

Table of Contents

Preface and Organizing Committee

Quantum Hall Effect in AlGaAs and Graphite Quantum Dots

K.N. Shrivastava 1

New EM Transmitter with $Y_3Fe_5O_{12}$ Based Magnetic Feeders Potentially Used for Seabed Logging Application

M. Niaz Akhtar, N. Yahya and N. Nasir 10

Structural, Optical and Electrical Characteristics of Polycrystalline ZnO Thin Film Prepared by Sol-Gel Spin-Coating Method

M.H. Mamat, A.A.A. Halim, M.Z. Sahdan, S. Amizam, Z. Khusaimi and M. Rusop 24

A Brief Review on Research Development on Dynamic Behaviors of Carbon Nanotubes

M.A. Mohd Anuar and A.A. Mat Isa 30

A Comparison Study on the Heat Transfer Behavior of Aqueous Suspensions of Rod Shaped Carbon Nanotubes with Commercial Carbon Nanotubes

I.S. Mohamad, S.T. Chitrambalam, S.B.A. Hamid, W.M. Chin, K.H. Yau and I. Febrian 35

Effect of Yb Substitution in $Bi_{1.6}Pb_{0.4}Sr_2Ca_{2-x}Yb_xCu_3O_y$ Superconductor

J.S. Hawa, H. Azhan, S.Y.S. Yahya, K. Azman, H.N. Hidayah and A.W. Norazidah 43

Study of Time Effect to the Optical Properties of CdSe Nanocrystal

C.H. Rosmani, S. Abdullah and M. Rusop 48

Overview: Zeolite as a Valuable Crystalline Inorganic Material

N.Z.F. Mukhtar, S. Abdullah and M. Rusop 53

Structural, Optical and Electrical Properties of Titanium Dioxide Thin Films with Different Molarity

S.K.M. Maarof, S. Abdullah and M. Rusop Mahmood 58

Structural and Optical Properties of Nanohybrid PMMA/TiO₂

N.A.A. Aziz, M.F. Achoi, S. Abdullah and M. Rusop Mahmood 63

Sol-Gel Synthesis & Photoluminescence of Multiple Layer LaPO₄ Nanostructure Thin Films

A.Z. Zainurul, M. Rusop and S. Abdullah 68

Comparative Study of P-Doped and Undoped ZnO Nanostructures Using Thermal Evaporation and Vapor Transport Method

K. Al-Azri, R. Md Nor, Y. Mohd Amin and M.S. Al-Ruqeishi 74

Electrical Contact of Au with CNTs Deposited at Different Deposition Temperatures on Silicon Substrate

M.H. Fadzilah Suhaimi, S.A.M. Zobir, M. Rusop Mahmood and S. Abdullah 80

ZnO Nanostructures – Nanorods and Flower-Like on Si/Au Substrates by Solution-Immersion Method in Different pH of Precursor

Z. Khusaimi, M.H. Mamat, N. Abdullah and M. Rusop 86

Ac Conductivity Study of Hexanoyl Chitosan-LiCF₃SO₃-EC-Al₂O₃ Nanocomposite Polymer Electrolytes

T. Winie, N.S.M. Hanif, N.H.A. Rosli and R.H.Y. Subban 93

The Raman Spectra of Nanocomposite Clusters of Atoms in Phosphorous-Selenium Glassy State

A.N. Rosli, H. Abu Kassim, K.N. Shrivastava and V.R. Devi 99

Effect of RF Power on Optimization of Titanium Dioxide Nanostructures by RF Magnetron Sputtering

N.A.M. Asib, M.Z. Musa, S. Abdullah and M. Rusop 104

Annealing Effect on the Surface Morphology and Photoluminescence Properties of ZnO Nanorod Prepared by Catalytic-Immersion Method Grown on Si and Au/Si Substrate

A. Ab Aziz, Z. Khusaimi, S. Abdullah and M. Rusop Mahmood 110

Dispersion of TiO₂ Nanopowder in the PMMA Matrix Prepared by Sonication-Solution Casting Method

N.N. Hafizah, M.Z. Musa, M.H. Mamat and M. Rusop Mahmood 115

Characterization of CdS Nanoparticles Synthesized Using Microwave-Assisted Polyol Method

