

Table of Contents

Preface and Organizing Committee

Quantum Hall Effect in AlGaAs and Graphite Quantum Dots

K.N. Shrivastava 1

New EM Transmitter with $\text{Y}_3\text{Fe}_5\text{O}_{12}$ 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 $\text{Bi}_{1.6}\text{Pb}_{0.4}\text{Sr}_2\text{Ca}_{2-x}\text{Yb}_x\text{Cu}_3\text{O}_y$ 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	128
M.F. Achoi, M.N. Asiah, M. Rusop and S. Abdullah	
Field Emission Model of CNT Based Ionization Gas Sensor	135
S. Mahmood, Z.A. Burhanudin and N.H. Hamid	
Changes in Physical and Antioxidant Properties of Nanostructured <i>Zingiber officinale</i> (Ginger) Rhizome as Affected by Milling Time	144
A. Norhidayah, A. Noriham and M. Rusop	
Effects of Ammonium Tetrafluoroborate on Conductivity and Thermal Studies on Cellulose Acetate Based Polymer Electrolytes	150
N.I. Harun, R. Md Ali, A.M.M. Ali and M.F. Yahya	
Carbon Nanotubes in Cancer Treatment: A Preliminary <i>In Vitro</i> Study Using Neuroblastoma Cells	155
I. Nurulhuda, M.Z. Mazatulikhma, R. Poh and M. Rusop	
Nanotoxicity of Magnesium Oxide on Human Neuroblastoma SH-SY5Y Cell Lines	160
N.I. Hasbullah, M.Z. Mazatulikhma and N. Kamarulzaman	
A Study on the Seebeck Effect of 3,4,9,10-Perylenetetracarboxylic Dianhydride (PTCDA) as a Novel N-Type Material in a Thermoelectric Device	165
Z.A. Rahman, K. Sulaiman, M. Rusop and A.S. Abu Bakar	
Deposition of Amorphous Carbon Thin Films via Bias Assisted Pyrolysis-CVD	172
A. Ishak, M.H. Mamat and M. Rusop	
Electroluminescence and Photoluminescence Properties of Porous Silicon Nanostructures with Optimum Current Density of Photo-Electrochemical Anodisation	180
M.A. Zubaidah, M.H. Fadzilah Suhaimi, S.F.M. Yusop, N.A. Asnida, M. Rusop and S. Abdullah	
Graph and its Computer Application with C++ Using Linked Lists	186
A. Shrivastava	
Factors Affecting the Properties of Zinc Oxide Thin Films Prepared by Dip-Coating Method: A Review	193
M.F. Malek, M.H. Mamat, M.Z. Musa, M.Z. Sahdan and M.R. Mahmood	
Mechanical and Morphological Properties of Tropical Wood Polymer Nanocomposite (WPNC)	200
M.S. Islam, S. Hamdan, M. Rusop and M.R. Rahman	
Electrical and Structural Properties of ZnO/TiO₂ Nanocomposite Thin Films by RF Magnetron Co-Sputtering	206
I. Saurdi, M.H. Mamat and M. Rusop	
Synthesis of Carbon Nanotubes by Chemical Vapour Deposition of Camphor Oil over Ferrocene and Aluminum Isopropoxide Catalyst	213
M.J. Salifairus and M. Rusop	
Synthesis and Characterization of Carbon Nanotubes from Palm Oil by Aerosol-Assisted CVD	218
M. Maryam, S. Abu Bakar, M.S. Shamsudin and M. Rusop Mahmood	
The Effect of Indium Mole Fraction on the Growth Behavior of Your In_xGa1-xAs Nanowires (NWs) Grown Using MOCVD	224
Z. Othaman, E. Wibowo and S. Sakrani	
Synthesis of β-Silicon Carbide Nanowires by a Simple, Catalyst-Free Carbo-Thermal Evaporation Technique	231
M.S. Al-Ruqeishi, R. Md Nor, Y. Mohd Amin and K. Al-Azri	
Effect of Temperature on Conductivity Studies of Cellulose Acetate Based Polymer Electrolytes	240
R. Md Ali, N.I. Harun, A.M.M. Ali and M.F. Yahya	
Impact of Nanopowders on Extraction Yield of <i>Centella asiatica</i>	246
M.Z. Borhan, R. Ahmad, M. Rusop and S. Abdullah	
A Review on Biosynthesis of Nanoparticles Using Plant Extract: An Emerging Green Nanotechnology	251
R. Mie, M.W. Samsudin and L.B. Din	
Influence of Different Types of Silanes on the Properties of Nanocomposite PMMA: TiO₂ Thin Films	255
I. Llyl Nyl, Z. Habibah, H. Sukreen Hana and M. Rusop	

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

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

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