2010 International Conference on Computational and Information Sciences

(ICCIS 2010)

Chengdu, China
17 – 19 December 2010

Pages 1-688

IEEE Catalog Number: CFP1052L-PRT
ISBN: 978-1-4244-8814-8

2010 International Conference on Computational and Information Sciences

ICCIS 2010

Table of Contents

Preface xxix

Conference Organization xxx

Reviewers xxxii

I: Advances in Computational Sicence and Engineering

Delay-Dependent Criteria for Robust Stability of Singularly Perturbed Systems with Delays 1
Li-li Liu, Ji-gen Peng, and Bao-wei Wu

Symbolic Computation and Construction of Soliton-Like Solutions to (3+1)-Dimensional Potential-YTSF Equation 5
Jun-jun Wang and Jun-min Wang

Valuing Governmental Support in PPP Projects Using Monte Carlo Simulation: A Case of a Highway Project 9
Mao Yihua, Yang Guohua, and He Jia

Simulation of Transients in Natural Gas Pipelines: Using Hybrid TVD/LW/MOC Schemes 13
Xueyuan Long and Jiang Fu

Research on Benefit Allocation of the Supply Chain Dominated by Manufacture 17
Zhao Haifeng, Wang Xianyu, and Su Yingsheng

A Transmission Time Based Routing Protocol for Clustered Collection Tree Wireless Sensor Networks 21
Yu Tang, Changqin Bu, and Aihua Fan

Vibration and Noise Simulation Analysis of Stiffened Plates Based on the Statistical Energy Analysis 25
Guo-shun Wang, Rong Fu, and Liang Zhao

Implementation and Simulation of a 3D Constant Turn Target Tracking Model 29
Guodong Zhang, Zhong Liu, and Shiyan Sun

A Military Communication Supernetwork Structure Model for Netcentric Environment 33
Shi Fu-li, Lei Yong-lin, and Zhu Yi-fan

Regression Analysis about Risk Factor of Short-Term Decease Related with Heart Valve Replacement 37
Chuanqing Xu, Deng Yongxin, Xiao Wenkai, and Dehui Yuan

An Optimized GM(1,1) Model Based on the Modified Construction Method of Background Value 41
Hong-wei Li, Qing-you Liu, and Wen-jin Mao

A Novel Stage-Based Multiple PCA Montoring Approach for Batch Processes 45
Yongsheng Qi, Pu Wang, Xiuzhe Chen, and Xunjin Gao

Simulation for 2D Flows and Water Quality in Curvilinear Coordinates 50
Sun Guangcai, Wei Wenli, and Y. L. Liu

Numerical Solution of Seepage Flow by a Technique of Curvilinear Boundary-Fitted Coordinates 54
Liu Yuling, Zhaohong, Gao Sheng, and Wei Wenli

Meshes Generated by Elliptic Equations 58
Wei Wenli, Zhang Pei, and Y. l. Liu

Terrain Simulation of Lunar Landing Areas Based on Parameterized Shape Models 62
Yanlong Bu, Junze Liu, and Dengfeng Qi

Relations between the Standard Variance and the Allan Variance 66
Sun Hongwei, Li Yuli, and Chen Guangfeng

The Application of Finite Element Analysis Software (ABAQUS) in Structural Analysis 68
Jianqiang Han, Zhenbao Li, and Jia Song

Prediction of Series Criminals: An Approach Based on Modeling 72
Naichang Chen, Wei Shi, Dawei Song, and Yongsen Wang

The Application of DDDP Method to Optimal Operation for Cascade Reservoirs Based on State Transformation Matrix 76
Zhu-ge Yi-si and Xie Pin-pin

Biological Modeling and Simulations of Human Lower Limb Joint System 81
Haibo Jiang and Yong Luo

A Study on Plug-in-Based GIS Application Framework 85
Zhang Yi and Wu Li-li

Numerical Simulation of the External Flow-Field of Pulsed Anti-riots Water-Cannon 89
Renjun Zhan, Bo Zhou, and Song Wang

Soft Information and Lending Relationship Analysis of Micro-loan Company with Game Theory 93
Shen Tao

A Numerical Method for Lane-Emden Equations Using Chebyshev Polynomials and the Collocation Method 97
Changqing Yang and Jianhua Hou

Modeling Study of Multi-variety Emergency Material Dispatch Considering Concurrent Demand and Forbidden Time Window 101
Tie-Ning Wang, Bo Liang, Yu Cao, and Li-Ya Jin

Numerical Simulation of Thermal-Solid Coupling to Coal-Rock during the Process of Heat Injection Mine for CBM 104
Xin Le Yang and Yong Li Zhang

An Improved Combined Model for the Electricity Demand Forecasting 108
Huiting Wang, Suling Zhu, Jing Zhao, and Guanhong Li

A 3D FEM Methodology for Rock Breakage in Rotary-Percussive Drilling 112
Xiao Xiaohua, Zhu Haiyan, Liu Qingyou, Fan Yongtao, Wang Degui, and Chen Bo

Parametric Mannequin Modeling Method Based on Feature 116
Wang Ying and Liu Zhengdong

Three-Dimensional Reconstruction of Micro Pore Structure 120
Su Na, Duan Yonggang, Chen Wei, and Yu Chunsheng

Simulation Analysis for Sinter Mixture's Drying Process 124
Fengrui Jia, Wenzhuo Sun, Chunhua Wang, and Hui Dong

A Double-Convergence Numerical Algorithm for Gas-Liquid Two-Phase Transient Flow Model 128
Liuyang Wang, Qingyou Liu, Guorong Wang, Jiajia Jing, and Chenyu Xia

Numerical Simulation of Circulation Flow in Typical Bends of the Yellow River in Ningxia Reach 132
Chunguang Li, Hefang Jing, Suiju Lv, and Binwei Zhou

Simulation of Contaminant Transport in Fractured Porous Media on Triangular Meshes 136
Chen Dong and Shuyu Sun

Computation of Upper Solution Bounds for Continuous Algebraic Riccati Equations 140
Wei Zhang, Ming Jin, and Zhengzhi Han

Face Detection Method Based on Skin Color and AdaBoost Algorithm 144
Li Wan and Pu-chun Chen

Numerical Simulation of Stability for Underground Powerhouse Cavern Group of Jinping Hydropower Station 148
Benguo He and Zhiqiang Zhang

Research of a Spam Filtering Algorithm Based on Naïve Bayes and AIS 152
Qin Luo, Bing Liu, Junhua Yan, and Zhongyue He

