Table of Contents

Preface and Committees

Chapter 1: Mechanical Engineering and Materials Science

| A Preconditioned Gauss-Seidel Iterative Method for Linear Complementarity Problem in Intelligent Materials System B.X. Duan, W.Y. Zeng and X.P. Zhu | 3 |
|--|------------|
| The Recombination of Equipment Maintenance Support Personnel Based on the Capability and Mission Model Q.B. Yue and X. Zhao | 9 |
| Study on Prediction of Gas Balance Schedule in Steel Plant G.H. Lou, X.J. Shang and S.J. Li | 14 |
| Application of Frequency Converter Driver in Long Belt Conveyor G.H. Lou, H.L. Yin and S.J. Li | 19 |
| Impact Assessment of Job Machine Factors on Scaling Parameters Y. Chen | 23 |
| Comprehensive Identification of Sintered Carbide Durability in Machining Process of Bearings Steel 100CrMn6 A. Panda, J. Duplák, J. Jurko and M. Behún | 30 |
| Estimation of the Temperature-Dependent Thermal Conductivity of Multi-Phase Materials H.F. Zhang, P.X. Li and L.Q. He | 34 |
| The Method of Logging Curves Fusion Based on Multi-Scale Wavelet Transform Y.L. Yu, Y. Bai, J.Q. Wang and W.Q. Li | 40 |
| Design, Analysis and Test for Micro-Mechanical Piezoresistive Accelerometer L. Sui, J.H. Zhang, J.F. Liu and G.C. Shi | 46 |
| The Temperature Monitory System of Electric Cable Interface Y. Zhou, A.M. Yang, L.Y. Bai and Y.X. Liu | 52 |
| The Spread-Mathematical Model of Special-Shaped Steel Wire during the Rolling B.J. Wang, W.K. Sun and Y.J. Wang | 56 |
| Strain Distribution Characteristics in the Rolling Process of Shaped Wires B.J. Wang, W.P. Zhang and Y.J. Wang | 64 |
| Dynamic Adaptive Weight Multi-Scale and Multi-Structure Morphological Edge Detection in Anterior Chamber OCT Images S.W. Huang, A. Zhang, X.L. Tian and Y.K. Sun | 70 |
| Temperature Field in Electric Control Unit of Diesel Engine and its Optimization Design Z.J. Liu, Y.L. Lei and Y.J. Li | 76 |
| The Preparation and Evaluation of α-CSH/β-TCP Combined Artificial Bone K.Y. Mao, F.H. Zhou, F.Z. Cui, J.T. Li, Z.S. Cheng, P. Li, Z. Wang, K.Z. Mao and Y. Wang | 81 |
| Effect of Functionalized MWCNTs on the Tribological Properties of Polyimide Film L. Liu, Y.Q. Zhu, J. Song and S. Chen | 88 |
| The Study of Automatic Counting of Coal and Gangue Based on the DaVinci Video Image Processing Technology Y.D. Zhao and M.F. Sun | 95 |
| The Design of Simulation Signal Source for Fish Torpedo Testing Based on DSP N.J. Hao, C. Hu, Y.X. Hua and Z.J. Yu | 99 |
| Design of USB-GPIB Controller Based on up D7210 N.J. Hao, Z.J. Yu, C. Hu and Y.X. Hua | 104 |
| Research on Development for MES of Mould Making Based on WEB Platform and B/S Mode | 100 |
| J.G. Yu, M.L. Feng, P.P. Huang and D.C. Xu The Design of Crops Remote Sensing Monitoring System Based on Supermap Objects B.X. Chang, Y. Chen and J.Y. Huang | 109 116 |
| | |

| Research on the Least Squares Method in Error Compensation on RSSI Ranging W.X. Ling, J.M. Gao and C.Y. Li | 121 |
|---|---|
| Mechanical Mechanism Analysis for Qianjiangping Landslide Damage on Three Gorges Reservoir | |
