of Nuclear Physics, India
Research Foundation of Southern California, USA
Cell Sciences Research Center, Royan Institute, Iran
Frank Laboratory of Neutron, Russia
National Bureau of Animal Genetic Resources, India
Maria Curie-Skłodowska University, Poland
Faculty of Chemistry, M. Curie-Skłodowska University, Poland
Institute for Antiviral Research, Utah State University, USA
BioKin Ltd., USA
Communications Research Centre, Canada
University of Athens, Greece
University of the Philippines Diliman, Philippines
Dokkyo Medical University, Japan
Nanyang Technological University, Singapore
New York State Psychiatric Institute, USA
National Magnetic Resonance Research Center, China
Pfizer Global Research and Development, USA

Editorial Advisory Board

Prof. James J. Chou
Prof. Reba Goodman
Dr. Robert L. Heinrikson
Prof. Robert H. Kretsinger
Dr. P. Martel
Dr. Michael Mross
Prof. Harold A. Scheraga

Harvard Medical School, USA
Columbia University, USA
Heinrikson, Proteos, Inc., USA
University of Virginia, USA
Chalk River Laboratories, AFCL Research, Canada
Vermont Photonics Technologies Corp., USA
Baker Laboratory of Chemistry, Cornell University, USA

Natural Science is an international journal dedicated to the latest advancement of natural sciences. 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 natural sciences. 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:

⊗ Astronomy & Space Sciences

- ◆ Astronomy
- ◆ Astrophysics
- ◆ Atmospheric Science
- ◆ Space Physics

● Earth Science

- ◆ Geography
- ◆ Geology
- ◆ Geophysics/Geochemistry
- ◆ Oceanography

● Chemistry

- ◆ Analytical Chemistry
- ◆ Biochemistry
- ◆ Computational Chemistry
- ◆ Inorganic Chemistry
- ◆ Organic Chemistry
- ◆ Physical Chemistry

● Life Science

- ◆ Cell Biology
- ◆ Computational Biology

◆ Genetics

- ◆ Immunology
- ◆ Medicine/Diseases
- ◆ Microbiology
- ◆ Molecular Biology
- ◆ Neuroscience
- ◆ Pharmacology/Toxicology
- ◆ Physiology
- ◆ Psychology
- ◆ Virology

● Physics

- ◆ Applied Physics
- ◆ Atomic, Molecular, and Optical Physics
- ◆ Biophysics
- ◆ High Energy/Particle Physics
- ◆ Material Science
- ◆ Plasma Physics

● Others

- ◆ Education
- ◆ History of Science
- ◆ Science and Innovations

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 be previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. For more details, please access the website.

📌 Website and E-Mail

[Http://www.scirp.org/journal/ns](http://www.scirp.org/journal/ns)

ns@scirp.org