

# **2009 IEEE International Conference on Grey Systems and Intelligent Services**

**(GSIS 2009)**

**Nanjing, China  
10 - 12 November 2009**

**Pages 1 - 909**



**IEEE Catalog Number: CFP09GSI-PRT  
ISBN: 978-1-4244-4914-9**

# TABLE OF CONTENTS

<b>On the Astray of Complicated Models for Uncertain Systems .....</b>	<b>1</b>
<i>L. Sifeng, J. Forrest</i>	
<b>The Effectiveness of Grey Relation Entropy Method and its Rehabilitation.....</b>	<b>7</b>
<i>N. Zhang, S. F. Liu, Z. G. Fang, H. X. Shi</i>	
<b>An Improved Grey Incidence Analysis for Robust Designs with Nonlinear Multi-Response Dynamic Characteristics .....</b>	<b>12</b>
<i>X. F. Zhong, S. F. Liu</i>	
<b>Research of Supply Chain Partners Selection Based on an Improved Gray Connection Projection .....</b>	<b>18</b>
<i>G. H. Shi, J. J. Yue, Z. Q. Wei</i>	
<b>The Model of New Grey Incidence and Its Application.....</b>	<b>23</b>
<i>L. Z. Cui, S. F. Liu</i>	
<b>Gini Degree of Grey Incidence and its Application in Central Henan Urban Agglomeration Economic Development.....</b>	<b>27</b>
<i>L. Rui, J. F. Jui, Z. X. Wang</i>	
<b>Grey Incidence Analysis Based on Coefficient of Determination and its Economic Application with the Data of Central Henan Urban Agglomeration.....</b>	<b>32</b>
<i>J. F. Cui, R. J. Zhou, L. Rui</i>	
<b>Grey Distance Degree and Its Properties.....</b>	<b>37</b>
<i>Z. W. Lian, Y. G. Dang, Z. X. Wang, R. X. Song</i>	
<b>Study on Building a Forecasting Model with Improved Grey Relational Analysis and Support Vector Machines and its application .....</b>	<b>42</b>
<i>Y. J. Lin, S. X. Wu</i>	
<b>Improvement on Calculation of Generalized Absolute Grey Relational Grade Based on the Point-Wise Annihilating Operator .....</b>	<b>47</b>
<i>D. Qi-Hua, C. Yong-Ming</i>	
<b>Study on Affine Property of Some Algorithms for Grey Relational Analysis.....</b>	<b>52</b>
<i>C. Jie, D. Yao-Guo</i>	
<b>A New Improved Model of the Degree of Grey Slope Incidence Based on the Changing Rate of Slope .....</b>	<b>57</b>
<i>B. Zeng, S. F. Liu</i>	
<b>Image Segmentation Algorithm Based on Improved Information Entropy and Grey Relational Degree Analysis.....</b>	<b>62</b>
<i>D. Shi, Y. Gui</i>	
<b>Simplified Computation for a Kind of Improved Generalized Absolute Grey Relational Grade.....</b>	<b>67</b>
<i>C. Yong-Ming, D. Qi-Hua</i>	
<b>Research on Fault Diagnosis Methods with Grey Relation Analysis.....</b>	<b>72</b>
<i>M. H. Zhang, S. J. Lv, D. H. Wang, Y. X. Song, H. Liu</i>	
<b>A New Absolute Degree of Grey Incidence and its Application.....</b>	<b>76</b>
<i>L. Jian</i>	
<b>Applying Grey Relational Grade on the Exploration of Different Lifestyle Female Consumers' Preferences Towards the Appearance of Cars .....</b>	<b>79</b>
<i>C. C. Yen</i>	
<b>Applying Grey Relational Analysis to Dimension Reduction Based on Difference Information Theory .....</b>	<b>87</b>
<i>K. Guo, Q. Zhang</i>	
<b>PDEA Target Weight Determination Methods Based on GRA / AHP .....</b>	<b>93</b>
<i>G. Li, S. Huang</i>	
<b>The Main Factors Analysis of S&amp;T Transfer for University Achievements Based on Grey Incidence in Jiangsu.....</b>	<b>98</b>
<i>H. Ma, L. Jian, Y. Liu</i>	
<b>Relational Analysis Between Technological Progress and Economic Growth: An Empirical Study in Counties from Jiangsu Province.....</b>	<b>102</b>
<i>N. Luo, W. Zhong, S. Mei</i>	
<b>Dynamic Grey Incidence Analysis Between the Industrial Structure Evolution and the Regional Economic Growth: An Empirical Study Based on Jiangsu Province.....</b>	<b>108</b>
<i>H. Niu, K. Jiang</i>	
<b>Fuzzy Evaluation and Grey Incidence Analysis on Green Supply Chain Performance .....</b>	<b>114</b>
<i>W. Wenhai, Y. Peifang, C. Dianli, L. Bin</i>	