| Q. Feng and S.R. Xiao | 126 |
| Design and Performance of the Double Dislocation Perforated Shielding Plate Used in Vacuum Arc Deposition for High Quality Coating Deposition W.C. Lang | 130 |
| Experimental Study of Temperature Correction on Single-Mode Sleeve Fiber for Distributed Strain Monitoring Y.L. Gao, G.L. Xu, J.Y. Zhang and Q.L. Le | 136 |
| The Dynamics of Entropy Exchange between Field and Atom X.Q. Yan | 143 |
| Noise Variance Estimation Based on Knowledge of Noise Reduction Coefficient P. Jakub and M. Grzegorz | 149 |
| Based on Spectral Analysis of Voice Controllable Surveillance System Using Normalized Mean Square Error P. Jakub and M. Grzegorz | 156 |
| Study on Analysis and Estimation of Alert Degree Based on EEG S.Z. Li and D.R. Jiang | 161 |
| Design of a Dynamic Magnetic Field Steered Cathodic Arc Source in Arc Ion Plating W.C. Lang | 167 |
| Discussion on the Construction of Accounting Informatization in Internet Era X.Q. Tang, Y.Y. Kang and C.L. Yan | 173 |
| Improved Electroluminescence from nc-Si Film Embedded in p-i-n Structure LED Z.Y. Ma, G.Y. Xia, X.F. Jiang, W. Li, L. Xu, K.J. Chen and D. Feng | 177 |
| Effect of the Randomness of the Relative Humidity on the Phenomenon of Carbonation of the Reinforced Concrete A. Badaoui, M. Badaoui and F. Kharchi | 181 |
| | |
| Chapter 2: Biomaterial Science | |
| Chapter 2: Biomaterial Science Comparative Analysis and Assessment on Oxidation Resistance of Proanthocyanidin Extract from Sanguisorba Root G.O. Liang, G.Z. Fang and I.V. Pang | 187 |
| Comparative Analysis and Assessment on Oxidation Resistance of Proanthocyanidin Extract from Sanguisorba Root G.Q. Jiang, G.Z. Fang and J.Y. Pang Research on the Concurrency Control Communications Protocol in BioMedical | 187 |
| Comparative Analysis and Assessment on Oxidation Resistance of Proanthocyanidin Extract from Sanguisorba Root G.Q. Jiang, G.Z. Fang and J.Y. Pang Research on the Concurrency Control Communications Protocol in BioMedical Information Service System X.X. Du, B. Wang and J.Z. Tian | 187 192 |
| Comparative Analysis and Assessment on Oxidation Resistance of Proanthocyanidin Extract from Sanguisorba Root G.Q. Jiang, G.Z. Fang and J.Y. Pang Research on the Concurrency Control Communications Protocol in BioMedical Information Service System X.X. Du, B. Wang and J.Z. Tian Research and Design of Wireless Remote Health Monitoring System Based on nRF24E1 Y.Z. Jiang, Z.M. Yao, G.J. Song and J. Dong | |
| Comparative Analysis and Assessment on Oxidation Resistance of Proanthocyanidin Extract from Sanguisorba Root G.Q. Jiang, G.Z. Fang and J.Y. Pang Research on the Concurrency Control Communications Protocol in BioMedical Information Service System X.X. Du, B. Wang and J.Z. Tian Research and Design of Wireless Remote Health Monitoring System Based on nRF24E1 Y.Z. Jiang, Z.M. Yao, G.J. Song and J. Dong Design of Medical Monitoring and Locating System Based on GPS and GPRS Y. Ti, S.D. Liu and X.Y. Wang | 192 |
