

Table of Contents

Batteries and Energy Storage

- Synthesis and Electrochemical Characterization of Mesoporous Carbons Prepared by Chemical Activation**
J. Zhao, Y. Dai, J. Xu, S. Chen, J. Xie A475
- Effects of Temperature on the Formation of Graphite/LiCoO₂ Batteries**
Y.-B. He, Z.-Y. Tang, Q.-S. Song, H. Xie, Y.-G. Liu, Q. Xu A481
- Electrochemical Characterization of Vanadium Oxide Nanostructured Electrode**
E. A. Olivetti, K. C. Avery, I. Taniguchi, D. R. Sadoway, A. M. Mayes A488
- Two-Phase Unit Cell Model for Slow Transients in Polymer Electrolyte Membrane Fuel Cells**
K. Promislow, P. Chang, H. Haas, B. Wetton A494
- First-Principles Study on Phase Stability in Li_xCuSb with Heusler-type Structure**
M. Nakayama, S. Matsuno, J. Shirakawa, M. Wakibara A505
- Chemical Reduction of SiCl₄ for the Preparation of Silicon-Graphite Composites used as Negative Electrodes in Lithium-Ion Batteries**
S. Caben, R. Janot, L. Laffont-Dantras, J. M. Tarascon A512
- Rheological Phase Synthesis and Electrochemical Properties of Mg-Doped LiNi_{0.8}Co_{0.2}O₂ Cathode Materials for Lithium-Ion Battery**
J. Xiang, C. Chang, F. Zhang, J. Sun A520
- Impurities in LiFePO₄ and Their Influence on Material Characteristics**
D. Y. W. Yu, K. Donoue, T. Kadobata, T. Murata, S. Matsuta, S. Fujitani A526
- Effect of Carbon Particle Size on Electrochemical Performance of EDLC**
C. Portet, G. Yushin, Y. Gogotsi A531
- Development of Lithium-Ion Batteries with a LiCoO₂ Cathode Toward High Capacity by Elevating Charging Potential**
Y. Takahashi, S. Tode, A. Kinoshita, H. Fujimoto, I. Nakane, S. Fujitani A537
- Intercalation-Induced Stress and Heat Generation within Single Lithium-Ion Battery Cathode Particles**
X. Zhang, A. M. Sastry, W. Sbyy A542

Fuel Cells and Energy Conversion

- Increase in Intensity of Electrochemiluminescence from Cell Consisting of TiO₂ Nanohole Array Film**
K. Ide, M. Fujimoto, T. Kado, S. Hayase B645
- A Methodology for Optimizing the Start-Up Scenario of Solid Oxide Fuel Cell Utilizing Transient Analyses**
Y.-P. Chyou, J.-S. Chen, T.-D. Chung B650
- The Effect of Ca, Sr, and Ba Doping on the Ionic Conductivity and Cathode Performance of LaFeO₃**
F. Bidraun, S. Lee, J. M. Vobs, R. J. Gorte B660
- Numerical Study of Heterogeneous Reactions in an SOFC Anode with Oxygen Addition**
Y. Hao, D. G. Goodwin B666
- Combined Deconvolution and CNLS Fitting Approach Applied on the Impedance Response of Technical Ni/8YSZ Cermet Electrodes**
V. Sonn, A. Leonide, E. Ivers-Tiffée B675
- Characteristics of Fuel Cell Membranes Prepared by EB Radiation Grafting onto FEP with Styrene Derivatives, Styrene and 2-Methylstyrene**
B. N. Kim, D. H. Lee, D. H. Han B680



Editor

Daniel Scherson
Case Western Reserve University
Cleveland, Ohio 44106

Associate Editors

- Cor L. Claeys**
IMEC
B-3001 Leuven, Belgium
- Takayuki Homma**
Waseda University
Tokyo, Japan
- Charles L. Hussey**
University of Mississippi
University, Mississippi 38677, USA
- Yue Kuo**
Texas A&M University
College Station, Texas 77843, USA
- Dolf Landheer**
National Research Council – Canada
Ottawa, Ontario, Canada
- Mark E. Orazem**
University of Florida
Gainesville, Florida 32611, USA
- Ashok K. Shukla**
Indian Institute of Science
Bangalore, Karnataka 560 012 India
- Martin Winter**
University of Münster
Münster, Germany