<b>Research on Extended Cluster of Grey Incidence and its Application</b> .....	119
<i>Z. Ke, L. Sifeng</i>	
<b>Evaluation of Dynamic Competitiveness of the University of Listed Companies Based on Grey Relational Analysis</b> .....	124
<i>L. Yong, J. Lirong, M. Hongfang</i>	
<b>Measuring the Delay Time of Chinese Employment Structure Based on Grey Incidence Analysis</b> .....	129
<i>Q. Wang, Y. G. Dang</i>	
<b>A Grey Relational Grade Analysis on the Interaction Relation Between the S&amp;T Business Incubator's Development and Economic Growth</b> .....	134
<i>X. Lingjuan, W. Zheng-Xin, L. Ninghui</i>	
<b>A Study of Impact Factors on China's Development in Service Industry Based on Grey Relational Analysis</b> .....	140
<i>Z. Qing, L. Sifeng, W. Ting, D. Yaoguo</i>	
<b>Canonical Correlation Analysis of Science and Technology Talents and Development of Regional Emerging Industry - a Case of Jiangsu Province</b> .....	144
<i>S. Keqin, L. Sifeng</i>	
<b>The Relationship Between Chinese Energy Consumption and GDP: An Econometric Analysis Based on the Grey Relational Analysis (GRA)</b> .....	153
<i>D. Feng, T. Qingmei, L. Xiaohui</i>	
<b>Grey Relation Between Hemodynamic Parameters and the Diversity of Invasive- Noninvasive Systolic Blood Pressure</b> .....	158
<i>Y. Chen, X. Chen, H. Pan, X. Tan</i>	
<b>The Relation Between Grey Relational Decision Making and Grey Situation Decision Making Under Appropriate Conditions</b> .....	162
<i>Y. Wei, X. H. Kong</i>	
<b>Study on the Relationship Between the Energy Consumption and Economic System of Jiangsu Province Base on Grey Relational Analysis</b> .....	165
<i>L. Sun, R. Hu</i>	
<b>The Study on the Interactive Relationship Between High-Tech Industry Development and Economical Growth Based on Grey Incidence Analysis</b> .....	170
<i>L. Bo, J. Keshen, J. Rui</i>	
<b>Research on the Interactive Relationship of Resident Income, Consumption and Economic Growth Based on Grey Relational Analysis</b> .....	176
<i>S. Haiping, W. Qiuqing, Z. Ci</i>	
<b>A Novel Algorithm of Image Denoising Based on the Grey Absolute Relational Analysis</b> .....	181
<i>G. Li, X. P. Xiao, Y. Gui</i>	
<b>Application of Grey Relational Clustering and CGNN in Analyzing Stability Control of Surrounding Rocks in Deep Entry of Coal Mine</b> .....	186
<i>W. Yang, Z. Qu</i>	
<b>Research on Technological Innovation of the National-Level Economic and Development Zone - Based on Grey Systems Theory</b> .....	191
<i>X. D. Li</i>	
<b>The Empirical Research of FDI Technology Spillover to Private Economy in Jiangsu Province</b> .....	196
<i>Z. Tian</i>	
<b>The System Dynamics Simulation of the Interactions Between Industrial Agglomeration and Regional Economic Competitiveness</b> .....	201
<i>S. Bin, L. Sifeng, Z. Xiaojing, L. Xuemei</i>	
<b>The Analysis of China's Trade in Services and its Influencing Factors: Based on Grey Incidence Analysis</b> .....	207
<i>S. Ting, C. Wan-Ming, P. Ling-Ling, L. Zheng-Wei</i>	
<b>Dynamic Assessment of Sustainable Development Based on Grey Relational Analysis and Artificial Neural Network</b> .....	212
<i>Q. Wang, X. Wang, Y. Mao</i>	
<b>Applied Grey Relational Grade in Spinal Lesions Imaging Study</b> .....	218
<i>M. L. Chen, H. T. Tu, J. R. Wang</i>	
<b>Detection and Visualization of the Eco-Environmental Response Under Urbanization: A Grey Relational Analysis Technique</b> .....	223
<i>Y. Liu</i>	
<b>Grey Incidence Analysis Between Energy Consumption Structure and Chinese GDP Growth</b> .....	228
<i>L. Wang</i>	
<b>Grey Analysis of Corrosion on the Overhead Condensing System</b> .....	233
<i>Z. Wang, S. Liu, S. Li</i>	