Anomaly Detection from Distributed Flight Record Data for Aircraft Health Management 156
Xuchuan Zhou, Yong Zhong, and Liping Cai

The Approach of Adaptive Spectral Clustering Analyze on High Dimensional Data 160
Liping Cai, Xuchuan Zhou, and Jiancheng Song

The Sampling Inspection Method Based on Sequential Posterior Odd Test 163
Zhaoyong Mao and Baowei Song

On the Construction of Positive Definite Arrow Matrix from Two Eigenpairs 167
Zhibing Liu, Kanmin Wang, and Chengfeng Xu

Ontology-Based Association Rule Quality Evaluation Using Information Theory 170
Xia Shi Xiong, Li Fan, and Zhang Lei

Research of Hand-Held Urine Analyzer Based on Photoelectric Technology and STM32F103 Embedded Systems 174
You Yingmin, Chen Chong, Wu Guichu, and Chen Shangting

A New Search Engine Filtering Scheme Based on Improved Neural Network and Ontology 178
Zhuocong Song and Xiaopen Cheng

Value Ranges of Spearman's Rho and Kendall's Tau of a Class of Copulas 182
Yong-quan Dong

Robust Temporal Constraint Optimization Based on Bayesian Optimization Algorithm 186
Zhu Yan-guang and Zhu Yi-fan

The Elastoplastic Contact Analysis of Drilling Pipe - Slip Dog and Optimal Design of Slip Dog 190
Xiaohua Zhu, Yu Wang, Qiushi Chen, Fucheng Deng, and Liping Tang

Numerical Simulation of the Downhole Flow Field of the Sealing While Drilling through Physical Methods 194
Xiao Yu Chen and Chuan Zeng

A Study on the Methodology of the Green Degree Evaluating for the Building Assembly 197
Wenzhou Yan and Jing Guo

Research of Fuzzy Algorithm of Determining Threshold Value Based on MTS 200
Kuipeng Chao and Peng Zong

Numerical Simulation of Jet Flow Field for Hydrajet Fracturing 203
Ren Lan, Zhao Jinzhou, Hu Yongquan, Fu Ying, and Wang Shubin

Simulation on Deviatoric Fracture Propagation Path during Refracturing Process 207
Ren Lan, Zhao Jinzhou, Hu Yongquan, and Xiong Xiaowei

An Analysis and Forecasting of White Liquor Market Based on Web Data Mining 211
Shuwen Zhou and Guanghong Lei

The Parallelization of Three-Dimensional Electro-magnetic Particle Model Using Both MPI and OPENMP 214
Xiaoyang Yan, Weiwen Zhang, Huifang Deng, and Shehui Bu

An Improved Fuzzy Neural Network and Its Application 218
Linfeng Deng and Rongzhen Zhao

Application of Wavelet Transform in the Signal Processing of the Dynamically Tuned Gyroscope 222
Weiyi Chen, Qi Xie, and Yun Luo

An Application of a Mesh Refinement Method Based on the Law of Mass Conservation 226
Zhenquan Li and Rajnesh Lal

Ship Virtual Mass and Virtual Rotation Moment of Inertia Estimation Based on Model Tank Data 230
Zhang Xiufeng, Jin Yicheng, and Yin Yong

Simulation and Analysis on Traffic Capacity Reduction in Ice or Snow Condition 234
Yong-ming He and Bao-quan Zhu

Research on Channel Equalization Technology for Logging System Based on OFDM 238
Chen Qiushi and Zhang Ping

Numerical Study of Stokes' Second Flow Problem 242
Vai Kuong Sin and Ian Kai Wong

Numerical Simulation of Whole Steady Flow Field of Centrifugal Fan 246
Jing Mei Yu and Ren-Ning Guo

The Research of VPN on WLAN 250
Weili Huang and Fanzheng Kong

Optimization of Large-Scale Natural Gas Pipeline Network Base on the Combined GASA Algorithm 254
Zhang Huaixin, Yang Yi, and Luo Ming

An Image Segmentation Method Based on Improved Watershed Algorithm 258
Xiaoyan Zhang, Yong Shan, Wei Wei, and Zijian Zhu

Short-Term Traffic Flow Combined Forecasting Model Based on SVM 262
Yan-ni Yang and Hua-pu Lu

Numerical Simulation of Dust Removal Device for Quick Lime Slaking 266
Minghua Bai, Qiufang Wang, and Yu Zhang

Nonconforming Stabilized Methods for the Transient Naiver-Stokes Equations 270
Chunmei Xie and Minfu Feng

Screening and Evaluation of Preponderant Reserves in Oil Or Gas Fields 274
Kai Zhang, Jun Yao, Yuliang Su, Pei Cao, and Qin Luo

Design of a Random Number Generator from Fingerprint 278
Liu Ying, Wang Shu, Yue Jing, and Liang Xiao

Lagrange-Galerkin Discontinuous Finite Element Methods for the Navier-Stokes Equations 281
Luo Yan and Xu You-cai

Multi-layer Adaptive Optimizing Algorithm for Least Squares Support Vector Machines 285
Jia-yuan Zhu, Hong Zhou, Xiao Chen, and Yi Jiang

Adaptive Variable Structure Multiple Model Filter for High Maneuvering Target Tracking 289
Ding Quanxin, Liang Guowei, Tian Ye, and Jiang Hong

An Improved Algorithm of Flat Knitting Machine's Needle Position Tracking 293
Xudong Hu and Zhang Hua

Hydraulic Flow Simulation on Dynamical Changing Terrain 297
Aimin Hao, Shiwu Zhu, and Shuai Li

A Study of Morphological Edge Detector by Multidirectional Structuring Element 301
Xianfeng Yang, Yang Yang, Chun Cui, and Yang Wang

Lunar DEM Generation by Using Chang'e-1 Three-Line-Array CCD Imagery 305
He Yu, Xu Qing, Lan Chao-zhen, and Xing Shuai

XPCC-Oriented Distributed Spatial Information Management and Service Platform 308
Qingzhan Zhao, Chuanjian Wang, Wei Li, and Jun Peng

Research on Knowledge Base of Science and Technology 313
Xing Chen, Kun Hong, and Hai-tao Wang

The Road Network Evolution Analysis of Guangzhou-Foshan Metropolitan Area Based on Kernel Density Estimation 316
Rui Liu, Wei-Ping Hu, Hong-liang Wang, and Chi Wu

Numerical Simulation Analysis of Unseparation Aix-symmetry and 2D Shape 320
Yunhua Jiang, Weiguang An, and Hai An