Editorial Board

- | | |
|-----------------|-------------------|
| Doron Aurbach | Jennifer Bardwell |
| Cor Claeys | Andrew Gewirth |
| Dennis Hess | Takayuki Homma |
| Charles Hussey | Yue Kuo |
| Dolf Landheer | Mark E. Orazem |
| Daniel Scherson | Ashok K. Shukla |
| Martin Winter | |

Publications Staff

- | | |
|---|--------------------|
| Annie Goedkoop, <i>Director of Publications</i> | |
| Dinia Agrawala | Anne L. Clementson |
| Paul Cooper | Terry Cooper |
| Andrea L. Guenzel | John Lewis |
| Beth Anne Stuebe | |

Publication Committee

- | | |
|----------------------------------|------------------------|
| Subhash Singhal, <i>Chairman</i> | |
| Timothy R. Armstrong | Scott Calabrese Barton |
| Dennis Hess | Andrew Hoff |
| Michael J. Kelly | Johna Leddy |
| Randy Leising | Stephen Lipka |
| Yunny Meas | Daniel Scherson |
| Krishnan Rajeshwar | Steven Visco |
| Jennifer Wang | John Weidner |
| Mark Williams | |

The Electrochemical Society (ECS) is an educational, nonprofit 501(c)(3) organization with more than 8000 scientists and engineers in over 70 countries world-wide who hold individual membership. Founded in 1902, ECS has a long tradition in advancing the theory and practice of electrochemical and solid-state science by dissemination of information through its publications and international meetings.

The *Journal of The Electrochemical Society* (*J. Electrochem. Soc.*) (USPS 284-140) (ISSN 0013-4651) is published monthly by The Electrochemical Society, 65 South Main Street, Pennington, NJ 08534-2839, USA, at Cummings Printing Co., 4 Peters Brook Drive, PO Box 16495, Hooksett, NH 03106-6495, USA. Periodicals postage paid at Pennington, New Jersey, USA and at additional mailing offices. POSTMASTER: Send address changes to: The Electrochemical Society, 65 South Main Street, Pennington, NJ 08534-2839, USA. Canada Post: Publications Mail Agreement #40612608 Canada Returns to be sent to Bleuchip International, P.O. Box 25542, London, ON N6C 6B2.

© Copyright 2008 by The Electrochemical Society, Inc.

Publication Information

Subscriptions: Subscription to members is part of membership benefits. Annual dues: \$98 for Active Members and \$18 for Student Members, Subscription to Nonmembers: \$995 for the 2008 issues. Packages with *Electrochemical and Solid-State Letters* are available.

Address: The address for the Executive Offices and Editorial Department of the Journal is: The Electrochemical Society, 65 South Main Street, Pennington, New Jersey, 08534-2839, USA. Tel.: 609.737.1902; Fax: 609.737.2743; E-mail: ecs@electrochem.org; Web: www.electrochem.org.

The address of the Circulation Department for ECS members is: 65 South Main Street, Pennington, New Jersey, 08534-2839, USA.

The address for the nonmembers' Circulation Department is: American Institute of Physics, P.O. Box 503284, St. Louis, MO 63150-2839, USA.

Manuscripts: Manuscripts are accepted for publication by the *Journal* with the understanding that they are unpublished, original works that have not been submitted elsewhere while under consideration by the *Journal* Editorial Board. See the "Instructions to Authors," which can be found in this issue. To help offset publication costs, a payment of \$80 per printed page is required. A discount is given if at least one author is a Society member at the time of a paper's submission.

Permission to Re-publish: The *Journal* is a copyrighted publication, and manuscripts submitted to the *Journal* become the property of ECS. Permission to re-publish parts of papers in the *Journal* is granted to current periodicals, provided due credit is given and that not more than one-sixth of any one paper is used in derivative works. Reproduction or replication of more than one-sixth of a paper is forbidden and illegal unless prior written authorization is obtained from ECS, along with permission from the author. Please use the Permission Request Form on the ECS Website (www.electrochem.org).

Permission to Reproduce: Reprographic copying beyond that permitted by the fair use provisions of the Copyright Act of 1976 is granted to libraries and other users registered with the Copyright Clearance Center provided that the fee (CCC Code 0013-465 1/97), is paid directly to: Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA; Tel: 978.750.8400; Fax: 978.750.4744; E-mail: info@copyright.com. Copying for other than internal or personal use without the express written permission of ECS is prohibited; please use the Permission Request Form on the ECS website (www.electrochem.org).

