

Machine, Manufacturing, Materials and Information Technology II

Selected, peer reviewed papers from the 2014 2nd International Conference on Material Engineering and Manufacturing Engineering (ICMEME 2014), October 25-26, 2014, Beijing, China

von
B. Xu

1. Auflage

Trans Tech Publications 2014

Verlag C.H. Beck im Internet:
www.beck.de
ISBN 978 3 03835 327 0

Table of Contents

Preface and Committees

Chapter 1: Material Science and Chemical Engineering

Electrochemical Performance of Anode Materials for Lithium-Ion Power Batteries W.H. Zhang and K.P. Wang	3
Effect of Scratch Depths on Tensile Strength of PMMA for Aircraft Canopies X.H. Shi and M.J. Shan	8
The Effect of Different Methods to Pretreat Reed Pulp on the Crystallinity of Microcrystalline Cellulose W.L. Zhang, W.L. Zhao and Y.J. Dai	12
Adsorption of Pb²⁺, Cu²⁺ and Cr³⁺ on Yongnian Bentonite S.L. Ding, D.D. Hou, B.H. Xu and Y.Z. Sun	16
Influence of CF on PTC Properties of LDPE/Carbon Fiber Composites W.L. Zhang, Y.P. Wan, Y.J. Dai, Y. Gao, C. Wang, W.X. Kou and X. Zhang	20
Study on Dye-Sensitized Solar Cells Based on Graphene / Pt Counter Electrode H.J. Wang, L.G. Jin, S. Wang, C. Wang and T.Y. Liu	25
Corrosion Behavior of Galvanized Steel for Grounding Grids in the Red Clay Soil A.J. Yan, Y.P. Shao, Y.N. Wang, S.Q. Zhao and Q.Q. Liao	30
Applied Research on New Materials in Product Design R.S. Yan	34
Electrolysis and Flocculating of Azophloxine Using Polyaluminum Chloride Y. Wang, X.N. Qin and W.J. Zhang	38
Study on the Optical Transmission Properties of One-Dimensional Photonic Crystal of MoS₂ K. Wu, W.X. Gu, C. Wu, J.L. Ma and X.Y. Ma	42
Effect of Ti and Zr Composite Refiner on Microstructure and Tensile Properties of Pure Aluminum A.W. Yu, C.G. Yang, P. He and H. Chen	47
Experimental Analysis of Mechanical Properties of High Organic Soft Clay at Different Depths F. Liu, J.S. Chen and K.W. Li	52
The Adsorption of Zn²⁺ onto Chitosan-Aluminum Oxide Composite Material X.J. Ren, Q.G. Gao and M. Gao	58
Coal Ash as Flame Retardants for Flexible Poly (Vinyl Chloride) X.J. Ren, C.G. Song and M. Gao	62
Numerical Simulation of Dynamics on Plant Fibers Suspension in Shear-Planar Extensional Flow Z. Huang	66
The Production and Polymerization of Polyacrylamide G.L. Jing, S.W. Zhan, J. Du and W. Yuan	70

Chapter 2: Manufacturing and Production Processing, Evaluation and Management Applications

Manufacturing Research with SBOS Ice Cream of Goat Milk Processing Y. Ma, W.W. Liu and X.J. Meng	75
Comprehensive Evaluation of Gas Zone in Multi-Layer Sandstone Gas Reservoir C.H. Ou, C.C. Li and J. He	80
Manufacturing Research with Feasibility of Vacuum Freeze Drying Technology for Leisure Meat Products Processing Y. Ma, W.W. Liu and G.H. Huang	84

Manufacturing Research with Key Applied Technology in Vacuum Freeze-Drying Leisure Meat Processing Y. Ma, S. Wu, X.J. Meng and W.W. Liu	88
Research on Food Manufacturing with Effect and Comparison of Microwave and Traditional Cooking Processing on Antioxidant Function of Lotus Root Y.L. Zhu, T. Chen, J.J. Zhu and Y. Yuan	92
Research on Food Manufacturing with Effect of Cooking on Lotus Roots Absorbing Cholesterol and Saturated Fatty Acids Y.L. Zhu, T. Chen, J.J. Zhu, Y. Yuan and X. Liu	98
The Applied Research of HACCP Food Safety System in Pork Traceability D. Wang, Y.H. Li, B. Li and X.J. Xue	103
Based on the Protection of Water Pack Polysaccharide Processing Technology and its Optimization Y.L. Zhu, Q.Q. Wang, Y. Yuan and J.J. Zhu	107
Manufacturing Research on the Ability of Finance Statement Information in Predicting Abnormal Return of Investing Chinese Manufacturing Companies X.M. Sun and J.J. Zhang	114
Discussion on the Problem of Water Resources Protection L.H. Huang and B. Gui	118

