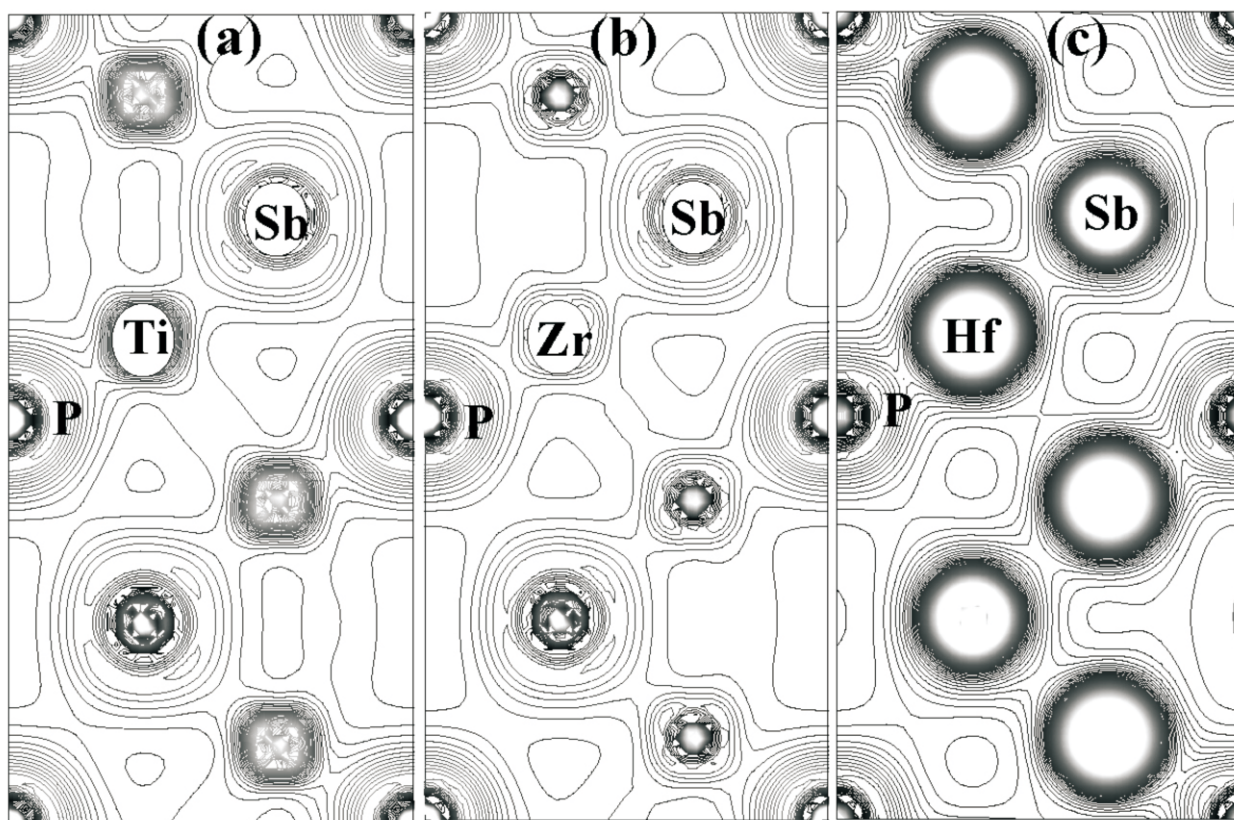


Materials Sciences and Applications



Journal Editorial Board

ISSN 2153-117X (Print) ISSN 2153-1188 (Online)