Safe Distributed Trust Propagation Model 324
Junliang Lai and Min Wu

Existence of Solutions for a Class of Impulsive Differential Equations with Dirichlet Boundary Conditions 328
Dan Zhang and Binxiang Dai

The Experiment Research on Continuous Wave Electromagnetic Radiation Effect for Electric Firing Ammunition 332
Pan Xiao-dong, Liu Cun-li, Wang Shu-ping, and Fan Li-si

Identification and Simulation of Hepatitis B Virus Model 336
Zhi Li and Huan Qi

Simulation of Wormhole in Carbonate Acidizing Using a New Diffusion Limited Aggregation Model 340
Li Xiaogang, Tu Jie, and Yang Zhaozhong

On Matter Element Comparative Analysis-Based Transit Network Optimization 344
Zhu Jian'an and Lu Huapu

Research on the Categories of a Formal Language 348
Xing Chen, Jing-rong Hu, and Kun Hong

Bilateral Dynamic Negotiation Model Dominated by Personality Psychology and External Environment 351
Zhaoqian Cheng, Hongguo Wang, Zengzhen Shao, and Yi Yang

An Adaptive Edge Enhancement Method Based on Histogram Matching for Ultrasound Images 355
Xianfeng Yang, Jing Zhang, Bo Peng, and Shutao You

Optimization of Fuzzy Rule Based on Adaptive Genetic Algorithm and Ant Colony Algorithm 359
Wei Juan and Wang Ping

Research on an Analytical Model of Unsteady Flow in Water Injection Well and Its Application 363
Li Yongming, Zhao Jinzhou, Jiang Youshi, Gong Yang, and Yao Fengsheng

Analysis of Handwriting's Characters Based on Method of Functional Data 367
Chen Yizhi and Li Jinchang

Fault Diagnosis of Traction Machine for Lifts Based on Wavelet Packet Algorithm and RBF Neural Network 372
He Wuming, Wang Peiliang, and Yu Qiangguo

Study on Residential Civil Air Defense Works Scheme Selection 376
Liu Ling and Lv Xinying

Design of Data Acquisition System Based on AD7367 and TMS320F2812 380
Jiamao Xing, Ping He, Zhicheng Wang, and Bo Yan

Two Matrix Iterative Methods for Solving General Coupled Matrix Equations 384
Sheng-Kun Li and Ting-Zhu Huang

Analog Circuit Fault Simulation Based on Saber 388
Ting Gao, Yufeng Sun, and Guangyan Zhao

Research on Station Mode for Attitude Determination of Multiple Targets 392
Mingjing Li, Jianli Wang, and Lirong Zhao

Research on Drill String Failure in Gas Drilling Based on Statistical Learning Theory 396
Yang Bin

Convergence Analysis of Miscible Displacement in Porous Media by Mixed Finite Element and Orthogonal Collocation Methods 399
Ning Ma

Research on Volatility Spillover Effects in Financial Markets Based on Copula and Kernel Function 402
Jian Ke, Liming Wang, Louis Murray, and Hui Xiong

Algorithm for Optimization of Advertising Space 406
Qiang Wang and Bibo Dai

Emergency Logistics Management in Natural Disasters 409
Qiang Wang and Bibo Dai

Parameters Optimum Design for Linear Vibrating Screen 413
Junxia Yan, Chusheng Liu, Lala Zhao, and Jun Li

The Application of Proper Value Method in Non-shut-in Well Testing for High Pressure Gas Well 416
Xu Chun-bi, Liu Jing-cheng, Zou Bi-hai, Zhao Xue-fen, and Huang Bing-guang

Study on Cervical Spine Stresses Based on Three-Dimensional Finite Element Method 420
Lian-jie Zhang and Qing-jun Meng

Study of Common Simulation Platform of Pulse-Compression Radar Signal Processing: A Method of Studying Radar System 424
Zilu Tang and Xinyu Yao

RFID Indoor Localization Algorithm Based on Dynamic Netting 428
Xin Zhang, Jian Peng, and Xiaoyang Cao

The Stability Analysis of Xinjiang Bridge Tower 432
Jixin Yang and Zhizhong Liang

A Research on Data Modeling Tools Based on the Dynamic Enterprise Modeling Technology 435
Xinyu Geng, Xiaolei Feng, and Xiaoyan Huang

Design and Implement of a Domain Model for DC Framework Based on Mobile Agents 438
Xinyu Geng, Li Yang, and Xiaoyan Huang

Dynamic Methods for Missing Value Estimation for DNA Sequences 442
Fen Qin and Jeonghwa Lee

Generation of Conceptual Architecture Based on Feature Meta-model 446
Li Li, Bing Li, Yilin Shen, and Lin Qiao

Study on Oil Drilling Prediction Based on Improved FNN Method 450
Xinyu Geng, Bin Liu, and Xiaoyan Huang

Injection-Gas of Central Air Drilling in Fluent Simulation 454
Xiao Yu Chen

II: Advances in Information Sciences

Seismic Vulnerability Analysis of Long-Span Multi-tower Suspension Bridge 458
Deng Yu-lin and He Xiong-jun

Research of the Cooperation Information System Model Based on CISOM 462
Gang Zhou and Xiaoling Wang

Design and Implementation of Production Decline Analysis Software 466
Zhang Heng-ru and Li Min

A Novel Evaluation Method of System Performance Based on Cloud Theory 470
Yi Qin, Qiang Lu, and Shitan Huang

Study on the Edge Detection and Extraction Algorithm in the Pantographslipper's Abrasion 474
Xiao-heng Zhu, Xiao-rong Gao, Ze-yong Wang, Li Wang, and Kai Yang

Mixed Spherical Harmonic-Generalized Laguerre Spectral Approximation and Its Application to Navier-Stokes Equations Set in Exterior Domain 478
Zhang Xiao-yong and Ning Tong-ke

An Adaptive Chromosome Technique of Genetic Algorithms to Identify Structural Damage 482
Dan-Guang Pan, Su-Su Lei, and Shun-Chuan Wu

Research and Implementation the Integrated Support Platform for Water Information 487
Tian-Qing Chen, Jian-Cang Xie, Xin-Li Yue, and Gang Zhang

Research on Resource Management for Cloud Computing Based Information System 491
Han Xingye, Li Xinming, and Liu Yinpeng

Lithology Identification Methods Contrast Based on Support Vector Machines at Different Well Logging Parameters Set 495
Xin-hu Li, Jie Luo, and Dong Liu

Scheduling Arrival Aircrafts on Multi-runway Based on an Improved Artificial Fish Swarm Algorithm 499
Dong Bing and Du Wen