Article Copies: Single copies of articles are available from ECS to members at \$18.40 (US) per article, and to nonmembers at \$23 (US) per article. Orders may be placed via the ECS website.

Single Issues: ECS has available for sale a limited inventory of single issues of the *Journal*. Contact the ECS Circulation Department for more information. Positive microfilm copies of issues may also be obtained from ProQuest Information and Learning, 300 North Zeeb Road, Ann Arbor, MI 48106, USA; Tel: USA and Canada: 800.248.0360; all other countries 415.433.5500; Fax: 415.433.0100; E-mail: orders@infostore.com.

Claims: All claims for missing issues should be reported within 60 days of normal delivery date, and should be directed to the Circulation Department at the address given above.

Address Changes: Notice of a change in address should be sent to the Circulation Department at the address given above.

Notice: Statements and opinions given in articles and papers in the *Journal of The Electrochemical Society* are those of the contributors, and The Electrochemical Society, assumes no responsibility for them.

Online Edition: Full-text articles are available either through ECS membership, an institutional subscription, or by purchase, for all issues from 1948 (Vol. 93) and forward. The online edition is available at:

<http://www.ecsd.org/JES/>

PVA-PSSA Membrane with Interpenetrating Networks and its Methanol Crossover Mitigating Effect in DMFCs

A. K. Sabu, G. Selvarani, S. Pitchumani, P. Sridhar, A. K. Shukla, N. Narayanan, A. Banerjee, N. Chandrakumar B686

Pt/C-WO₃ Electrocatalysts for Degradation Mitigation in Polymer Electrolyte Fuel Cells

P. Trogadas, V. Ramani B696

Cell Interaction Phenomena in Polymer Electrolyte Fuel Cell Stacks

S. A. Freunberger, I. A. Schneider, P.-C. Sui, A. Wokaun, N. Djilali, F. N. Büchi B704

Modeling Distributed Charge-Transfer Processes in SOFC Membrane Electrode Assemblies

H. Zhu, R. J. Kee B715

Nanoscaled (La_{0.5}Sr_{0.5})CoO_{3-δ} Thin Film Cathodes for SOFC Application at 500°C < T < 700°C

C. Peters, A. Weber, E. Ivers-Tiffée B730

Residual Stress Analysis in Lanthanum Gallate-Based Cells before and after Fuel Cell Operation

H. Yoshida, H. Deguchi, T. Inagaki, K. Hasbino, M. Kawano, K. Hosoi, M. Horiuchi B738

Potentiostatic Start-Up of PEMFCs from Subzero Temperatures

F. Jiang, C.-Y. Wang B743

Durability of Membrane Electrode Assemblies under Polymer Electrolyte Fuel Cell Cold-Start Cycling

X. G. Yang, Y. Tabuchi, F. Kagami, C.-Y. Wang B752

Oxygen Reduction Kinetics at Dense (La_{0.85}Sr_{0.15})_{0.9}MnO₃-YSZ Composite Electrodes Investigated Using Potentiostatic Current Transient Method

J.-S. Kim, S.-I. Pyun, H.-C. Shin, S.-J. L. Kang B762

Modeling and Investigation of Design Factors and Their Impact on Carbon Corrosion of PEMFC Electrodes

N. Takeuchi, T. F. Fuller B770

Carbon-Supported Pseudo-Core-Shell Pd-Pt Nanoparticles for ORR with and without Methanol

J. Yang, J. Y. Lee, Q. Zhang, W. Zhou, Z. Liu B776

Corrosion, Passivation, and Anodic Films

Microstructural Evolution of Anodic Coating on AZ31 Magnesium Alloy in Alkaline Silicate Solution

L. D. Liu, S. F. Hsieh, C. Y. Lee, C. S. Lin C307

On the Mechanism of Corrosion of Terfenol-D (Tb_{0.3}Dy_{0.7}Fe_{1.92})

D. Sachdeva, R. Balasubramaniam C315

Studies of Electron Transfer at Aluminum Alloy Surfaces by Scanning Electrochemical Microscopy

M. B. Jensen, A. Guerard, D. E. Tallman, G. P. Bierwagen C324

Incorporation of Gold into Porous Anodic Alumina Formed on an Al-Au Alloy

S. J. Garcia-Vergara, M. Curioni, F. Roeth, T. Hashimoto, P. Skeldon, G. E. Thompson, H. Habazaki C333

Localized Corrosion of Magnesium in Chloride-Containing Electrolyte Studied by a Scanning Vibrating Electrode Technique

G. Williams, H. Neil McMurray C340

Corrosion Inhibition of Aluminum Alloy 2024-T3 by Aqueous Vanadium Species

K. D. Ralston, S. Chrisanti, T. L. Young, R. G. Buchheit C350

Calculations of the Cathodic Current Delivery Capacity and Stability of Crevice Corrosion under Atmospheric Environments

Z. Y. Chen, F. Cui, R. G. Kelly C360

The Physical Meaning of Electrode Potentials at Metal Surfaces and Polymer/Metal Interfaces: Consequences for Delamination

R. Hausbrand, M. Stratmann, M. Robwerder C369

Electrochemical/Chemical Deposition and Etching

Electrocrystallization Process during Deposition of Bi-Te Films

D.-W. Liu, J.-F. Li D493

Magnetic Materials for Three-Dimensional Damascene Metallization: Void-Free Electrodeposition of Ni and Ni₇₀Fe₃₀ Using 2-Mercapto-5-benzimidazolesulfonic Acid

C. H. Lee, J. E. Bonevich, J. E. Davies, T. P. Moffat D499

Tantalum Nitride Atomic Layer Deposition Using (tert-Butylimido)tris(diethylamido)tantalum and Hydrazine

B. B. Burton, A. R. Lavoie, S. M. George D508

Polymorphic Tin Sulfide Thin Films of Zinc Blende and Orthorhombic Structures by Chemical Deposition

D. Avellaneda, M. T. S. Nair, P. K. Nair D517

Electrochemical Synthesis and Engineering

Electrochemical Behavior of Oxide Ion in a LiCl-NaCl-CaCl₂ Eutectic Melt

Y. Kado, T. Goto, R. Hagiwara E85

Electrochemical Behavior of Zr on a Liquid Cd Electrode in LiCl-KCl Eutectic Melts

T. Murakami, T. Kato E90

DEMS Study of the Acetic Acid Oxidation on Boron-Doped Diamond Electrode

A. Kapalka, B. Lanova, H. Baltruschat, G. Fôti, C. Comminellis E96

Ruthenium Palladium Oxide-Coated Titanium Anodes for Low-Current-Density Oxygen Evolution

P. Shrivastava, M. S. Moats E101

Physical and Analytical Electrochemistry

Determination of Eu Sites in Highly Europium-Doped Strontium Aluminate Phosphor Using Synchrotron X-Ray Powder Diffraction Analysis

H. Yamada, K. Nishikubo, C. N. Xu F139

Fabrication of an Efficient Dye-Sensitized Solar Cell with Stainless Steel Substrate

J. H. Park, Y. Jun, H.-G. Yun, S.-Y. Lee, M. G. Kang F145

Density, Surface Tension, and Electrical Conductivity of Ternary Molten Carbonate System Li₂CO₃-Na₂CO₃-K₂CO₃ and Methods for Their Estimation

T. Kojima, Y. Miyazaki, K. Nomura, K. Tanimoto F150

Iodide Modified Electrodes for the Electrochemical Detection of Environmentally Hazardous Materials

B.-W. Su, S. Thiagarajan, S.-M. Chen F157

Study of Surface Compositional Waves in Electrodeposited Au-Cu Alloys by Synchrotron-Based High Lateral-Resolution X-Ray Photoemission Spectroscopy

B. Bozzini, L. D'Urzo, L. Gregoratti, A. Tadjeddine F165

Dielectric Science and Materials

Growth of GaAs Oxide Layer Using Photoelectrochemical Method

H.-Y. Lee G141

Society Officers

President

D. Noel Buckley
University of Limerick
Limerick, Ireland

Vice-President

Paul Natishan
U.S. Naval Research Laboratories
Washington, DC 20375, USA

Vice-President

William D. Brown
University of Arkansas
Fayetteville, Arkansas 72701, USA

Vice-President

Esther Takeuchi
University at Buffalo
Buffalo, New York 14260, USA

Secretary

Johna Leddy
University of Iowa
Iowa City, Iowa 52242, USA

Treasurer

John R. Susko
JRS Technology
Owego, New York 13827, USA

Executive Director

Roque J. Calvo
The Electrochemical Society
65 South Main Street
Pennington, New Jersey 08534-2839, USA
Phone: 609 737 1902
Fax: 609 737 2743
E-mail: ecs@electrochem.org
Web: www.electrochem.org