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

Editor-in-Chief

Prof. Young W. Kwon

Naval Postgraduate School, USA

Editorial Board

Prof. Alaa S. Abd-El-Aziz

The University of British Columbia, Canada

Prof. Samir A. Abdel-Latif

Helwan University, Egypt

Dr. John Abraham

University of St. Thomas, USA

Prof. Alexander Bagatur'yants

Russian Academy of Sciences, Russia

Prof. Huan-Tsung Chang

National Taiwan University, Chinese Taipei

Dr. Dianying Chen

Sulzer Metco, USA

Prof. Ram N. P. Choudhary

IIT Kharagpur, India

Prof. Rob Krams

Imperial College, UK

Prof. Qiming Liu

Wuhan University of Technology, China

Prof. Athanasios G. Mamalis

National Technical University of Athens, Greece

Prof. Paolo Maria Mariano

University of Florence, Italy

Prof. Chunxu Pan

Wuhan University, China

Prof. Su-Seng Pang

Louisiana State University, USA

Prof. Alessandro Pegoretti

University of Trento, Italy

Prof. Alexander Potapov

Russian Academy of Sciences, Russia

Dr. Raj Pal Singh

National Chemical Laboratory, India

Prof. Anupam Srivastav

College of Engineering & Technology, India

Dr. Deepak Srivastava

H. B. Technological Institute, India

Prof. Mustafa Übeyli

TOBB University of Economics and Technology, Turkey

Prof. Gayle E. Woloschak

Northwestern University, USA

Prof. Dongfeng Xue

Dalian University of Technology, China

Dr. Raghvendra Singh Yadav

University of Allahabad, India

Dr. Fei Zhang

Michigan State University, USA

Editorial Assistant

Jing Guo

Scientific Research Publishing Email: msa@scirp.org

TABLE OF CONTENTS

Volume 2 Number 10

October 2011

Theoretical Investigations of Ti-Based Binary Shape Memory Alloys

R. John, H. Ruben.....1355

A Comparison between the Mechanical Behaviour of Steel Wires and Ultra High Molecular Weight Poly Ethylene Cables for Sternum Closure

R. Marissen, M. Nelis, M. Janssens, M. D. M. E. Meeks, J. G. Maessen.....1367

Infrared Spectroscopy of Titania Sol-Gel Coatings on 316L Stainless Steel

D. C. L. Vasconcelos, V. C. Costa, E. H. M. Nunes, A. C. S. Sabioni, M. Gasparon, W. L. Vasconcelos.....1375

Structure and Bonding of Nanolayered Ternary Phosphides

A. Yakoubi, H. Mebtouche, M. Ameri, B. Bouhafs.....1383

Lime-Barium and Lime-Zinc Raw Glazes with Raw Materials from Tanzania and Cameroon

U. C. Melo, N. Billong, E. C. Kimaro.....1392

Ablation Properties of C Fibers and SiC Fibers Reinforced Glass Ceramic Matrix Composites upon Oxyacetylene Torch Exposure

J. Beaudet, J. Cormier, A. Dragon, M. Rollin, G. Benoit.....1399

Conversion of Carbon Dioxide to Methanol Using Solar Energy—A Brief Review

I. Ganesh.....1407

Influence of Sintering Temperature on Densification, Structure and Microstructure of Li and Sb Co-Modified (K,Na)NbO₃-Based Ceramics

R. Rani, S. Sharma.....1416

Electric Modulus Analysis of Carbon Black/Copolymer Composite Materials

M. El Hasnaoui, M. P. F. Graça, M. E. Achour, L. C. Costa.....1421

Electrophoretic Deposition of Titanium Oxide Nanoparticle Films for Dye-Sensitized Solar Cell Applications

J. Bandy, Q. F. Zhang, G. Z. Cao.....1427

Ultraviolet Protection, Flame Retardancy and Antibacterial Properties of Treated Polyester Fabric Using Plasma-Nano Technology

W. M. Raslan, U. S. Rashed, H. El-Sayad, A. A. El-Halwagy.....1432

Effect of Laser Beam Welding Parameters on Microstructure and Properties of Duplex Stainless Steel

A.-M. El-Batahgy, A.-F. Khourshid, T. Sharef.....1443

Determination of Anodized Aluminum Material Characteristics by Means of Nanoindentation Measurements

M. Datcheva, S. Cherneva, M. Stoycheva, R. Iankov, D. Stoychev.....1452

Improvement Properties of the Cutting Tools Using Technical Plasma Treatment

F. Embarek, A. Idriss, D. Abdeldjalil, B. Hamlaoui, A. Slimane.....1465

Discontinuous Precipitation and Dissolution in Cu-4.6 at% In Alloy under the Effect of Plastic Deformation and the Temperature