GPS Height Conversion Based on Genetic Neural Network 503
LiangCai Wu, TieSheng Wang, and ZhiMing Wei

Research and Design of Network Attack and Defense Platform Based on Virtual Honeynet 507
Zhang Heng-ru and Gong Jie

Image Scrambling Degree Evaluation Algorithm Based on Grey Relation Analysis 511
Tan Yongjie and Zhou Wengang

Research and Application of Customer Segmentation Method Based on AVB Model in Mobile Interned Time 515
Yanfang Peng

Improved Ant Colony Algorithm Based on Information Entropy 519
XianMin Wei

An Extended Color Visual Cryptography Scheme with Multiple Secrets Hidden 521
Qin Chen, Xiaorong Lv, Min Zhang, and Yiping Chu

Video Compression Based on Adaptive Multidimensional Vector Matrix DCT 525
Aijun Sang, Xin Zhao, Mianshu Chen, and Hexin Chen

Improved ANN Algorithm Based on the Change of Search Direction 529
Zhao Ming, Liu Zhibin, Ren Baosheng, and Liu Haohan

Robust Information Hiding in Speech Signal Based on Pitch Period Prediction 533
You Chunyan and Bai Sen

Quantum Neural Network Algorithm Based on Multi-agent in Target Fusion Recognition System 537
Yan Zhou and Xia Wu

Hierarchical Clustering Based on Co-word for Web Information Retrieval 541
Fenglin Li and Zhoufang He

A Fair Active Queue Management Algorithm Based on Hierarchical Rate Code 545
Yong Wang

Prediction Model of Equipment Maintenance Materials Consumption Based on Improved BP Neural Network 549
Lianghua Zhang, Qiang Hu, Mingfei Wu, and Jin Gu

An Improved Data Association Algorithm for Multiple-Target Tracking 553
Zhangsong Shi, Sheng Xiao, and Changfeng Xing

Multiple Granularity-Based Feature Combination for Face Recognition 557
Xianhua Zeng and Xinyu Geng

Solving the Stock Reduction Problem with the Genetic Linear Programming Algorithm 561
Gang Shen and Yan-Qing Zhang

An Improved ICP Algorithm for Point Cloud Registration 565
Wei Xin and Jiexin Pu

Improved Adaptive Convex Combination of Least Mean Square (LMS) Algorithm 569
Wei Wang, Chuankun Mu, Hongru Song, and Miao Yu

Game Design and Development Based on Logical Animation Platform 573
Chen Mao, Zhang Yi, Ouyang JianGang, and Hu Guo-tao

Application of Stability Transformation Method to MCA Neural Network 577
Lin Zuo, Zhang Yi, and Jiancheng Lv

Research of an Improved Genetic Algorithm in Logistics Freight Vehicle Routing Problem 581
Yuping Bao, Chunlin He, Zhiyong Zhou, and Xiang Jin

A Modified Joint Probability Data Association Algorithm 586
Chen Song-lin and Xu Yi-bing

A Shape-Preserving and Robust Watermarking Algorithm for Vector Maps 590
Chuanjian Wang, Qingzhan Zhao, and Furu Zhong

Extracting Sentiment of Fund Investors from Small Talk on the Web 594
Bo Wang, XianFeng Liu, and Zhong Pu

An Improved Filtering Algorithm Based on Gray Correlation Degree 598
Zhu Zhu and Qing Wang

A Novel Disaster Recovery Strategy in NGN Core Network Based on P2P Technologies 601
Kai Shuang, Chao Wang, and Sen Su

Research on the Disclosure Quality of Financial Reporting on the Internet Based on XBRL Technology 605
Song Yingchun and Tan Baohua

An Improved State Transition-Based Security Policy Conflict Detection Algorithm 609
Dai Xiangdong, Chen Xingyuan, Wang Yongliang, Wang Yigong, and Liu Jiang

A Network Simulation Platform for Hierarchical Spectrum Sharing Based Cognitive Radio Network 613
Xiuling Tian, Tingjian Tian, and Shaoqian Li

A Hybrid Collaborative Filtering Algorithm Based on User-Item 618
Yan-ni Chen and Min Yu

Research on Healthcare Integrating Model of Medical Information System Based on Agent 622
Zhang Yaowen, Xie Wei, and He Yuwan

Research on Indoor Localization Algorithm Based on Multi-scale Features Detection 626
Xu Chen and Huiqing Zhang

Using Lower and Upper Bounds to Increase the Computing Accuracy of Monte Carlo Method 630
Jianwen Chen and Ling Feng

Stabilized Finite Element Method for Vorticity_Velocity_Pressure Formulation of the Stationary Navier-Stokes Equations 634
Hong-e Li and Zhu Rui

An Implementation of Genetic Algorithm in Matlab: Solution to the Route Choice Problem in the Urban Traffic Network 638
Jie Li and Minghao Zhu

A New Regularized Algorithm to Calibrate Implied Volatility in Option Pricing Models 642
Chang Jin and Xijun Ni

Application of Chaos Ant Colony Neural Network in Slope Stability Analysis 645
Qilong Bi, Huiqi Zhu, and Tian Yue

A Novel Extraction Algorithm of Moving Target in Dynamic Image Sequences 649
Xingmei Wang, Guisheng Yin, Zhiguo Men, and Chenguang Qiu

The Similarity Comparison of G-Protein Coupled Receptor Based on Structural Matrix Algorithm 653
Fenglan Bai, Hualong Gao, Liwei Liu, and Xiaoqing Liu

Application of Data Mining in Language Form-Noticing Research: An Experimental Study of Effects of Gender and Proficiency on Form-Noticing 657
Si-Yan Wang

An Accurate Image Matching Algorithm Based on Multiple Constrains 661
He Zhen, Li Qiongyan, and Ma Feng

Semantic Interactions in Multi-level Objects Segmentation 665
Kun Zhao, Wenjun Zhang, and Yan Jiang

Research on Propulsion Motion Model System Identification Method of Trimaran 669
Chen Peng, Yang Songlin, Wu Wei, Yuan Jingping, and Cui Jian

Application of a New Fast Algorithm for Getting Approximate Operators of Rough Set to Information System Classification 673
Ping Song and Xu Zhang

Transmission Line Image Segmentation Based GA and PSO Hybrid Algorithm 677
Feng-jie Sun and Ye Tian

Computing the Dixon Derived Polynomial by Combination Resultant Method 681
Xun Yuan, Jingzhong Zhang, and Yong Feng