Benefits of Membership

- **The Journal of The Electrochemical Society.** Society membership includes this top-quality, peer-reviewed monthly publication. Each issue includes some 70 or more original papers selected by a prestigious editorial board, on topics covering both electrochemical and solid-state science and technology. The electronic edition is available to members at:
<http://ecsd.org/JES/>
- **Electrochemical and Solid-State Letters.** This peer-reviewed, rapid publication electronic journal is available to members at:
<http://ecsd.org/ESL/>
- **Interface.** This quarterly publication features articles and news of general interest to those in the field.
- **Professional Development and Education.** Exchange technical ideas and advances at the Society's semi-annual international meetings or through the programs of the 19 local sections in the USA, Canada, Europe, Israel, Korea, and Japan.
- **Publications.** Stay aware of pertinent scientific advances through the Society's publications, including ECS Transactions, proceedings volumes, meeting abstracts, and monograph volumes.
- **Opportunity for Recognition.** Recognize the accomplishments of your peers through the Awards Program, which provides over two dozen ECS Awards annually.
- **Networking and Contacts.** Take advantage of the numerous opportunities to meet with your peers and expand your circle of valuable contacts.
- **Membership Directory.** Available only to members, the Directory provides easy reference to your colleagues throughout the world.
- **Money Savings.** Get exceptional discounts on all ECS publications, page charges, meetings, and short courses.

Divisions

Battery

Kuzhikalail Abraham, *Chair*
Charles R. Walk, *Vice-Chair*
Zempachi Ogumi, *Secretary*
Nancy J. Dudney, *Treasurer*
Curtis F. Holmes, *Advisor*

Corrosion

Patrik Schmuki, *Chair*
Alison Davenport, *Vice-Chair*
Douglas C. Hansen, *Secretary-Treasurer*
Gerald Frankel, *Advisor*

Dielectric Science and Technology

Durga Misra, *Chair*
Kalpathy Sundaram, *Vice-Chair*
Oana Leonte, *Secretary*
Dolf Landheer, *Treasurer*
John Flake, *Advisor*

Electrodeposition

Gery Stafford, *Chair*
Christian Bonhote, *Vice-Chair*
Hariklia Deligianni, *Secretary*
Giovanni Zangari, *Treasurer*
Cynthia Bruckner-Lea, *Advisor*

Electronics and Photonics

Albert Baca, *Chair*
Ping-Chih Chang, *First Vice-Chair*
Yue Kuo, *Second Vice-Chair*
Andrew M. Hoff, *Secretary*
Ren Fan, *Treasurer*
M. Jamal Deen, *Advisor*

Energy Technology

Karim Zaghib, *Chair*
Sundar Narayanan, *Vice-Chair*
Jean St-Pierre, *Secretary*
Jeremy P. Meyers, *Treasurer*
Ping-Chih Chang, *Advisor*

Fullerenes, Nanotubes, and Carbon Nanostructures

Dirk Guldi, *Chair*
R. Bruce Weisman, *Vice-Chair*
Jean-Francois Nierengarten, *Secretary*
Francis D'Souza, *Treasurer*
Carl F. Holmes, *Advisor*

High Temperature Materials

Eric Wuchina, *Chair*
Enrico Traversa, *Senior Vice-Chair*
Jeffrey Fergus, *Junior Vice-Chair*
Timothy Armstrong, *Secretary-Treasurer*
David Shifler, *Advisor*

Industrial Electrochemistry and Electrochemical Engineering

John Weidner, *Chair*
Vijay K. Ramani, *Vice-Chair*
Gerardine Botte, *Secretary-Treasurer*
Gerald Frankel, *Advisor*

Luminescence and Display Materials

Uwe Happek, *Chair*
Kailash Mishra, *Vice-Chair*
Holly Comanzo, *Secretary*
John Collins, *Treasurer*
Alok Srivastava, *Advisor*

Organic and Biological Electrochemistry

Isao Taniguchi, *Chair*
Albert Fry, *Vice-Chair*
James D. Burgess, *Secretary-Treasurer*
M. Jamal Deen, *Advisor*

Physical and Analytical Electrochemistry

Hugh De Long, *Chair*
Paul Trulove, *Vice-Chair*
Shelley D. Minteer, *Secretary-Treasurer*
Cynthia Bruckner-Lea, *Advisor*