<b>The Application of the Grey Relational Analysis in the Credit Evaluation of Group Enterprises</b> .....	236
<i>L. Xiu-Ying, M. Zhong-Chun</i>	
<b>Study on the Impact of Water Deficit on Agronomic Characters of Sunflower Based on Gray Relational Projection Model</b> .....	242
<i>W. Likun, S. Yufen, M. Youngsheng</i>	
<b>The Extraction of Welding Type for Body in White Based on Association Rules</b> .....	247
<i>Y. Chao, H. Liu, Y. Li, N. Liu</i>	
<b>The Grey Relative Analysis of Impacts of Urbanization - A Case Study on Shandong Province in China</b> .....	252
<i>C. Yuhe, S. Zuoren</i>	
<b>Evaluation on Development Effect of Circular Economy in Coal Enterprise Based on Grey Relational Grade</b> .....	259
<i>X. Fang, T. De-Shan, L. Ying-De</i>	
<b>Grey Relational Evaluation on Export Ability of China's High-Tech Products</b> .....	265
<i>F. Wei, Y. Zhao</i>	
<b>Performance Evaluation on Listed Companies of China Aviation Industry Based on Multi-Level Grey Incidence Analysis</b> .....	270
<i>R. Ji, Z. Zhang</i>	
<b>Research on the Impact of Industrial Structure Adjustment in Nanjing City on its Employment Structure and the Countermeasures</b> .....	275
<i>W. Qing-Chun, Z. Jie, L. Da-Fang</i>	
<b>Research on the Object Business Selection for Corporate Diversification Based on Grey Correlation Theory</b> .....	280
<i>L. Weiguo, Z. Yong'an, Z. Xufeng</i>	
<b>Grey Relational Analysis for Local Government Public Service Evaluation</b> .....	286
<i>L. Da-Fang, W. Qing-Chun</i>	
<b>Analysis on Grey Relation of the Impact of China's Energy Consumption on Environment Quality</b> .....	290
<i>P. Wei, D. Yao-Guo, Z. Xia</i>	
<b>The Grey Incidence Study of South Korea Direct Investment, Technology Transfer and Shandong Manufacturing Industry</b> .....	295
<i>J. Y. Ren</i>	
<b>Single-Step Ahead Prediction Based on the PRinciple of Concatenation Using Grey Predictors</b> .....	300
<i>E. Kayacan, O. Kaynak</i>	
<b>The Non-Essential Grey Number and Grey Function and Their Computation</b> .....	306
<i>P. Fang, W. Guoping, P. Fangrong</i>	
<b>Study on Grey Parameter Estimation Approach of Small Samples</b> .....	311
<i>X. Bin, D. Hong, K. Hongfa</i>	
<b>Some New Results on the Weakening Buffer Operator</b> .....	316
<i>Z. Wu, S. Liu, C. Mi</i>	
<b>Research on MGM (1, N <math>\tau</math>, <math>\tau</math>) Model and its Application</b> .....	320
<i>H. Guo, X. P. Xiao, X. Feng</i>	
<b>Strengthening Buffer Operators Based on Power Function and its Properties</b> .....	326
<i>H. Su, Y. Wei, Y. Shao</i>	
<b>The Discrete Grey Prediction Model Based on Optimized Initial Value</b> .....	330
<i>T. Yao, Z. Gong, X. Zhu, H. Gao</i>	
<b>Grey Number Operation Principle Based on Probability Distribution</b> .....	335
<i>X. Huafeng, F. Zhigeng</i>	
<b>Weighted Degree of Grey Incidence Based on Optimization Entropy</b> .....	340
<i>P. Ling-Ling, C. Wan-Ming, C. Jun-Fu, Z. Guo-Bo</i>	
<b>Improvement and Application of GM (1,1) Model</b> .....	344
<i>L. Danhua, D. Yao-Guo, L. Xuemei</i>	
<b>A Modified GM (1,1) Model and its Application</b> .....	347
<i>J. Peirong, Z. Hongbo, H. Xinyu</i>	
<b>A Novel Improved GM (1,1) Model and its Applications</b> .....	352
<i>J. Huiheng, C. Senfa</i>	
<b>Grey Multi-Variables GM (1,N / <math>\tau</math>, <math>\tau</math>) Model with Delay and its Application</b> .....	357
<i>J. Wen, X. P. Xiao</i>	
<b>An Improved Algorithm of Grey Model-GM(1.1) Based on Total Least Squares and its Application in Deformation Forecast</b> .....	362
<i>T. Lu, S. Zhou, W. Liu, L. Zhang</i>	
<b>Research on Grey Wave Forecasting Model</b> .....	367
<i>W. Qin, W. Yong, Y. Xiongqiong</i>	

