

Table of Contents

Preface

Tuning Porosity and Mechanical Properties of Ti6Al4V Alloy Additively Manufactured by SLM

M. Roudnická, J. Bigas and D. Vojtech 1

Sub-Structure and Residual Stress in Rotary Swaged Cu/Al Clad Composite Wires

L. Kunčická and R. Kocich 7

Structural Analysis of Sputtered Sc(x)Al(1-x)N Layers for Sensor Applications

B. Hähnlein, T. Hofmann, K. Tonisch, J. Pezoldt, J. Kovac and S. Krischok 13

Effect of Electron Beam Irradiation on the Rheological Properties and Phase Transition Temperature of Poly(N-Vinylcaprolactam)

S.C. Halligan, K.A. Murray, O. Vrain, J.G. Lyons and L.M. Geever 19

Mechanical and Microstructural Analysis of an Ultra-Flexible Nano-Silver Paste Sintered Joint

L. Benabou, Q.B. Tao, T.A. Nguyen-Van, X.D. Wang and L. Chassagne 25

Effect of Perforations on Resonant Modes of Flat Circular Plates

S.M. Cunningham, D.A. Tanner, S. Clifford, D. Butan and M. Southern 31

Isomorphous Substitutions in Luminescent Materials Based on ScVO₄

L.I. Ardanova, E.I. Get'man, S.V. Radio, I.M. Hill and A.V. Ignatov 37

Monitoring of Extracellular Matrix Protein Conformations in the Presence of Biomimetic Bone Tissue Regeneration Scaffolds

R. Barroso, L. Garcia, F.A. Azaman, D.M. Devine, M. Lynch, M. Huerta and M.B. Fournet 43

Fluorite-Like Neodymium Molybdates Doped with Lead

L.I. Ardanova, K. Chebyshev, A.V. Ignatov, L. Pasechnik, N. Selikova, E.I. Get'man and S. Radio 49

Novel Composite Membranes Based on Polyaniline/Ionic Liquids for PEM Fuel Cells Applications

A. Eisa, A. Al-Othman, M. Al-Sayah and M. Tawalbeh 55

Preparation and Properties of Co/Fe Multilayers and Co-Fe Alloy Films for Application in Magnetic Field Sensors

H.L. Honig, M. Hopfeld and P. Schaaf 61

Analysis of Thermoelastic Damping of Functionally Graded Material Micro Plate Based on the Mindlin Plate Theory

S.R. Li, P. Xiong and D.F. Cao 67

Three-Disperse Magnetorheological Fluids Based on Ferrofluids Induced Modification of Sedimentation by Addition of Nanoparticles

M. Dassisti, G. Brunetti, A. Rizzuti and P. Mastrorilli 73

Performance Evaluation of a Novel Hydrophobic Membrane Used in a Desalination System: A Comparison between Static and Moving Configurations

D. Ahmad, R. Presswell and H. Jouhara 79

Correlating Structure and Electrical Properties in Rotary Swaged Al/Cu Clad Composites

L. Kunčická and R. Kocich 85

Effect of Swaging Temperature on Deformation Behaviour of W93Ni6Co1 Tungsten Heavy Alloy

L. Kunčická and R. Kocich 91

The Photoelectric Behavior and Antimicrobial Effect of Titanium Dioxide Deposition for Dental Implants

A.H. Alami, M. Moufti, M. Hamad, K. Aokal, A. Abu Hawili, R. Naji and M. Faraj 97

Kinetics Study of the Digestion of Magnesium Chloride Dihydrate in a Molten Salt Electrolyte

M. Tawalbeh 105

Material Based Fault Detection Methods for PV Systems

K. Osmani, A. Haddad, T. Lemenand, B. Castanier and M. Ramadan 111