N. Soltani, E. Saion, M.Z. Hussein, R.B. Yunus and M. Navaseri 122

Atomic Force Microscope (AFM) Studies of TiO₂ Nanocoated Glass Surface via Sol-Gel Coating	
M.F. Achoi, M.N. Asiah, M. Rusop and S. Abdullah	128
Field Emission Model of CNT Based Ionization Gas Sensor	
S. Mahmood, Z.A. Burhanudin and N.H. Hamid	135
Changes in Physical and Antioxidant Properties of Nanostructured <i>Zingiber officinale</i> (Ginger) Rhizome as Affected by Milling Time	
A. Norhidayah, A. Noriham and M. Rusop	144
Effects of Ammonium Tetrafluoroborate on Conductivity and Thermal Studies on Cellulose Acetate Based Polymer Electrolytes	
N.I. Harun, R. Md Ali, A.M.M. Ali and M.F. Yahya	150
Carbon Nanotubes in Cancer Treatment: A Preliminary <i>In Vitro</i> Study Using Neuroblastoma Cells	
I. Nurulhuda, M.Z. Mazatulikhma, R. Poh and M. Rusop	155
Nanotoxicity of Magnesium Oxide on Human Neuroblastoma SH-SY5Y Cell Lines	
N.I. Hasbullah, M.Z. Mazatulikhma and N. Kamarulzaman	160
A Study on the Seebeck Effect of 3,4,9,10-Perylenetetracarboxylic Dianhydride (PTCDA) as a Novel N-Type Material in a Thermoelectric Device	
Z.A. Rahman, K. Sulaiman, M. Rusop and A.S. Abu Bakar	165
Deposition of Amorphous Carbon Thin Films via Bias Assisted Pyrolysis-CVD	
A. Ishak, M.H. Mamat and M. Rusop	172
Electroluminescence and Photoluminescence Properties of Porous Silicon Nanostructures with Optimum Current Density of Photo-Electrochemical Anodisation	
M.A. Zubaidah, M.H. Fadzilah Suhaimi, S.F.M. Yusop, N.A. Asnida, M. Rusop and S. Abdullah	180
Graph and its Computer Application with C++ Using Linked Lists	
A. Shrivastava	186
Factors Affecting the Properties of Zinc Oxide Thin Films Prepared by Dip-Coating Method: A Review	
M.F. Malek, M.H. Mamat, M.Z. Musa, M.Z. Sahdan and M.R. Mahmood	193
Mechanical and Morphological Properties of Tropical Wood Polymer Nanocomposite (WPNC)	
M.S. Islam, S. Hamdan, M. Rusop and M.R. Rahman	200
Electrical and Structural Properties of ZnO/TiO₂ Nanocomposite Thin Films by RF Magnetron Co-Sputtering	
I. Saurdi, M.H. Mamat and M. Rusop	206
Synthesis of Carbon Nanotubes by Chemical Vapour Deposition of Camphor Oil over Ferrocene and Aluminum Isopropoxide Catalyst	
M.J. Salifairus and M. Rusop	213
Synthesis and Characterization of Carbon Nanotubes from Palm Oil by Aerosol-Assisted CVD	
M. Maryam, S. Abu Bakar, M.S. Shamsudin and M. Rusop Mahmood	218
The Effect of Indium Mole Fraction on the Growth Behavior of Your In_xGa_{1-x}As Nanowires (NWs) Grown Using MOCVD	
Z. Othaman, E. Wibowo and S. Sakrani	224
Synthesis of β-Silicon Carbide Nanowires by a Simple, Catalyst-Free Carbo-Thermal Evaporation Technique	
M.S. Al-Ruqeishi, R. Md Nor, Y. Mohd Amin and K. Al-Azri	231
Effect of Temperature on Conductivity Studies of Cellulose Acetate Based Polymer Electrolytes	
R. Md Ali, N.I. Harun, A.M.M. Ali and M.F. Yahya	240
Impact of Nanopowders on Extraction Yield of <i>Centella asiatica</i>	
M.Z. Borhan, R. Ahmad, M. Rusop and S. Abdullah	246
A Review on Biosynthesis of Nanoparticles Using Plant Extract: An Emerging Green Nanotechnology	
R. Mie, M.W. Samsudin and L.B. Din	251
Influence of Different Types of Silanes on the Properties of Nanocomposite PMMA: TiO₂ Thin Films	
I. Lyly Nyl, Z. Habibah, H. Sukreen Hana and M. Rusop	255

