

Table of Contents

Preface and Organization Committee

Chapter 1: Materials Science

Thermal Behaviour of New Type of Plaster with PCM Admixture J. Fořt, M. Pavlíková, A. Trník and Z. Pavlík	3
Influence of Carbon on the Stacking Fault Energy and Deformation Mechanics of Fe-Mn-C System Alloys Y.J. Dai, B. Li, H.E. Ma and C. Zhang	9
Thermal Performance and Temperature Resistance of Straw-Geopolymer Composites M.T. Jin, M.Y. Liao, L. Chen and Z.F. Jin	15
Experimental Study on Mechanisms of Buckling and Kink-Band Formation in Graphene Nanosheets C.C. Wen, T.W. Chang and W.S. Kuo	19
Study on the Properties of Compressed Bricks Using Cameron Highlands Reservoir Sediment as Primary Material J.L. Ooi, L.W. Ean, B.S. Mohammed, M.A. Malek, L.S. Wong, C.W. Tang and H.Q. Chua	25
The Resistance Relaxation Effect of Conductive Rubber Composite W.X. Quan, B. Li and P.Y. Wang	31
The Effect of Isothermal Deformation Parameters on Abnormal Grain Growth of P/M Nickel-Base Superalloy S. Fang, M.C. Zhang, Y.P. Dong and S.Y. Wang	37

Chapter 2: Applied Mechanics, Modeling, Simulation and Control

Research on the Relationship between Speed Control System and Electromechanical Oscillations Y.Q. Zhu, M. Zhong, Y.J. Ma, F.P. Pan, L.L. Shi and Z.Q. Pang	47
Research on the Secondary Interface of Electronic Transformers in Smart Substation H. Chen, C.L. Ou, F.S. Chen, J. Xiang, X.Y. Xu, W.N. Wang and H.Y. Wang	53
Identifying Significant Control Factors of Particle Swarm Optimization Algorithms in Solving Permutation Flowshop Scheduling Problems C.K. Lee	61
Energy Optimal Control of PMSM Drive for Time-Varying Load Torque J. Vittek, B. Ftorek, P. Butko and T. Fedor	67
Anti-Theft and Temperature Control of Car Wheel R. Gupta, G. Jagdev, G. Singh, G.B. Singh and M. Singh	77
The Measurement of the Fatigue Crack-Tip Displacement and Strain Fields under High Frequency Resonant Loading Applying DIC Method H.L. Gao, W. Jiang, H. Liu, H.B. Zheng and H. Liu	83
Comparative Investigation of an Automated Oceanic Wave Surface Glider Robot Influence on Resistance Prediction Using CFD Method A. Elhadad, W.Y. Duan and R. Deng	91
Optimal the Multiple Performances in EDM for SKH57 Using Grey Relational Analysis Y.C. Lin, J.C. Hung, L.R. Hwang and A.C. Wang	99
Overview of Centrifuge Model Test Development and its Application M.D. Zang, Z.J. Fan, J. He, J.W. Xu, J.W. Qiao and Y. Liu	107
Modeling and Simulation of Solar Radiation M. Marcu, F. Popescu, L. Pana and I.R. Slusariuc	113

Chapter 3: Data Processing and Information Technology

The Research of High-Dimensional Big Data Dimension Reduction Strategy	
Q.C. Jiang	121
The Research of Generation Algorithm of Frequent Itemsets in High-Dimensional Data	
Q.C. Jiang	127
A Study of Distinguisher Attack on AES-128 and AES-256 Block Ciphers through Model Based Classification Using Neural Network	
K. Vetrivel and S.P. Shanthyarajah	133
Research on Multi-Agent Intelligent Information Retrieval Model	
R. Dai, X. Xu, C.F. Shi and Y. Lu	139