Group Decision-Making Model Based on Rough Set and Evidence Theory 685
Ruixia Yan and Hualing Liu

A Study of Automatic Code Generation 689
Haode Liao, Jun Jiang, and Yuxin Zhang

Unsteady Flow Model for Fractured Gas Reservoirs 692
Li Yongming, Zhao Jinzhou, Gong Yang, Yao Fengsheng, and Jiang Youshi

Double Cluster-Heads Routing Policy Based on the Weights of Energy-Efficient for Wireless Sensor Networks 696
Mei Lin, Zhong-hua Wang, Cheng-wu Zou, and Min Yu

Java Memory Trajectory Forecasting 700
Zhang Jing, Lu Kai, and Zhou Xu

The Research and Implementation of Parallel Web Crawler in Cluster 704
Min Wu and Junliang Lai

An Attribute Reduction Algorithm Based on Clustering and Attribute-Activity Sorting 709
Xu Zhang and Ping Song

An Efficient Method for Video Similarity Search with Video Signature 713
BaoFeng Lu, HaiBin Cao, and Zheng Cao

Studies on Individual Tree Growth Three-Dimensional Simulation of Larix Olgensis 717
Xindan Gao, Suodong Wang, and Nihong Wang

Comparing and Contrasting Campus Information Systems in South Pacific Regional Universities 721
Xiaoling Dai and Bimal Aklesh Kumar

Camera Motion Detection for Conversation Scenes in Movies 725
Liu Jiayin, Wang Chuang, and Jae Ho Kim

The Study on Algorithm about Two-Dimensional Track Reconstruction of Vehicle's Movement Based on Acceleration 729
Hong-Jun Wu and Hui Zhang

A Dynamic Programming Algorithm for Vehicle Routing Problems 733
Wei Ou and Bao-Gang Sun

Wavelength Assignment Algorithm with Dynamic Routing in WDM Optical Networks 737
Kaixian Liu

Modeling and Simulation of Lunar Lander Soft-Landing Using Transient Dynamics Approach 741
Junlin Wan, Hong Nie, Jinbao Chen, and Qing Lin

Research on Information Metadata Standards of Knowledge Organization - A Case Study of Chinese Digital Library 745
Kun Hong, Jingrong Hu, and Xing Chen

Image Registration Based on Log-Polar Transform and SIFT Features 749
Nannan Ding, Yanying Liu, Yongliang Jin, and Ming Zhu

The Simulation and Analysis of Field Characteristic in Reverberation Chamber 753
Fan Lisi, Cui Yaozhong, and Liu Xiaoqing

Three-Dimensional Finite Element Analysis of the Tibia Stresses during Jumping Momnet 756
Chun-yu Bao and Qing-hua Meng

Study on Lumbar Spine Stresses during Manual Materials Handing Based on Finite Element Method 760
Qing-hua Meng and Qing-jun Meng

An Inverse Eigenvalue Problem for Symmetric Arrow-Plus-Jacobi Matrices 764
Zhibing Liu, Dong Qu, and Linzhang Lu

A Novel K-Means Clustering Algorithm Based on Positive Examples and Careful Seeding 767
Qinchao Liu, Bangzuo Zhang, Haichao Sun, Yu Guan, and Lei Zhao

The Construction of Topic-Based Learning Websites: From the Practice of Designing a Learning Website 771
Lei He, Xiaoyu Zhang, Liang Wang, and Li Xu

Research on Virtual Data Center Architecture Based on Intelligent Multi-agent 775
Li Yang, Gang Zhao, Xinyu Geng, and Haiyan Yuan

III: Advances in Other Areas of Sciences and Engineering

Research and Application of Mobile Agent and Struts 2 Integration Framework Based on MVC 779
Li Yang, Jian Zhang, Xinyu Geng, Haode Liao, and Yu Sun

Security Analysis of BLAKE-32 Based on Differential Properties 783
Mao Ming, He Qiang, and Shaokun Zeng

Numerical Differentiation by Legendre-Gauss-Lobatto Interpolation 787
Zhenyu Zhao and Lei You

Two-Scale Finite Element Error Analysis for Thermoelasticity in Periodic Composites 790
Yongping Feng and Mingxiang Deng

Influences on Spatial Directivity of Acoustic Vector Sensor by Soft Spherical Boundary 794
Ji Jian-fei, Liang Guo-long, Huang Yu-lin, and Li Yang

Research on Multi-axis Synchronous Control in Network CNC System 800
Bai Yucheng, Tang Xiaoqi, Wu Gongping, and Cao Lijuan

Comparison among Quality Maps Applying in Phase Unwrapping for Different Terrain 804
Yan Man, Liu Goulin, and Hao Huadong

The Research about Sensor-Less Anti-pinch System for Automotive Electric Window 808
Yunfeng Qiu, Jie Yin, Yi Wang, and Qiao Liu

Spatial-Temporal Characteristics Analysis of Construction Land Expansion of Jianghan Plain Based on GIS 812
Liu Guiming, Song Mingjie, and Wang Hongzhi

Prediction Method and Experimental Study of Cone/Bit Speed Ratio of Roller Cone Bit 816
Lian Chen, Ying-xin Yang, Hai-tao Ren, and Cai-ying Zhang

Detection Technology for Oil Pipeline Plugging Based on Decompression Wave Method 820
Enbin Liu, Changjun Li, Shanbi Peng, and Xia Wu

The In-process and Real-Time Roughness Measuring System Design for Free-Form Surface 824
Zhanhong Li and Jianxin Liu

Analysis on the Hybrid Technology of Time Domain Phase-Inversion Symmetric and Spread Spectrum 827
Ming-ming Wei

Design of Audio and Video Multiplexing Based on Intellectual Property Module 831
Yu-hong Zhao, Lei Zeng, and Ji-da Xing

The Design of Intelligent Control System for Well Killing 835
Gong Jie, Mei Dacheng, He Zhimin, and Ding Peng

The Wiener-Askey Polynomial Chaos for Diffusion Problems with Uncertainty 839
Dong Qu, Zhibing Liu, and Chuanju Xu

The Study of Embedded GIS Graphic Mid-ware (CG-GDI) 843
Xiaolin Liu, Yixin Hua, Lili Wu, Yi Zhang, and Yibing Cao

Numerical Scheme for Simulation of 2D Flood Waves 846
Sun Guangcai, Wei Wenli, and Y. L. Liu

Market Trends Study Based on Moving Average Slope and Support Vector Machine 850
Jian Qingming and Zeng Huanglin