| Comparative Analysis and Assessment on Oxidation Resistance of Proanthocyanidin Extract from Sanguisorba Root G.Q. Jiang, G.Z. Fang and J.Y. Pang Research on the Concurrency Control Communications Protocol in BioMedical Information Service System X.X. Du, B. Wang and J.Z. Tian Research and Design of Wireless Remote Health Monitoring System Based on nRF24E1 Y.Z. Jiang, Z.M. Yao, G.J. Song and J. Dong Design of Medical Monitoring and Locating System Based on GPS and GPRS Y. Ti, S.D. Liu and X.Y. Wang Antioxidant Properties of Laoying Tea (Litsea Coreana L.) Extracts H.F. Ji, L.W. Zhang, Y. Zhang, H.H. Jin and L.Y. Wang | 192 197 |
| Comparative Analysis and Assessment on Oxidation Resistance of Proanthocyanidin Extract from Sanguisorba Root G.Q. Jiang, G.Z. Fang and J.Y. Pang Research on the Concurrency Control Communications Protocol in BioMedical Information Service System X.X. Du, B. Wang and J.Z. Tian Research and Design of Wireless Remote Health Monitoring System Based on nRF24E1 Y.Z. Jiang, Z.M. Yao, G.J. Song and J. Dong Design of Medical Monitoring and Locating System Based on GPS and GPRS Y. Ti, S.D. Liu and X.Y. Wang Antioxidant Properties of Laoying Tea (Litsea Coreana L.) Extracts H.F. Ji, L.W. Zhang, Y. Zhang, H.H. Jin and L.Y. Wang Study on Combination and Bioremediation of Chlorimuron-Ethyl-Degrading Strains C.H. Xu, C.Y. Li, M.H. Xiong, J.B. Pan, X.S. Li and X.S. Cheng | 192 197 202 |
| Comparative Analysis and Assessment on Oxidation Resistance of Proanthocyanidin Extract from Sanguisorba Root G.Q. Jiang, G.Z. Fang and J.Y. Pang Research on the Concurrency Control Communications Protocol in BioMedical Information Service System X.X. Du, B. Wang and J.Z. Tian Research and Design of Wireless Remote Health Monitoring System Based on nRF24E1 Y.Z. Jiang, Z.M. Yao, G.J. Song and J. Dong Design of Medical Monitoring and Locating System Based on GPS and GPRS Y. Ti, S.D. Liu and X.Y. Wang Antioxidant Properties of Laoying Tea (Litsea Coreana L.) Extracts H.F. Ji, L.W. Zhang, Y. Zhang, H.H. Jin and L.Y. Wang Study on Combination and Bioremediation of Chlorimuron-Ethyl-Degrading Strains C.H. Xu, C.Y. Li, M.H. Xiong, J.B. Pan, X.S. Li and X.S. Cheng Development of a Novel CaP-Containing Mesoporous Silica-Based Xerogels Used as Hemostatic Material with Good Biodegradability and Low Heat Generation X.S. Li, W. Lin, F.L. Xin, Y. Yuan, C.S. Liu and C.L. Da | 192 197 202 209 |
| Comparative Analysis and Assessment on Oxidation Resistance of Proanthocyanidin Extract from Sanguisorba Root G.Q. Jiang, G.Z. Fang and J.Y. Pang Research on the Concurrency Control Communications Protocol in BioMedical Information Service System X.X. Du, B. Wang and J.Z. Tian Research and Design of Wireless Remote Health Monitoring System Based on nRF24E1 Y.Z. Jiang, Z.M. Yao, G.J. Song and J. Dong Design of Medical Monitoring and Locating System Based on GPS and GPRS Y. Ti, S.D. Liu and X.Y. Wang Antioxidant Properties of Laoying Tea (Litsea Coreana L.) Extracts H.F. Ji, L.W. Zhang, Y. Zhang, H.H. Jin and L.Y. Wang Study on Combination and Bioremediation of Chlorimuron-Ethyl-Degrading Strains C.H. Xu, C.Y. Li, M.H. Xiong, J.B. Pan, X.S. Li and X.S. Cheng Development of a Novel CaP-Containing Mesoporous Silica-Based Xerogels Used as Hemostatic Material with Good Biodegradability and Low Heat Generation X.S. Li, W. Lin, F.L. Xin, Y. Yuan, C.S. Liu and C.L. Da Treatment of Dye Wastewater by Zero Valent Iron Composited Organobentonite J.F. Ma, J.M. Yu, B.Y. Cui, D.L. Li and J. Dai | 192 197 202 209 215 |
| Comparative Analysis and Assessment on Oxidation Resistance of Proanthocyanidin Extract from Sanguisorba Root G.Q. Jiang, G.Z. Fang and J.Y. Pang Research on the Concurrency Control Communications Protocol in BioMedical Information Service System X.X. Du, B. Wang and J.Z. Tian Research and Design of Wireless Remote Health Monitoring System Based on nRF24E1 Y.Z. Jiang, Z.M. Yao, G.J. Song and J. Dong Design of Medical Monitoring and Locating System Based on GPS and GPRS Y. Ti, S.D. Liu and X.Y. Wang Antioxidant Properties of Laoying Tea (Litsea Coreana L.) Extracts H.F. Ji, L.W. Zhang, Y. Zhang, H.H. Jin and L.Y. Wang Study on Combination and Bioremediation of Chlorimuron-Ethyl-Degrading Strains C.H. Xu, C.Y. Li, M.H. Xiong, J.B. Pan, X.S. Li and X.S. Cheng Development of a Novel CaP-Containing Mesoporous Silica-Based Xerogels Used as Hemostatic Material with Good Biodegradability and Low Heat Generation X.S. Li, W. Lin, F.L. Xin, Y. Yuan, C.S. Liu and C.L. Da Treatment of Dye Wastewater by Zero Valent Iron Composited Organobentonite J.F. Ma, J.M. Yu, B.Y. Cui, D.L. Li and J. Dai Adsorption and Catalysis of Orange II from Wastewater by Inorganic-Organic-Bentonite J.F. Ma, J.M. Yu, B.Y. Cui, D.L. Li and J. Dai | 192 197 202 209 215 |
| Comparative Analysis and Assessment on Oxidation Resistance of Proanthocyanidin Extract from Sanguisorba Root G.Q. Jiang, G.Z. Fang and J.Y. Pang Research on the Concurrency Control Communications Protocol in BioMedical Information Service System X.X. Du, B. Wang and J.Z. Tian Research and Design of Wireless Remote Health Monitoring System Based on nRF24E1 Y.Z. Jiang, Z.M. Yao, G.J. Song and J. Dong Design of Medical Monitoring and Locating System Based on GPS and GPRS Y. Ti, S.D. Liu and X.Y. Wang Antioxidant Properties of Laoying Tea (Litsea Coreana L.) Extracts H.F. Ji, L.W. Zhang, Y. Zhang, H.H. Jin and L.Y. Wang Study on Combination and Bioremediation of Chlorimuron-Ethyl-Degrading Strains C.H. Xu, C.Y. Li, M.H. Xiong, J.B. Pan, X.S. Li and X.S. Cheng Development of a Novel CaP-Containing Mesoporous Silica-Based Xerogels Used as Hemostatic Material with Good Biodegradability and Low Heat Generation X.S. Li, W. Lin, F.L. Xin, Y. Yuan, C.S. Liu and C.L. Da Treatment of Dye Wastewater by Zero Valent Iron Composited Organobentonite J.F. Ma, J.M. Yu, B.Y. Cui, D.L. Li and J. Dai Adsorption and Catalysis of Orange II from Wastewater by Inorganic-Organic-Bentonite | 192 197 202 209 215 222 229 |