Sensor

Rangachary Mukundan, *Chair*
Jing Li, *Vice-Chair*
Zorajda P. Aguilar, *Secretary*
Michael T. Carter, *Treasurer*
David Shifler, *Advisor*

Semiconductor Devices, Materials, and Processing

5-Phenyl-1-H-Tetrazole as a Low-pH Passivating Agent for Copper Chemical Mechanical Planarization

S. Govindaswamy, A. Tripathi, I. I. Suni, Y. Li H459

n-Channel GaAs MOSFET with TaN/HfAlO Gate Stack Formed Using In Situ Vacuum Anneal and Silane Passivation

H.-C. Chin, M. Zbu, G. S. Samudra, Y.-C. Yeo H464

Investigation of Static Corrosion Between W Metals and TiN_x Barriers in a W Chemical-Mechanical-Polishing Slurry

C.-C. Hung, Y.-L. Wang, W.-H. Lee, S.-C. Chang H469

Field Passivation of the Silicon Wafer Rear Surface for Reliable Bulk Recombination Lifetime Measurement

M. Boehringer, R. Augke H474

Investigation on Molybdenum and Its Conductive Oxides as p-Type Metal Gate Candidates

Z. Li, T. Schram, T. Witters, H.-J. Cho, B. O'Sullivan, N. Yamada, T. Takaaki, J. Hooker, S. De Gendt, K. De Meyer H481

Influence of CMP Slurries and Post-CMP Cleaning Solutions on Cu Interconnects and TDDB Reliability

Y. Yamada, N. Konishi, J. Noguchi, T. Jimbo H485

Negative Data Insertion Method for Suppressing Hysteresis of Polysilicon Thin-Film Transistors

C.-Y. Kim, M.-K. Han, H.-K. Lee, S.-H. Jung, C.-D. Kim, I. B. Kang H491

Ultrathin CVD Cu Seed Layer Formation Using Copper Oxynitride Deposition and Room Temperature Remote Hydrogen Plasma Reduction

H. Kim, H. B. Bbandari, S. Xu, R. G. Gordon H496

Triangular Extended Microtunnels in GaN Prepared by Selective Crystallographic Wet Chemical Etching

H.-H. Huang, P.-L. Wu, H.-Y. Zeng, P.-C. Liu, T.-W. Cbi, J.-D. Tsay, W.-I. Lee H504

Understanding of Boron Junction Stability in Preamorphized Silicon after Optimized Flash Annealing

S. H. Yeong, B. Colombeau, C. H. Poon, K. R. C. Mok, A. See, F. Benistant, D. X. M. Tan, K. L. Pey, C. M. Ng, L. Chan, M. P. Srinivasan H508

AlGaIn/GaN High Electron Mobility Transistors Irradiated with 17 MeV Protons

H.-Y. Kim, J. Kim, S. P. Yun, K. R. Kim, T. J. Anderson, F. Ren, S. J. Pearton H513

Characteristics of Hafnium-Zirconium-Oxide Film Treated by Remote Plasma Nitridation

S. Lee, S. Bang, S. Jeon, S. Kwon, W. Jeong, S. Kim, H. Jeon H516

Friction and Wear-Mode Comparison in Copper Electrochemical Mechanical Polishing

D. Ng, T. Sen, F. Gao, H. Liang H520

Promising Red Phosphors (Ca,Eu,M)(WO₄)_{1-z}(MoO₄)_z (M = Mg, Zn) for Solid-State Lighting

S. Shi, J. Gao, J. Zhou H525

Charge Transfer across a ZnO/Electrolyte Interface Induced by Sub-Bandgap Illumination: Role of the Surface States

L. Larina, E. M. Trukban, O. Shevaleevskiy, B. T. Abn H529

Low Leakage Current Structures with Subgate in Metal-Induced Unilaterally Crystallized Silicon Thin-Film Transistors

I.-S. Kang, S.-H. Yu, S.-W. Son, J. Seo, S.-K. Joo H536

Investigation of Epitaxial Process-Induced Stacking Faults on Silicon Wafers by Surface Analytical Methods

B. Patsch, A. Ehlert, E. Lankmayr H540

Nanoindentation Investigation of HfO₂ and Al₂O₃ Films Grown by Atomic Layer Deposition

K. Tapily, J. E. Jakes, D. S. Stone, P. Shrestha, D. Gu, H. Baumgart, A. A. Elmustafa H545

Germanium MOSFET Devices: Advances in Materials Understanding, Process Development, and Electrical Performance