Physical Fractional Steps for Numerical Solution of Unsteady 2D Open Channel Flows 854
Sun Guangcai, Wei Wenli, and Y. L. Liu

Rate Decline Analysis of Fractured Gas Well by Genetic Hybrid Optimization 857
Duan Yong-gang, Chen Wei, Fang Quantang, and He Jixiang

Research and Development of Thermal Error Compensation Embedded in CNC System 861
Yin Ling, Chen Jihong, Li Haizhou, Tian Hongliang, and Mao Xinyong

Research on Event Detection of Soccer Video Based on Hidden Markov Model 865
Zhao Pixi, Li Hongyan, and Wang Wei

A Study of Node Classification-Based Analysis Model about Gas Pipeline Network Burst 869
Long Xiao, Zegen Wang, Jianhong Su, and Dongliang Zhang

Texture Analysis and Characteristic Identification about Plaque Tissues of IVUS 873
Dong Haiyan and Li Hong

The Water Resource Optimal Allocation Based on Multi-objective Genetic Algorithms 877
Xu Chen-guang, Zhao Mai-huan, Li Yue-peng, and Chen Nan-xiang

Remote Sensing Image Enhancement Based on Fractional Differential 881
Yawei Liu

SAR Images Despeckling via Bayesian Shrinkage Based on Nonsubsampled Contourlet Transform 885
De-xiang Zhang, Qing-wei Gao, and Xiao-pei Wu

Optimization for the Chilled Water System of HVAC Systems in an Intelligent Building 889
Ming-hai Li and Qing-chang Ren

System Identification of VAV Conditioning Terminal 892
Ming-hai Li and Sun Qing

The Development of Urban Landscape Three-Dimensional Visualization System 896
Zhao Qun, Dabing Yang, Gan Yuliang, and Hu Zhenbiao

Application of BFGS-BP to Structure Deformation Monitoring Data Processing 900
Zegen Wang, Yuyun Gao, and Liqun Hou

Dynamic Analysis of an Impulsively Controlled One-Prey Two-Predator System 904
Xiaomei Wang and Shouming Zhong

An Ontology Evolution Model Supporting Intercultural Collaboration Environment 908
Yue Jing and Liu Ying

A Pitch Controller Realized on the Basis of Inner Model PID 913
Xiuhe Lu and Cong Geng

Performance Evaluation of OPS Contention Resolution Scheme Based on SPC Wavelength Conversion 917
Mian Zheng and Siwei Ji

Producer Services in the Space Economy of the Yangtze Delta Area: Spatial Layout and Regional Economic Reconstruction 920
Shuhua Liu and Yufang Shen

Pornographic Audios Detection Using MFCC Features and Vector Quantization 924
Zhiyi Qu, Jing Yu, and Qiang Niu

Research on Battery Identification of Electric Vehicle Battery Management System 928
Gu Qiang and Cheng Xiusheng

New Method to Solve Nonlinear Transient Electromagnetic Field under Voltage Source Motivation 932
Cheng Er-wei, Zhou Xing, and Wu Yong

Virtual Reality Simulation of Plants Based on Remote Sensing Information 936
Haopeng Wang, Kai Zhao, Xiao Fu, and Binru Chen

The Symmetric Trapezoidal Approximations of Fuzzy Numbers 940
Zhongxing Wang and Jingcui Li

High Performance X86 Emulation IO Architecture on Heterogeneous Processor Platform 944
Ming Fang, Liehui Jiang, Qiuxia Zhao, Weiyu Dong, and Jinlong Xu

Research on Acoustic Signal Detection Simulation for Passive Sonar 948
Ying-ying Zhang, Ji-chang Sun, and Ying Zhang

An Experimental Study of Matrix-Based Data Distortion Methods 952
Jie Wang, Hualing Liu, Guangwei Hu, Jun Zhang, and James M. Grogan

Research on Design of Multimedia Alarm System for Coal Mine Safety 956
Sha Congshu and Wang Gongzhong

Information Entropy Set for Coal Transportation Channels Analysis 960
Guang-jun Jiang and Xiangli Shao

Research on Optimization of Oil Supply Vehicle Route Based on POEM Platform 964
Yu Cao, Tie-Ning Wang, Bo Liang, and Shuai Pei

Application Development in Classification of Rock Mass Quality on Tunnel Engineering 967
Jian Huang and Nengpan Ju

Application of Three-Dimensional Numerical Calculation to Geo-stress Field Analysis of Oil or Gas Reservoir 971
Hui Deng

Processing Procedure of Vacuum Switches Arc Images Based on Matlab 975
Jichen Shen, Yang Li, and Yi Wang

An Analysis on the Kinetic Model of a Rotary Inverted Pendulum, and Its Intelligent Control 978
Peng Xue and Wei Wei

A Study of the Corner Cube Reflector Sturcture Used in Laser-IFF System 982
Jing Sun and Dong-Guang Li

A New Parameter Identification Method for Hydraulic Fractured Gas Wells 985
Li Tiejun, Guo Dali, and Min Chao

Detection of the Pupil Eigenvalues in Medicine 989
Hongjin Yan and Yonglin Zhang

Anonymizing Social Network Using Bipartite Graph 993
Lihui Lan, Shiguang Ju, and Hua Jin

De-aliasing High Resolution Tau-p Transform and Its Application to Wave Fields Separation 997
Baotong Liu and Guihua Li

An Energy Consumption Prediction Model Based on GSPN for Wireless Sensor Networks 1001
Zhang-song Shi, Cheng-fei Wang, Peng Zheng, and Hang-yu Wang

Study on the Probability of Successful Handoff of Missile Trajectory from Midcourse Guidance to Terminal Guidance 1005
Zhang-song Shi, Hang-yu Wang, Pi-xu Zhang, Xiao-chuan Tang, Bin Wu, and Cheng-fei Wang

The Classification Research of Support Vector Machine Based on Spot for Hyperspectral Remote Sensing Application 1009
Ling Han, Jing Wu, and Ruolan Zhang

Design and Implementation of MECHATROLINK-III Bus Slave Station Based on SOPC 1013
Xiumin Xu, Fang He, Yaodong Tao, Zhicheng Wang, and Jiamao Xing

Force Simulation and Ergonomic Assessment of Electric Care Beds 1017
Qi Wang and Zhonghai Yu

An Arc Welding Controller Based on Fuzzy Neural Network 1022
Guojin Chen, Hua Yang, Yongning Li, and Weifeng Peng

Vehicle Engine Selection Strategy and Docking Design Based on Specific Space 1025
Ziqing Zhang, Jimin Ni, Huizhang Rao, Hongchao Zhang, Yueyu Wang, and Yong Li