<b>Study on a New Grey CPM Under Incomplete Information</b> .....	373
<i>Z. Qiang-Qiang, C. Hong-Zhuan, Y. Bin</i>	
<b>Parameter Estimation of Non-Equidistant GM (1,1) Model Based on the Euler Formula</b> .....	378
<i>Q. Wang</i>	
<b>Review of Researches on Fashion Color Prediction Based on Grey Systems Theory</b> .....	383
<i>C. Lixia, G. Weidong, Z. Xi, L. Yuzheng, P. Ruru</i>	
<b>Audience Rating Prediction of New TV Programs Based on GM (1.1) Envelopment Model</b> .....	388
<i>Z. Yilei</i>	
<b>The New Modeling Method to the Sequence with Grey Exponential Law</b> .....	392
<i>Y. Shen, Y. Wei</i>	
<b>Analyze on Response of Runoff to Climate Change Based on the Modified GM (1,2) Model</b> .....	397
<i>X. Li, F. Yang, C. Hu, L. Liu</i>	
<b>Airport Gate Assignment Based on Improved GM (1,1) Model</b> .....	403
<i>S. Yang, M. Hu</i>	
<b>Grey System Theory Based Parallel Combination Forecast Method and its Application</b> .....	408
<i>Y. Li, Y. Chen</i>	
<b>Modification of GM (1,1) and its Application in Analysis of Rock-Slope Deformation</b> .....	415
<i>Z. B. Liu, W. Y. Xu, Y. D. Meng, H. J. Chen</i>	
<b>Grey I-PRAY Forecasting Method Based on the Difference Information Principle of Grey System</b> .....	420
<i>C. Yong-Ming</i>	
<b>Research on Grey Modeling Means and its Application</b> .....	425
<i>M. H. Zhang, D. H. Wang, S. J. Lv, L. Hong, Y. X. Song</i>	
<b>The Constitutive Error and Optimize Operator Research in the Grey Number's Addition and Subtraction Inverse Operation</b> .....	429
<i>Z. Wei, F. Zhigeng, C. