

Table of Contents

Preface

Chapter 1: Materials Processing Technologies

Fatigue Performance and Impact Toughness of PBF-LB Manufactured AlSi 10Mg T. Rautio, M. Jaskari, M. Hietala, A. Mustakangas and A. Järvenpää	3
Design of Experiment for Determining Setting Parameter on Plasma Arc Machining for Stainless Steel Plate Cutting with Full Factorial Design R. Ahmadiani and K. Dwijayanti	11
Titanium Nitriding: A Systematic Literature Review A.W. Yuda, A. Arifin, I. Yani and B. Oemar	25
Sheet Forming of Roll Cast Aluminum Alloy for Die Casting T. Haga, S. Mori, H. Ochi, H. Fuse, H. Watari and S. Nishida	35
Mechanical Behavior and Void Analysis of 3D Printed PEEK by Fused Deposition Modeling (FDM) with Varying Infill Patterns S.L. Abing, P.A.N. de Yro and S.A.C. Aranez	41
Printability and Mechanical Properties of PLA/Iron Composites for FDM 3D Printing K. Doungkeaw and J. Tungtrongpairoj	47

Chapter 2: Materials for Opto- and Microelectronics

Enhanced Electrical Conductivity of Graphene-Incorporated Copper Wire and its Performances on Coaxial Cable Application at Sub 6 GHz Y.C. Jin, H.C. Pan and S.H. Chen	55
1-xSr_xMnO₃ Thin Films on a-SiO₂ Substrates Produced by Metal Organic Decomposition Method S. Kawaguchi, K. Hamada, H. Kobori, T. Taniguchi and T. Shimizu	61
Experiments of Failure and Damage in ITO-Coated PC/FPC with ACF Bonding due to Bending Fatigue C. Lin and C. Chu	67
Fabrication of Liquid-Metal Printed 2D Tin Oxide Nanosheets for Optoelectronic Applications S. Fujii	73

Chapter 3: Chemical and Food Engineering

Hydrogen Production from Rice Husk: Techno-Economic and Life Cycle Analysis K.C. Kong, C.L.M. Eh, A.N.T. Tiong, J. Kansedo, W.P.Q. Ng, C.H. Lim and B.S. How	81
Improving Efficiency of Heat Pump Dryer Using R32 Refrigerant by Nanofluid P. Somsila, E. Boonthum, A. Namkhet and U. Teeboonma	87
Comparative Study on Performance of Passive and Active Solar Dryer E. Boonthum, S. Sirichana, A. Namkhet and U. Teeboonma	97

Chapter 4: Waste Treatment and Biomass Processing

Catalytic Pyrolysis of Biomass Waste Mixture over Activated Carbon and Zeolite Catalyst for the Production Bio Oil H. Prasetiawan, D.S. Fardhyanti, H. Hadiyanto and W. Fatriasari	107
Pyrolytic Plastic Oil Distillation Study of Five Mixed Plastic Waste Pyrolysis J.P. Simanjuntak, B.H. Tambunan, J.L. Sihombing, M.Z. Zainon, N.W.B.M. Zulkifli and R. Riduan	119

The Effect of Drying Temperature Variation on the Production of Porang Starch Bioplastics with Sorbitol Plasticizer on Mechanical and Thermal Properties

A. Maghfirah, S. Sudiati, M.Z. Sofyan, N.A. Damanik and Y. Hia

125

Chapter 5: Measurements, Testing and Monitoring

Effect Evaluation of Repeated Compression for Tactile Hardening of Cotton Pile Towel by Indentation Test

S. Cui, A. Sakuma, T. Morita and H. Matsui

137

Intelligent Identification of Chinese and Australian Merino Wool Fibers Based on Image Recognition

X.B. Wang, Z.X. Chen, L.J. Wang, X.L. Shan, Z.L. Xie, Y.L. Shi and X.M. Qian

143

Neural Network Based Determination of the Degree of Fiber Mixing in Hybrid Yarns and Composites

M. Overberg, A. Dams, A. Abdkader and C. Cherif

149

***In Situ* Measurement of Twist Propagation and Yarn Tension with Superconducting Magnetic Bearing Twisting Element for Ring Spinning Process**

M. Hossain, A. Abdkader, C. Cherif, M. Baloochi, R. Hühne, Y.J. Perez Delgado and M.

Beitelsschmidt

155