Optimum Design for Microstructures of Closed-Cell Materials Based on Thermal Conductivity 1029
Junfeng Zhao, Junzhi Cui, and Wei Li

Compatibility Test Method for the Very Few Sample Based on Variable-Metric Correlation Statistics in Normal Distribution 1033
Shan Bin, Yuegang Wang, Zhibin Guo, and Yang Bo

Analysis on System Dynamics Simulation of Hospital Competitiveness -- Take Jiujiang Chinese Hospital in Jiangxi Province as an Example 1036
Li-qing Li, Xiao-gang Zhou, and Han-qing Zhou

Performance Analysis of the Modified Group AOR Algorithms in Elliptic PDEs 1041
Norhashidah Hj. Mohd Ali and Foo Kai Pin

Predict Soil Corrosion Rate of Pipeline Steel Using ANFIS 1045
Wang HanYi and He San

A New Routing Protocol of Ad Hoc Based on NS2 1049
Han Xiujuan and Jia Huijuan

A Simplified Pulse-Coupled Neural Network for Cucumber Image Segmentation 1053
Haiqing Wang, Changying Ji, Baoxing Gu, and Guangzhao Tian

A Kind of BP Neural Network Application in Water Treatment Control System Parameter Tuning 1058
Chen Shuqian and Zhang Lihong

Hybrid Collision Detection for Interactive Large-Scale Environments 1061
Xiao Liang, Jie Gong, Lindun Tang, and Ying Liu

Horizontal Well with Stinger Completion for Delaying Bottom Water Coning 1065
Xu Jianian, Xiong Youming, Zhang Lin, Chen Yang, Liu Liming, and Shan Yankui

The Convergence of Iteration Approximate Solutions for a Monotone Potential Operator Equation 1069
Cuie Xiao and Renfang Bi

A Research on Control Methods of Ball and Beam System Based on Adaptive Neural Network 1072
Wei Wei and Peng Xue

The Study of Virtual Managed User Computer System Based on the Compass 1076
Lili Wu, Yixin Hua, Yi Zhang, and Xiaolin Liu

High Level Resistance to TuMV (Turnip Mosaic Virus) in Transgenic Mustard with the Antisense NIb Gene of the Virus 1080
Shuang Zhao and Xufeng Hao

The Research on Statistical Correlation between Yangtze River Waterway Construction and Basin Economy Development 1083
Yefu Zhou

Improved Genetic Algorithm Research for Route Optimization of Logistic Distribution 1087
Xiao Bin, Wang Min, Liu Yanming, and Fang Yu

The Research of Weak Interference Principle of Main Cable Displacement for Self-Anchored Suspension Bridge in Stretching Process 1091
ZiQi Li and YanYan Fan

An Opportunity Spectrum Access Based on Multichannel Sensing 1095
Le Jiang, Xiao Li, Jun Wang, and Shaoqian Li

The Information Fusion of Multi-sensor of Based on Federated Kalman Filter and Neural Networks 1099
Bin Ling, Xiaoyan Yu, and Lichen Liu

Second Order Godunov-Type Scheme for Fluid-Structure Interaction Model of Liquid Piping Systems 1103
Ming Chen, Guang-Wei Jiao, Shao-Qi Zhou, and Qi-Wei Yong

A Kind of UCAV Attack Decision Arithmetic Based on Entropy of Avail Value 1107
Deyun Zhou, Zhaoqiang Li, and Qian Wang

Dynamic Fuzzy Controller Based on Stem Resolution of Fuzzy Relation Equations 1110
Shiqiang Zhang

The Implementation of Database High Availability Infrastructure in TGPMS 1114
Min Chen and Rong Chen

Travel Mode Choice of Residents in Spring Festival Based on Neural Network 1118
Ming-hao Zhu, Xue-mei Li, and Jie Li

Dynamic Characteristics Analysis of Underwater Flexible Structures 1122
Jixin Yang, Fan Lei, and Yifeng Huang

Dynamic Neighborhood Hybrid Particle Swarm Optimization for Constrained Optimization 1126
Hu Peng and Chang-shou Deng

The Mining and Analysis of Affective Law 1130
Tong He and Hao Chen

Vision Factors Analysis of College Students Based on SPSS 1134
Haitao Su, Hui Zeng, and Haiqing Guo

A New Numerical Model Used to Predict High-Frequent Transients in Liquid Pipeline Flow with More Accurate 1138
Zhang Huaixin, Cen Kang, and Luo Ming

A Multiscale Morphological Approach to Local Contrast Enhancement for Ultrasound Images 1142
Bo Peng, Yang Wang, and Xianfeng Yang

Construction of Travelling Wave Solutions to Kp-type Equation Based on Mathematica 1146
Qun Diao and Junmin Wang

Quantum Ant Colony Optimization Algorithm and Its Application on Collision Detection 1150
YongSheng Tian, Jue Wu, LingXi Peng, and LiXue Chen

Auto-Tuning CUDA Parameters for Sparse Matrix-Vector Multiplication on GPUs 1154
Ping Guo and Liqiang Wang

Parallel Image Registration Computing and Its Application in Meteorological Objective Tracking 1158
Fang Tang, Murong Jiang, Ruilin Guo, Zexian Zhang, and Jie Zhang

Research of Objective Function in Inverse Planning Optimization for IMRT 1162
Dongzhi Cao and Guoli Li

Comparison and Analysis of Aseismic Performance of Different Systems of Cable-Stayed Bridge 1166
Jixin Yang and Ji Liu

A Partial Regularity Result for the Combined Total Variation Functional for Image Restoration 1170
Dong-Hong Zhao and Lai-Sheng Wang

A Class of Algebraic Trigonometric Interpolation Splines and Applications 1174
Yang Lian, Li Juncheng, and Chen Guohua

Study on Acoustic Numerical Value Simulation and Reducing Noise Application of Damping Layer for Rail Wheel 1178
ShuLin Liang, Lifang Duan, Jun Zhang, Wenzhong Zhao, and Ji Fang

IDSV: Intrusion Detection Algorithm Based on Statistics Variance Method in User Transmission Behavior 1182
Jun Tao, Hui Lin, and Chunlin Liu

Test Generation Based on SVM for Analog System with a Multi-training Sets Method 1186
Ting Long, Houjun Wang, and Bing Long

The Application of BP Neural Network in Cable-Stayed Bridge Construction Monitoring 1190
Yong Liu and Xiaomin Wang