D. P. Brunco, B. De Jaeger, G. Eneman, J. Mitard, G. Hellings, A. Satta, V. Terzièva, L. Souriau, F. E. Leys, G. Pourtois, M. Houssa, G. Winderickx, E. Vrancken, S. Sioncke, K. Opsomer, G. Nicholas, M. Caymax, A. Stesmans, J. Van Steenberghe, P. W. Mertens, M. Meuris, M. M. Heyns H552

Sensors and Displays: Principles, Materials, and Processing

Effects of Tin Oxide Sputtered on a Carbon Electrode for Fabricating Glucose Biosensor
C.-W. Liao, J.-C. Chou, T.-P. Sun, S.-K. Hsiung, J.-H. Hsieh J181

Sputtering of Aluminum Cathodes on OLEDs Using Linear Facing Target Sputtering with Ladder-Type Magnet Arrays
J.-M. Moon, H.-K. Kim J187

Photoluminescence Properties of Ba₃MgSi₂O₈:Eu²⁺ Blue Phosphor and Ba₃MgSi₂O₈:Eu²⁺, Mn²⁺ Blue-Red Phosphor under Near-Ultraviolet-Light Excitation
Y. Umetsu, S. Okamoto, H. Yamamoto J193

Infrared and X-Ray Photoemission Spectroscopy of Adsorbates on La₂CuO₄ to Determine Potentiometric NO_x Sensor Response Mechanism
F. M. Van Assche, IV, J. C. Nino, E. D. Wachsman J198

Dependence of Phase Composition and Luminescence of Sr₆BP₅O₂₀ on Eu Concentration
S. Laubach, K. C. Misbra, K. Hofmann, B. Albert, P. Larsen, C. Wickleder, R. McSweeney, P. C. Schmidt J205

Nanostructured Materials, Carbon Nanotubes, and Fullerenes

Greatly Enhanced Optical Properties of ZnO Nanorods Grown on GaN in Aqueous Solution by Using Two-Step Treatment Method
L. H. Quang, C. S. Jin K105

Cyanide and Phenol Oxidation on Nanostructured Co₃O₄ Electrodes Prepared by Different Methods
R. Berenguer, T. Valdés-Solis, A. B. Fuertes, C. Quijada, E. Morallón K110

Evolution of Surface Morphology, Crystallite Size, and Texture of WO₃ Layers Sputtered onto Si-Supported Nanoporous Alumina Templates
V. Khatko, A. Mozalev, G. Gorokh, D. Solovei, F. Guirado, E. Llobet, X. Correig K116

Enhanced Performance of Dye Sensitized Solar Cells Utilizing Platinum Electrodeposit Counter Electrodes
G. Tsekouras, A. J. Mozer, G. G. Wallace K124

Sections

Council of Section Officers

Venkat Srinivasan, *Chair*
Lawrence Bottomley, *Vice-Chair*
James Noel, *Secretary*
Don Gervasio, *Past-Chair*

Brazilian

Luis Frederico P. Dick, *Chair*
lfidick@ufrgs.br

Canadian

Dan Bizzotto, *Chair*
bizzotto@chem.ubc.ca

China

Ming Yang, *Chair*
myang@icspectrum.com

Cleveland

Irina Serebrennikova, *Chair*
Irina.Serebrennikova@energizer.com

Detroit

Gholam-Abbas Nazri, *Chair*
g.nazri@gm.com

European

Carnel B. Breslin, *Chair*
cb.breslin@may.ie

Georgia

Peter Hesketh, *Chair*
peter.hesketh@me.gatech.edu

Israel

Doron Aurbach, *Chair*
aubach@mail.biu.ac.il

Japan

Shunri Oda, *Chair*
soda@pe.titech.ac.jp

Korea

Kwang Bum Kim, *Chair*
kbbkim@yonsei.ac.kr

Mexican

Ignacio Gonzalez, *Chair*
igm@xanum.uam.mx

Pittsburgh

Natalia V. Pimenova, *Chair*
natalia.pimenova@MSAnet.com

San Francisco

Adam Z. Weber, *Chair*
aweber@newman.cchem.berkeley.edu

Taiwan

Chi-Chao Wan, *Chair*
ccwan@mx.nthu.edu.tw

Texas

Harovel G. Wheat, *Chair*
hwheat@mail.utexas.edu

Twin Cities

Liliana Atanasoska, *Chair*
liliana.atanasoska@bsci.com