

Table of Contents

Preface

Chapter 1: Properties and Processing of Structural Metals

Comparative Analysis of Metal Components Manufactured by WAAM Technology for the Strike Face Layer of Ballistic Protection	
J. Viliš, Z. Pokorný, J. Zouhar, R. Vítek and T. Fornůsek	3
Experimental Study of the Effect of Changing the Shape of Tool Geometry on the Magnitude of Cutting Forces when Turning Tool Steels	
H. Chochlíková, J. Escherová, J. Majerík and J. Majerský	13
Simulation and Experimental Validation of Orbital Laser Welding of Aluminum Alloy Tubes	
K. Łysiak, M. Marciniak, T. Galek and M. Tupaj	25
Experimental Comparison of 90MnCrV8 and X153CrMoV12 Steels in MN Knife Mill for Wear Reduction	
M. Krbata, M. Kohutiar, J. Escherová, M. Bilka, L. Timárová, P. Klučiar, R. Janík and J. Macháček	37
Study of Weldability of FSPR Joints in Steel/Al Alloy Hybrid Body	
L.J. Han, G.J. Li and R. Wang	49

Chapter 2: Specialised Materials, Technologies and Engineering Approaches

Evolution of Mn-Doped ZnO and Simonkolleite Phases from Thermally Oxidized Zinc Metal Sheets under MnCl₂ Mist	
C.L.E. Aquino, S.B. Orgen, D.M.B. Alfeche and M.D.L. Balela	63
Influence of Oxygen-Argon Ratio on ZrO₂ Thin Films Deposited on Transparent Conductive ITO Substrates	
R.H. Xiao, W.R. Sun, N. Gan, Z.F. Liu and Z.F. Tong	69
Powder Materials of REM-Containing Alloys Obtained by Gas Atomization of the Melt for Laser Surfacing Technologies and Additive Processes	
V.V. Savin, I.V. Barinov, I.A. Pastukhov, E.K. Poghosyan, V.G. Salamatov, L.A. Savina and I.O. Stasyuk	75
Preparation of a Graphene Oxide/Cellulose Thermal Conductive Adhesive and its Application on Cut Tobacco	
L. Lu, Q.H. Huang, H.Y. Wang, D. Li, Y. Wu, Y.M. Xia, Z.H. Hu, Z.H. Hu and J.L. Liu	91
Cellulose Derived from Banana Peels	
E.N. Scott, M. Calhoun and V. Rangari	97
Application of Bacterial Revertant Mutation Test in Hair Dye Research	
B.Y. Li and W. Di	103
Hysteresis in Approach-Retraction Frictional Contacts with Geometric and Material Nonlinearity	
M. Ceglie, G. Violano, L. Afferrante and N. Menga	109
Bilayer Graphene Optical Modulator Based on Metal-Nanoribbon Integrated Hybrid Plasmonic Waveguide	
Y.J. Xu, C.R. Zhang and Q.L. Wang	117