Chapter 3: Energy Saving and Construction Engineering

Study on Control Technology of Project Management for Construction Cost in Civil Engineering L. Liu	125
Energy Saving Technology for Doors and Windows of the Building F.Y. Yang	128
Study on the Benefits of Energy Saving Reconstruction of Rural Building F.Y. Yang	131
Comparative Study of Phenol Adsorption from Aqueous Solution onto Four Kinds of Absorbents W.F. Dong, L.H. Zang and X. Pang	134
Concise Analysis in Selection of Reflection Glass Curtainall J.Q. Chen	138
Control Technology Based on Information Feedback for Construction Project Management in Civil Engineering L. Liu	142

Chapter 4: Machinery, Automation and Control, Industry Development Applications

Finite Element Analysis of 2-DOF Positioning Stage with a Gas Bearing Based on ANSYS X.L. Zhang, Z.W. Lu, B. Liu and J.A. Zhang	149
Assembly Line Balancing in Automobile Engine Industry S.Q. Zhang, X.C. Zhang, W.J. Wang, Y.L. Xu, J.J. Deng and S.X. Xie	154
Research on Fusion Tracking Technology in Heterogeneous Multi-Sensor Y.J. Liu, C.X. Xie and J.H. Song	158
Study on Two-Wheeled Self-Balancing Electric Vehicle Based on Fuzzy PD Control Algorithm Z.C. Yang and B.H. Wang	162
Decision Method of Processing Scheme for Part Surface with Constraint Condition Based on T-Invariant of Fuzzy Petri Nets W.Y. Xiao and F. Yu	166
Rigid-Flexible Coupling Dynamics of Folding Boom System in Range Changing Case L. Du, P. Lan and N.L. Lu	171
Virtual Validation and Verification Method of Brake System Model L. Xu, R. Guo and X. Liu	177

Analytic Design on Driven Member of Spatial Five-Bar Mechanism Doing unto Three-Ordered Intermission on Limit Positions H.X. Wang and E.H. Dai	182
Research on Conceptual Design Selection Based on Engineering Science J. Li, Y. Qiu, F.Y. Wei and R.S. Jiang	186
 Chapter 5: Communication, Signal and Data Processing, Computational Algorithms and Applied Information Technology	
Research on the Intermediate Frequency Receiver of L-Band S. Zhao and Y.Q. Liu	193
Data Processing in the Indirect Benefits of Logistics Park - Taking Beijing Airport Logistics Park as Example Z.Y. Zhang, Z.Y. Lu and S.W. Ji	197
Designed Data Mining System Based on the Distribute Intrusion Detection Designed H.Y. Liu	202
Data Processing and Applied-Information Technology for Economic Development Problems of Ginseng Based on Relevance Theory Z.Z. Wang and D.Q. Zhang	206
Data Processing for Countermeasures on the Problems of the Assessment of the Value of Highway - With the Example of Highway Assets which Need Expansion R.J. Li and J. Li	211
Data Processing in Abound Solutions of (2 + 1)-dimensional Boussinesq Equation H.K. Gong, X.S. Zhao and G.H. Zhao	215
A Localization Algorithm Based on Anchor-Free Wireless Sensor Network C. Liu, J.L. Mao, Z.C. Chi, L.X. Fu and F.H. Xiang	221
Applied-Information Technology in Sigma-Delta ADC Based on P87LPC764 P.J. Ji and Z.G. Han	227
Applied-Information Technology in Intelligent Question-Answering System Based on Knowledge F. Zhang, Z. Luo and X.K. Wu	231
Application in Information Technology by Digital Signal Processor S.L. Chen and P.C. Li	236
The Application of IMM-PF in Airport Surface Moving Target Tracking Q. Chen, B.F. Wang and S.L. Liu	240
Research on Target Recognition of the Millimeter Wave Car Collision Avoidance Radar Based on the LFM CW S. Zhao and L. Chen	244
Construction of Practice System for Interpretation with Applied-Information Technology X.Z. Tian	248