

International Materials Research Congress 2024

Part B

MRS Advances Volume 10, Issue 5

Cancun, Mexico
18-23 August 2024

ISBN: 979-8-3313-1994-6

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2024) by Springer Nature
All rights reserved.

Printed with permission by Curran Associates, Inc. (2025)

For permission requests, please contact Springer Nature
at the address below.

Springer Nature
The Campus 4 Crinan St.
London N1 9XW
United Kingdom

www.springernature.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Synthesis, Characterization, and Evaluation of Co/Fe Catalysts Supported on γ -Al ₂ O ₃ and SBA-15 for Catalytic Performance in the Fischer-Tropsch Reaction Fed with a Syngas and CO ₂ Mixture.....	557
<i>Didier Santiago-Salazar, Edna Ríos-Valdovinos, Francisco Pola-Albores</i>	
Microstructure Evolution and Mechanical Properties of Nanostructured Bioabsorbable Mg-1Ca Alloy Processed by High-pressure Torsion	564
<i>Tatiana Zamora-Rojas, Joaquín E. Gonzalez-Hernandez, Zenji Horita</i>	
Evaluation by Nondestructive Testing of the Effect of the Microstructure of a Multiphase Steel on Corrosion Resistance.....	570
<i>Karla Ivett Vega Nava, Ariosto Medina Flores, José Luis Bernal-Ponce</i>	
Experimental Thermal Behavior of Soy Wax and Clay Powder Mixtures for Energy Storage	576
<i>Hipólito M. Venegas, P. Martínez-Torres, Rubén Medina-Esquivel</i>	
3D Tomographic Study of the Collapse of Eucalyptus Nitens Wood Derived from Drying Process	581
<i>Raúl Espinoza Herrera, Luis Olmos, Dante Arteaga</i>	
Dilatometric Analysis of an Experimental Medium -Carbon Steel Alloyed with Si-Mo-V.....	586
<i>R. Guzman-Garfias, O. Vázquez-Gómez, E. López-Martínez</i>	
Manufacture and Study of a Chemiresistive Gas Sensor Using MoO ₃ as a Sensitive Film.....	592
<i>Leonardo Sebastian Sanchez-Fernandez, Ariel Guzmán Vargas, Norberto Hernandez-Como</i>	
Methodology for Fabrication of Microcantilevers Based on the Integration of Pt/Ti/AlN (002)-Oriented/Pt/Ti Films Grown on Ultrananocrystalline Diamond (UNCD) Films on SiO ₂ /Si Substrates	598
<i>Daniel Villarreal, Victoria Estrada, Orlando Auciello</i>	
Analysis of the Persistent Photoconductivity in Composite Nanocrystalline ZnO/Si Films Produced by Co-Sputtering at Room Temperature.....	603
<i>Jonathan Ortiz Vázquez, Gabriel Romero Paredes Rubio, Ramón Peña Sierra</i>	
Microstructural Behavior of Multiphase Steel with Trip Effect Subjected to Adhesive Wear.....	608
<i>D. Quintana-Moreno, J. S. Pacheco-Cedeño, C. E. Borja-Soto</i>	
Evaluation of Sargassum Particles on the Thermomechanical Properties of HIPS/SBS Composite.....	614
<i>Esther A. Contreras-Martinez, Beatriz A. Salazar-Cruz, Ruth Z. Del Angel Aldana</i>	
Influence of the Deposition Cycles of ZnO Thin Films by SILAR Deposition on the Carbon Monoxide Gas Sensor Analysis.....	619
<i>Leonardo Sebastian Sanchez-Fernandez, Valeria Estefanía Rendon-Gomez, Norberto Hernandez-Como</i>	
A Preliminary Study of Conductive Coating on Printable Poly(lactic Acid) and Poly(ethylene Terephthalate Glycol) Polymers with Graphite by Laser Beam	625
<i>Y. Trigueros-Pérez, G. Herrera-Cortez, E. Vergara-Hernández</i>	
Stirring Speed Effect on Processing of Modified Asphalt with Sebs-G-Ma Copolymer and Sulfur	630
<i>Esteban Alberto González-García, Juan Carlos Flores-García, Rafael Herrera-Nájera</i>	

Selective Hydrogenation of Anisole Over Pt/SBA-15 Catalysts: Effect of Pt Loading on Catalytic Efficiency	636
<i>Daniel E. Pérez Estrada, Monica Betancourt Aldana, Tatiana E. Klimova</i>	
Analysis and Characterization of Silicon Clusters Embedded in ZnO Amorphous Matrix Grown by Magnetron Co-Sputtering at Room Temperature	644
<i>Javier Sotelo Medina, Erick Ismael Castro Ontiveros, Ramón Peña Sierra</i>	
Effect of Time on the Rheological Behavior of Asphalt Mixtures Modified with Sargassum and SBS Compounds of Varying Vinyl Content	649
<i>Beatriz A. Salazar-Cruz, Gabriel Hernández-Zamora, Edgar Onofre-Bustamante</i>	
Upgrading Titania and Alumina Supports for NiMo Hydrodesulfurization Catalysts by the Incorporation of 2D Graphene Oxide	654
<i>Rodrigo Iván Molina-Pérez, Jessica Cruces-Lira, Tatiana E. Klimova</i>	
Design, Mechanical Properties, and Acoustic Absorption of an Auxetic Structure with Thermoplastic Polyurethane	660
<i>Luis Roberto González-García, Pablo Marco Trejo-García, Miguel Martínez-Salazar</i>	
Synthesis and Characterization of the Graphene-Reinforced Al–Ni System by Means of High and Low Energy Mechanical Alloying.....	667
<i>J. A. Alcántara Cárdenas, L. E. Rodríguez Pérez, P. F. Rodriguez Espinosa</i>	
Laser-Induced Ultrasound: Consequences of Maxwell–Cattaneo–Vernotte 1D Heat Flux Model.....	674
<i>José M. Derramadero-Domínguez, Lenin F. Escamilla-Herrera, Gerardo Gutiérrez-Juárez</i>	
Investigating the Relationship Between Acoustic Sound and Wood Anatomy by Coupling Computed Tomography and Ultrasonic Wave Propagation.....	683
<i>Raúl Espinoza-Herrera, Luis Olmos, Dante Arteaga</i>	
Correction: Synthesis of SiO ₂ Nanoparticles Using the Stöber Method and Their Self-Assembly into Liquid Photonic Crystals for Surface Stress Sensing Applications	688
<i>Daniel Saldívar Ayala, Takahiro Namazu</i>	

Author Index