| Effects of Isolated Soy Protein and Ascorbic Acid on Formation of Furan, Acetic and Formic Acids from Fructose | |
|---|-----|
| X.S. Huang and N. Peng | 248 |
| 6-Gingerol Function against Fatigue X.S. Huang and N. Peng | 254 |
| A Localization and Extraction Method Research for Phalange ROI and Carpal ROI from Left Hand Radiography | 259 |
| L.K. Ran, L. He and Z. Chen Comparison of Auto and Manual Integration for Peptidomics Data Based on High | 239 |
| Performance Liquid Chromatography Coupled with Mass Spectrometry H.Y. Fang, G.P. Zhang, F. Gao, X.P. Zhao, P. Shen and S.F. Wang | 266 |
| Analysis of Peptides in Plasma by High Performance Liquid Chromatography Coupled with Electrospray Ionization Mass Spectrometry H.Y. Fang, Y. Liu and S.F. Wang | 273 |
| Isolation and Identification of Ammonibacteria and Ammoniation Characteristic Analysis W.Y. Zhang, F.Y. Tan, T.T. Zhao, L.Q. Lu and N. Han | 280 |
| Treatment of Silicon Steel Wastewater with Fenton Reagent W.Y. Zhang, R. Chen, X. Luo, Q.Y. Li and N. Han | 287 |
| Studies on SiO ₂ /TiO ₂ Complex Film of the Filter Material Carrier and its Photocatalytic Features W.Y. Zhang, N. Han, L.R. Yao, P.C. Fan and R. Chen | 293 |
| Study on Isolation and Degradation Mechanism of Bacteria for the Biodegradation of | 293 |
| Microcystins (MC-LR) W.Y. Zhang, Q.Y. Li, N. Han, X.Z. Chen and X.L. Chen | 300 |
| Improvement of Shake Flask Fermentation Conditions for the Pseudomonas Strain N1 W.Y. Zhang, R. Chen, L.Q. Lu, X. Xu and S.H. Wu | 305 |
| Study on Biological Aerated Filter (BAF) of Algae-Contained Micropolluted Water W.Y. Zhang, N. Han, G. Yan, X. Xu and X.L. Chen | 311 |
| Study on the Extraction and Purification of Microcystins (MC-LR) W.Y. Zhang, N. Han, L.R. Yao, X.L. Qiu and X.L. Chen | 318 |
| Stochastic Optimization of Empty Container Repositioning of Sea Carriage B. Wang and T. Yang | 324 |
| Theoretical Study on the Transport through a Quantum Dots Array with a Side Quantum Dot H.T. Vin, Y. L. Liv, W.L. Wen, C.P. Vee, L.N. Pei, H. Li, and V.O. Vin, | 331 |
| H.T. Yin, X.J. Liu, W.L. Wan, C.B. Yao, L.N. Bai, H. Li and Y.Q. Yin GH002: A Novel and Potent Agents for Elevating HDL-Cholesterol | 331 |
| G. Lei | 337 |
| Fermentation Conditions Optimization of Anti-Tumor Active Metabolites from Marine Penicillium sp. HGQ6 G. Lei, W.C. Zhu and C. Liu | 344 |
| Construction of Two Vectors for a Bypass of Monocotyledon Plants Photorespiration | 344 |
| X.L. Bai, D. Wang, N.N. Liu, L.J. Wei, Y.R. Zhu, Y.L. Bai and Y. Wang | 351 |
| Study of Supervised Segmentation Algorithm Based on Ant Colony for Putamen Region in Brain MRI X.J. Liu, E.Q. Dong, C.L. Lv, X.Y. Li, B. Cui and Q. Zheng | 357 |
| Nitric Oxide-Donating Derivatives of Chrysin Stimulate Angiogenesis and Upregulating | 337 |
| VEGF Production X.Q. Zou, Y.L. Ding, S.M. Peng, C.P. Hu, H.W. Deng and Y.J. Li | 363 |
| Study on Nitrogen, Phosphor and Chemical Oxygen Demand of Differnt Categories of Aquaculture Lakes by Means of Principal Component Analysis, Factor Analysis and Cluster Analysis | |