S. Bensaada, H. Mazouz, M. T. Bouziane.....1471

Synthesis of Sn-3.5Ag Alloy Nanosolder by Chemical Reduction Method

H. J. Pan, C. Y. Lin, U. S. Mohanty, J. H. Chou.....1480

Analysis of Material Behavior for Friction in a Nozzle for Turbomachinery and High Speed Vehicles

S. M. Prabhu, A. Mohadeen.....1485

Synthesis of Polypyrrole Using Ammonium Peroxy Disulfate (APS) as Oxidant Together with Some Dopants for Use in Gas Sensors

H. K. Chitte, N. V. Bhat, A. V. Gore, G. N. Shind.....1491

Concentration of Bio-Ethanol through Cellulose Ester Membranes during Temperature-Difference Controlled Evapomeation

T. Uragami.....1499

Degradation of Japanese Lacquer under Wavelength Sensitivity of Light Radiation

K. Nakagoshi, K. Yoshizumi.....1507

A Comparative Study of Bisphenol-A, Hydantoin and Cyanuric Acid Based Epoxy Resins Using XRD

S. Swarup.....1516

Synthesis and Characterization of Cholesteric Thermotropic Liquid Crystalline Polyesters Based on Isosorbide

N. N. Chavan.....1520

The figure on the front cover is from the article published in Materials Sciences and Applications, 2011, Vol. 2, No. 10, pp. 1383-1391 by Abdelkader Yakoubi, Hanane Mebtouche, Mohamed Ameri and Bachir Bouhafs.

Materials Sciences and Applications (MSA)

Journal Information

SUBSCRIPTIONS

The *Materials Sciences and Applications* (Online at Scientific Research Publishing, www.SciRP.org) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$59 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©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 assumes 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: msa@scirp.org



Call for Papers

Materials Sciences and Applications

ISSN 2153-117X (Print) ISSN 2153-1188 (Online)
<http://www.scirp.org/journal/msa>

Materials Sciences and Applications (MSA) is an international refereed journal dedicated to the latest advancement of materials. The goal of this journal is to keep a record of the state-of-the-art research and promote the research work in these fast moving areas.

Editor-in-Chief

Prof. Young W. Kwon

Naval Postgraduate School, USA

Editorial Board

Prof. Alaa S. Abd-El-Aziz
 Prof. Samir A. Abdel-Latif
 Dr. John Abraham
 Prof. Alexander Bagatur'yants
 Prof. Huan-Tsung Chang
 Dr. Dianying Chen
 Prof. Ram N. P. Choudhary
 Prof. Rob Krams
 Prof. Qiming Liu
 Prof. Athanasios G. Mamalis
 Prof. Paolo Maria Mariano
 Prof. Chunxu Pan

Prof. Su-Seng Pang
 Prof. Alessandro Pegoretti
 Prof. Alexander Potapov
 Dr. Raj Pal Singh
 Prof. Anupam Srivastav
 Dr. Deepak Srivastava
 Prof. Mustafa Übeyli
 Prof. Gayle E. Woloschak
 Prof. Dongfeng Xue
 Dr. Raghvendra Singh Yadav
 Dr. Fei Zhang

Subject Coverage

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

- Biological, Biomechanical and Biomedical Materials
- Composite Materials
- Electrical and Electronics Materials
- Fibers and Matrix Materials
- Functional Materials, including Shape Memory Materials, Self Healing Materials, etc.
- Light Emitting Material
- Magnetic Material
- Materials Chemistry
- Metals and Alloys
- Nanocomposites
- Nanomaterials including Nanostructured and Nanoscale Materials
- Nanosensors
- Nanostructured Materials
- Organic Materials
- Physics, Chemistry, Mechanics and Applications in Materials Science
- Rubber/Elastomeric Materials
- Semiconductor Materials
- Textile Materials
- Thin Film and Coatings

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/msa>

E-mail: msa@scirp.org