

Table of Contents

Preface and Organizing Committee

Heterojunction Properties of p-CuO/n-CdS Diode

T. Gaewdang and N. Wongcharoen 1

Effect of Oxidation Temperature on the Properties of CuO Thin Films Prepared by Thermal Oxidation of Sputtered Cu Thin Films

N. Wongcharoen and T. Gaewdang 6

Effect of CW-CO₂ Laser Evaporation Parameters on Structural and Physical Properties of ZnSe Film

W. Phae-Ngam, A. Sansomboon, T. Kumpeerapun and V. Kosalathip 12

Spectroscopic and Electronic Properties of Layer-by-Layer Assembled Gamma-Irradiated Silver/Poly(Acrylic Acid) Nanocomposites

K.A.S. Usman, L.J.P.L. Trinidad and L.M. Payawan 19

γ -Irradiation Induced Synthesis of Titanium Dioxide/Poly(acrylic acid) (TiO₂/PAA) Nanocomposites and Layer-by-Layer Assembly on Glass Substrate

L.J.P.L. Trinidad, K.A.S. Usman and L.M. Payawan 25

I²C and HSTL IO Standard Based Low Power Thermal Aware Adder Design on 45nm FPGA

K. Kalia, K. Nanda, A. Aggarwal, A. Goel and S. Malhotra 31

Transistor Resizing Based Low Power Thermal Aware Adder Design on FPGA

K. Kalia, K. Nanda, A. Aggarwal, A. Goel and S. Malhotra 37

Corrosion Behavior of Copper in Biodiesel-Diesel-Bioethanol (BDE)

S.K. Thangavelu, C. Piraiarasi, A.S. Ahmed and F.N. Ani 44

Compatibility of Elastomers in Biodiesel-Diesel-Bioethanol Blend (BDE)

S.K. Thangavelu, C. Piraiarasi, A.S. Ahmed and F.N. Ani 51

Structural Study of Iron Oxide Thin Films Using Pre-Edge Feature of XANES

S. Dehipawala, P. Samarasekara and R. Dahanayaka 58

Formation of Graphene P-N Junction Arrays Using Soft-Lithographic Patterning and Cross-Stacking

M.W. Jung, W.S. Song, S. Myung, J.S. Lim, S.S. Lee and K.S. An 63

Preparation and Properties of Yttrium Doped Barium Cerate (BaCe_{1-x}Y_xO_{3- δ})

E.R. Magdaluyo and J.E. Gapasin 69

Synthesis and Characterization of Poly(Glycerol Sebacate)-co-Lactic Acid via Gamma Irradiation

M.G.B. Dupio, G.M. Nunez, L.V. Abad, C.T. Aranilla and E.R. Magdaluyo 75

Production of Amorphous and Crystalline Silica from Philippine Waste Rice Hull

E.S. Mirasol and R.B.M. Cervera 80

Preparation of Y-Doped BaZrO₃ Proton Conducting Solid Electrolyte via Modified Low Temperature Pechini Method

G. Nuñez, M.J. Balanay and R.B.M. Cervera 86

Synthesis of Yttrium-Doped Barium Zirconate/Barium Cerate (BZY20/BCY20) Core-Shell Structured Proton-Conducting Solid Electrolyte via Modified Pechini Method

M.J. Balanay and R.B.M. Cervera 92

Influence of the Structure of Glycidyl Methacrylate Copolymers on the Hydrophobic Properties of Cellulose Materials

E. Bryuzgin, V. Klimov, S. Zaytsev, A. Navrotsky and I. Novakov 98

Synthesis and Characterization of High Density and Low Temperature Sintered Proton Conductor BaCe_{0.5}Zr_{0.35}In_{0.1}Zn_{0.05}O_{3- δ}

A.K. Azad, D.D.Y. Setsoafia, L.C. Ming and I. Petra 104

Features of Contact Interaction of BCC and FCC Metals

A.Y. Nikonov, A.I. Dmitriev and I.A. Abrikosov 110

The Influence of Bone Cement Mixture Characteristics on Orthopedic Surgery

C.W. Liu, C.S. Wang, P.C. Wu, C.C. Lo, C.L. Fang and T.G. Kwok 115

Technological Processes Automation of Chemical Heat Treatment at Industrial Enterprises

A. Ostroukh, A. Mavrin and N. Surkova 120

Searching for Durable and Friendly Alkali Activated Concrete for Building Elements Constructions	
V. Bílek, J. Hurta, L. Zidek and P. Mec	126
Analysis and Calculation of the Lateral Electromagnetic Force on Shaped Charge Jet in the Passive Electromagnetic Protective Device	
Y.F. Huang, Y.J. Cao, G. Zhou, H.J. Wang and C.X. Wang	132
Solutions with Bessel Functions on Diffusion Modeling in Relation with Distance	
I. Riza, M.C. Popescu and C.G. Opran	138