| L.J. Gong, X.F. Yang, B.X. Xiong, G.P. Li and X.L. Chen | 369 |
| Research on Temperature Compensation for Long-Period Fiber Grating with Strain Property | |
| Z.W. Hou, Y. Wang and B. Zhou | 378 |
| Identification of ZAG Protein as a Novel Serologic Biomarker Candidate for Liver Cancer F. Wang, Y. Geng, W.M. Zhang and X. Geng | 383 |

| Bioinformatics Analysis of Zinc-Alpha2-Glycoproteina Potential Serological Marker for Hepatocellualr Carcinoma | |
|--|-----|
| F. Wang, Y. Geng, W.M. Zhang and X. Geng | 390 |
| A Density Functional Theory Study on the McLafferty-Type Rearrangement in evenElectron Ions under Electrospray Ionization (ESI) Conditions | 397 |
| Synthetic Aperture Focusing Technique and Contrast Source Inversion Algorithm Applied | |
| in Elastic Wave Imaging J. Qi, J.H. Miao and Y.X. Xie | 402 |
| The Study of Apoptosis Induced by Allicin in HT-9/HL-60 and its Transfection Cell S.L. Shao, W.W. Zhang, X.Y. Li, D.Z. Yun and Y. Zhang | 409 |
| Deproteinization of Polysaccharide from the Stigma Maydis by Sevag Method X. Li, R. Zhao, H.L. Zhou and D.H. Wu | 416 |
| Predictive S Control of AUV Based on Model of Support Vector Machine G.C. Zhang, L. Zhang, L. Wan and J.Q. Li | 421 |
| Research on Strengthening Decomposition of Organic Nitrogen by Ammonibacteria in the | |
| Faber Cymbidium Plant Floating Island W.Y. Zhang, R. Chen, T.T. Zhao, P.C. Fang and S.H. Wu | 429 |
| Investigation of Real-Time Cardiac Monitoring Robert Based on CDMA Technology G.S. Li, F.L. Zhang, H.Z. Yang, Y. Hong and Q.Z. Hu | 436 |
| Preliminary Study of Incipient Electrical Impedance Change and Detection of Brain Tissue | |
| after Ionization Injury C.S. Chen, F. Xiao, S.W. Xu, F. Tao, X.T. Shi, R.G. Liu, X.Z. Dong and F. Fu | 439 |
| The Effect of Airflow Patterns on the Purification Efficiency of the Operating Room J.C. Xing, Y.P. Wang, J.H. Ling, Y.P. Li and Y.Z. Ji | 444 |
| Design and Realization of Portable ECG Monitor with Dual CPU F. Yang, H.P. Hang, J.H. Shen and M.G. Shao | 451 |
| The Performance and Material Selection of Medical Ultrasonic Transducer J. Geng, Q.L. Li, J. Wu, Q.Q. Yang and H.X. Chen | 456 |
| Kinetic Study on Phosphorus Adsorption, Phosphorus Desorption, Nitrification, and Denitrification by Using Mineralized Refuse | |
| D.L. Li, J.S. Tian, H.H. Zhang, Y.M. Zhang and Y.X. Gao | 461 |
| Co-Treatment of Rural Kitchen Waste and Domestic Sewage to Produce Biogas Research D.L. Li, Y. Hu, Y.M. Zhang and H.H. Zhang | 467 |
| Remediation of Eutrophic Water Body by Zoobenthos Q. Chen, D.L. Li, X.J. Kong, Y.M. Zhang and J.Y. Chao | 473 |
| Removal Properties of Nitrogen and Phosphorous in Eutrophic Water with Periphyton Attached by Artificial Substrate | |
| D.L. Li, H. Lu, Q. Chen, J.Y. Chao, X.J. Kong and Y.M. Zhang | 480 |
| Treatment of Dye Wastewater by Adsorption with Bentonite-Supported Magnetic Materials X.M. Chen, J.F. Ma and D.L. Li | 487 |
| An Improved Algorithm for Medical Image Fusion Based on Pulse Coupled Neural Networks | |
| M.H. Wang | 492 |