Research on Inductive Knowledge Acquisition Method and Application Based on Graph Analysis 1194
Aziguli Wulamu and Chen Hongyun

Design of Experiment Method for Microsatellite System Simulation and Optimization 1200
Xiao-lu Liu, Ying-guo Chen, Xian-rong Jing, and Ying-wu Chen

A Dynamic Clustering Based on Hybrid PS-ACO for Recognizing Oil-Bearing Reservoir 1204
Yan-xiao Li, Ke-hong Yuan, Xin-an Tong, Ke-jun Zhu, and Wei Wei

A Robot Environment Identification Method: Image Processing Application in Duct Cleaning Robot 1208
Bu-Min Meng and Wei Sun

Comparisions of Mirror and Static Boundary Conditions in Incompressible Smoothed Particle Hydrodynamics 1212
Tianwen Dong and Shunliang Jiang

Design of Automatic-Temperature-Control Circuit Module in Tunnel Microwave Heating System 1216
Tianyu Fu, Xi Wang, and Guohui Yang

Control Algorithm Analysis and Firmware Design in Tunnel Microwave Heating System 1220
Tianyu Fu, Xi Wang, and Guohui Yang

Analyzing Economic Spatial-Temporal Disparities at County Level in Jiangsu Based on ESDA-GIS 1224
Tao Wang, Jin-ping Liu, and He Yang

Research of Logging System Simulation Test Platform Based on FPGA 1228
Zheng Jin, Chen Lixue, and Li Hao

Combined Forecast of Air Freight Volume Based on Approximate Optimal Non-negative Weight 1232
Wen Jun and Wang Lin

An Extension of LWR Model Considering Slope and Heterogeneous Drivers 1236
Xin Li and Huapu Lu

Eigensolution Method and Extrapolation for Solving Potential Problems 1241
Pan Cheng, Jin Huang, and Guang Zeng

Music Emotion Detecting Based on Beat Spectrum 1245
Yan Li, Shiying Yang, Wei Li, and Ye Zhu

Human Error and Its Effect on Capacity of Fastener-Style Tubular Steel Formwork-Support during Construction 1249
Xue-xia Yuan

Fault Diagnosis of Partial Discharge in the Transformers Based on the Fuzzy Neural Networks 1253
Zhao Hailong and Lin Zhongying

A Reactive and Harmonic Current Detection Method of Three-Phase Asymmetric System 1257
Hu Yong-jun, Fan Li-li, and Hu Ya-jing

ABC-ACO for Perishable Food Vehicle Routing Problem with Time Windows 1261
Weiwei Gong and Zetian Fu

Rainfall Prediction Using Generalized Regression Neural Network: Case Study Zhengzhou 1265
Zhi-liang Wang and Hui-hua Sheng

Intension Analysis of 3-D Finite Element Analysis on 380 Diesel Crankshaft 1269
Jian Meng, Yong-qi Liu, Rui-xiang Liu, and Bin Zheng

Study and Comparison of Different Vocabulary Selection Methods: Application to Topic Detection of Arabic Documents 1273
Amal Mellouli and Salma Jamoussi

IR Blob Target Tracking Based on Improved Mean Shift Method 1277
Zhang Lu, Chen Jing, Xiao Shanzhu, and Lu Huanzhang

Multi-objective Optimization Method of Fixed-Time Signal Control of Isolated Intersections 1281
Hua Hu, Yunfeng Gao, and Xiaoguang Yang

Optimization for Plasma Breakdown Based on Genetic Algorithm in EAST 1285
Xue Erbing, Luo Jiarong, and Shu Shuangbao

The Design and Implementation of Network Disks Array Management System 1289
Wenhuan Lu and Jianguo Wei

Composite Fourier Series Method for Elastic Bending of Reissner Plates 1293
Weiming Sun and Zimao Zhang

Study on the Precautionary Indicator of Transmission Shortage for Natural Gas Pipeline Network 1297
Kang Cen, Changjun Li, Wei Li, and Xuezhi Du

Software Test Data Generation Automatically Based on Improved Adaptive Particle Swarm Optimizer 1300
Xiao-mei Zhu and Xian-feng Yang

Auditory Perceptual Information Extraction from ACF Physical Factors of Road-Vehicle Noise 1304
Liang Yan and Ke-an Chen

An Opportunity Spectrum Access for Multiuser with Randomized POMDP Framework 1308
Le Jiang, Xiao Li, Jun Wang, and Shaoqian Li

Study on Application of Bayesian Classifier Model in Data Stream 1312
Qing Xue, Bo-wei Cao, Zheng Chang-wei, Yu Ping-gang, and Liu Yong-hong

Study on Costs Allocation Method for Reverse Logistic of Discarded Appliances 1316
Lu Yingjin and Jiao Lu

Application of Neural Network in Predicting Volume Ratio of Gas and Oil 1319
Xinyu Geng, Xuxue Chen, and Yang Wang

Research on Association Rules Based Fixed Point Theory 1322
Liu Hua-ling and Zheng Jian-guo

A Computational Simulation of Pit Excavation Based on Numerical Algorithm of FEM 1325
Cui Chun-yi, Yu De-hai, Li Xiao-fei, Sun Zhan-qi, Yao Guo-huang, and Li Xiu-wen

Generalized Laguerre-Generalized Hermite Mixed Spectral Method 1329
Zhang Xiao-yong, Jiang Jiao, and Sui Jiang Hua

Study on Cloud Storage System Based on Distributed Storage Systems 1332
Qinlu He, Zhanhuai Li, and Xiao Zhang

Research on SMA Actuator 1336
Bao Ru-bing and Liu Xiao-xu

The Application of DEA in the Risk Assessment of the Supply Chain Partner 1341
Chen Weiyu and Yu Hui

Metapopulation Model of the Banking Risk Contagion --- Dynamic Simulation Based on Cellular Automata 1345
Chen Jianxin

Prediction Model of Sulfur Precipitation in Gas Well with High H2S Content 1349
Wen-hua Li, Jing-cheng Liu, Shun-peng Zeng, Qi-ming Zhang, and Xu Chun-bi

Fuzzy Method for Horizontal Well Fracture Parameters Evaluation in Tight Gas Reservoir 1353
Fang Quantang, Duan Yonggang, Chen Wei, and Zhou Mengqiu

An Optimal Choice Method for Recognition Characteristics of Digital Modulation Signal 1358
Lei Zhao, Bingbing Li, and Mingqian Liu

The Elastic Equations Simulation by Using Optimal Nearly Analytical Discrete Method 1362
Chen Yali and Wang Yang

Author Index