Optical Band Gap Decrement of Nanocomposited MEH-PPV:CNTs Thin Film for Organic Solar Cells	
P.S.M. Saad, M.H. Zainal, F.S. Zahid, Z. Zulkifli and M. Rusop Mahmood	260
Surface Morphology of Seeded Nanostructured ZnO on Silicon by Sol-Gel Technique	
K.A. Eswar, A. Ab Aziz, M. Rusop Mahmood and S. Abdullah	265
Optical Properties and Morphology of Al Doped Zinc Oxide Thin Film Exposed on Wet and Dry Conditions	
S.A. Razali, M.H. Mamat, M.N. Berhan and M. Rusop Mahmood	272
The Effects of Inoculum in Fermented Glutinous Rice for Nanotechnology Applications	
S.F. Nik, N.F.A. Zainal, A.A. Azira, F. Mohamed, S. Abdullah, A.Z. Ahmed and M. Rusop	277
Raman and Electrical Analysis of Iodine-Doped Amorphous Carbon Thin Films	
A.N. Fadzilah, D. Kamaruzaman and M. Rusop Mahmood	281
Zinc Oxide Buffer Layer Insertion for Sensitivity Improvement in Aluminium-Doped Zinc Oxide-Based Humidity Sensors	
N.D. Md Sin, M.Z. Musa, M.H. Mamat, S. Ahmad, A.A. Aziz and M. Rusop Mahmood	287
Properties of Iodine Doped Amorphous Carbon Thin Films Grown by Thermal CVD	
D. Kamaruzaman, A.N. Fadzilah, A. Ishak and M. Rusop Mahmood	294
Photovoltaic Characteristics of Hybrid MEH-PPV and TiO₂ Nanoparticle Based Organic Solar Cells	
F.S. Zahid, P.S.M. Saad, M.Z. Musa and M. Rusop Mahmood	300
Sol-Gel Derived Nanomagnesium Oxide: Influence of Annealing Temperature on the Dielectric Layer Properties	
Z. Habibah, A. Nurashikin Arshad, I. Lyly Nyl, Z. Nurbaya and M. Rusop Mahmood	307
Dielectric and Structural Properties of RF Magnetron Sputter Grown Lead Zirconium Titanate Thin Film: A Review	
Z. Nurbaya, Z. Habibah and M. Rusop Mahmood	312
Solid-State Dye Sensitized Solar Cells: Effect of Hole Transport Material Properties to the Photovoltaic Performance	
M. Nur Amalina and M. Rusop	317
Relation of Anodisation Parameter for Nanocrystallite Size of Porous Silicon Template Studied by Micro-Raman Spectroscopy	
N.A. Asli, M. Rusop and S. Abdullah	324
A Review on Zinc Oxide Nanostructures: Doping and Gas Sensing	
N.A. Abdullah, Z. Khusaimi and M. Rusop	329
Effects of Oxygen Flow Rate on Nanostructured ZnO Thin Films	
S. Ahmad, N.D. Md Sin, M.N. Berhan and M. Rusop Mahmood	333
Growth of Self-Catalyzed ZnO Heterostructures Using Thermal Chemical Vapor Deposition Method	
S. Shariffudin, M.H. Mamat and M. Rusop Mahmood	338
Malaysian Palm Oil For Carbon Nanotubes Preparation	
A.A. Azira, N.F.A. Zainal, S.F. Nik, F. Mohamed, T. Soga, S. Abdullah and M. Rusop	343
Multi-Walled Carbon Nanotubes by Thermal-CVD Utilizing Palm DHSA as a Precursor	
N.F.A. Zainal, T.I.T. Kudin, A.A. Azira, A. Zain Ahmed, S. Abdullah and M. Rusop	349
Effect of Nickel Catalyst on Carbon Nanotubes by Using Palm Oil as a Starting Material	
L. Helena, A.A. Azira and M. Rusop	354
Optical and Structural Properties of ZnO Nanostructures Deposited on PSi Substrates	
S. Azizdzul, S. Amizam, S. Abdullah and M. Rusop	359
The Effect of Inoculum in the Preparation of Fermented Tapioca for Nanotechnology Applications Based on the Surface Morphology of CNTs	
M.Z. Nuraini, S. Aishah, S.F. Nik and M. Rusop	363
High Transparency Characteristics of Zinc Oxide Thin Films Annealed at Different Temperatures	
A.S.M. Rodzi, M.H. Mamat, M.N. Berhan and M. Rusop Mahmood	367
Electrical and Structural Properties of TiO₂ Thin Film Prepared at Different Annealing Temperatures by Sol-Gel Spin-Coating Method	
M. Basri, M.N. Asiah, M.K. bin Ahmad, M.H. Mamat and M. Rusop Mahmood	371
Zinc Oxide Nanorods Characteristics Prepared by Sol-Gel Immersion Method Immersed at Different Times	
M. Awalludin, M.H. Mamat, M.Z. Sahdan, Z. Mohamad and M. Rusop	375

Characteristics of Humidity Sensor Fabricated Using Nanostructured ZnO Thin Film by Sol-Gel Method	
M.S. Mansor, M.H. Mamat, Z. Mohamad and M. Rusop	380
Electrical Characteristic of UV Sensor Using Nanostructured Al Doped ZnO Thin Film	
M.Z. Musa, M.H. Mamat and M. Rusop	384
Optical Properties of Al Doped Zinc Oxide Nanorods Thin Film Deposited by Immersion Technique	
S.Z. Muhamed, M.H. Mamat and M. Rusop	388
Diode Characteristics of Zinc Oxide Thin Film at Different Deposition Time for FET Applications	
M. Salina, M.Z. Sahdan, N.A. Yusoff, U.M. Noor and M. Rusop	393
Effect of Etching Time on Electrical and Optical Properties of Porous Silicon	
S.F.M. Yusop, N. Azaman, H.A. Rafeie, S. Amizam, S. Abdullah and M. Rusop	397
Effect of Different Solvents on the Optical Properties and Surface Morphology of MEH-PPV Thin Films	
N.Y. Zayana and M. Rusop	402
The Effect of Deposition Time on the Structural Properties of ZnO Nanorods Prepared by Sol-Gel Immersion Method	
N.A. Amir, Z. Khusaimi, S. Abdullah and M. Rusop	407
Surface Morphology Studies of Carbon Nanotubes Prepared by Thermal Chemical Vapor Deposition Using Fermented Tapioca as a Starting Material	
S. Aishah, M.Z. Nuraini, S.F. Nik and M. Rusop	411
Humidity Sensor Using CVD Deposited SnO₂ Thin Film	
A.K.S. Shafura, N.D. Md Sin, M.H. Mamat, S. Ahmad and M. Rusop Mahmood	415
Synthesis and Characterization of Carbon Nanotubes from Natural Source - Camphor Oil	
S. Nazirah, A.A. Azira and M. Rusop	421
The Influence of TiO₂ Photoanode Morphology for Scattering Enhanced Properties of Dye-Sensitized Solar Cell	
M.H. Abdullah, I. Lyly Nyl, M.Z. Musa and M. Rusop Mahmood	425
The Effect of Temperature on Carbon Nanotubes Grown Using Monometallic Catalyst from Palm Oil Precursor	
S. Abu Bakar, A.A. Azira, S.F. Nik, M.H. Taib, F. Mohamed, A.A. Teh, R. Ahmad and M. Rusop	435
Effect of Hydrothermal Growth Temperature on the Morphology and Structural Properties of Synthesized TiO₂ Nanowires	
M.N. Asiah, M.F. Achoi, M.H. Mamat, Z. Khusaimi, S. Abdullah and M. Rusop	442
Characterization of Copper (I) Iodide (CuI) Thin Film using TMED for Dye-Sensitized Solar Cells	
A.R. Zainun, M.H. Mamat, U.M. Noor and M. Rusop	447
Effect of Sputtering Pressure on Optimization of Titanium Dioxide Nanostructures Prepared by RF Magnetron Sputtering	
N.A.M. Asib, M.Z. Musa, S. Abdullah and M. Rusop	452
The Effect of Drying Methods on Physicochemical Properties of Nanostructured <i>Zingiber officinale</i> Rosc. (Ginger) Rhizome	
A. Norhidayah, A. Noriham and M. Rusop	458
Surface Morphology, Structural, and Bonding Characteristic of Carbon Nanotubes for <i>In Vitro</i> Culture Applications	
I. Nurulhuda, M.A. Johari, M.Z. Mazatulikhma and M. Rusop	464
Surface Morphology and Compositional Analysis of Undoped Amorphous Carbon Thin Films via Bias Assisted Pyrolysis-CVD	
A. Ishak, K. Dayana and M. Rusop	468
The Structural Properties of Carbon Nanotubes Grown on Porous Silicon-Based Materials by Thermal Chemical Vapor Deposition Method	
M.H. Fadzilah Suhaimi, S.A.M. Zobir, M. Rusop Mahmood and S. Abdullah	477
Thermal Stability and Decay Resistance Properties of Tropical Wood Polymer Nanocomposites (WPNC)	
M.S. Islam, S. Hamdan, M. Rusop and M.R. Rahman	482
Growth of Zinc Oxide Rods in Different Heating Medium	
Z. Khusaimi, S. Amizam, M.H. Mamat, M.Z. Sahdan, N. Abdullah, S. Abdullah and M. Rusop	490

Physical Properties of Nano-Structured Zinc Oxide Thin Films Deposited by Radio-Frequency Magnetron Sputtering I. Saurdi, M.H. Mamat and M. Rusop	495
Effect of Precursor Concentration in the Synthesization of ZnO Nanostructures by Solution-Immersion Method A. Ab Aziz, Z. Khusaimi and M. Rusop Mahmood	501
Electrical Properties of Nanostructured Aluminum Doped Zinc Oxide (ZnO) Thin Film Prepared Using Sol-Gel Spin-Coating Method at Different Doping Concentrations N.D. Md Sin, M.H. Mamat and M. Rusop	507
Optical Properties of Nanostructured Aluminum Doped Zinc Oxide (ZnO) Thin Film for Thin Film Transistor (TFT) Application N.D. Md Sin, M.H. Mamat and M. Rusop	511
Theory of Nano-Carbon Based Materials: Cyclotron Resonance, Kohn's Theorem and Hubbard Model K.N. Shrivastava	516
Floating Catalyst Method for Preparation of Carbon Nanotubes Using Fe/Co/Al Catalyst by Thermal-CVD A.A. Azira, N.F.A. Zainal, T. Soga, S. Abdullah and M. Rusop	525
Carbon Nanotubes Prepared by Thermal-CVD of from Palm Oil L. Helena, A.A. Azira and M. Rusop	530
The Effect of Inoculum in the Preparation of Fermented Tapioca for Nanotechnology Applications Based on FT-IR Studies M.Z. Nuraini, S. Aishah, S.F. Nik and M. Rusop	534
FTIR Studies of Carbon Nanotubes Produced from Fermented Tapioca Prepared by Thermal-CVD S. Aishah, M.Z. Nuraini, S.F. Nik and M. Rusop	538
Vertically Aligned Carbon Nanotubes from Palm Oil Precursor S. Abu Bakar, A.A. Azira, S.F. Nik, M.H. Taib, F. Mohamed and M. Rusop	542
Stability Studies on Optical and Structure Properties of Zinc Oxide Thin Films Exposed to Different Environment A.S.M. Rodzi, M.H. Mamat, M.N. Berhan and M. Rusop Mahmood	549
Nanostructured Zinc Oxide Thin Film Based Humidity Sensor Prepared by Sol-Gel Immersion Technique M. Awalludin, M.H. Mamat, M.Z. Sahdan, Z. Mohamad and M. Rusop	553
Influence of Annealing Temperature on the Properties of Nanostructured ZnO Thin Film Prepared by Sol-Gel Method M.S. Mansor, M.H. Mamat, Z. Mohamad and M. Rusop	558
A Comparative Study of TiO₂ Nanocoated Mild Steel Surface Properties between Short and Long Sputtering Time of RF Magnetron M.F. Achoi, M.N. Asiah, M. Rusop and S. Abdullah	562
Ultra-Violet Photoresponse Characteristics of Nanostructured Al Doped Zinc Oxide Thin Films Based Ultra-Violet Sensor S.Z. Muhamed, M.H. Mamat, N.D. Md Sin and M. Rusop	569
Transmittance Enhanced Properties of Novel Encapsulated ITO/Arc-TiO₂ Antireflective TCO Substrate Prepared by RF Magnetron Sputtering M.H. Abdullah, M.H. Mamat, M.Z. Musa and M. Rusop Mahmood	573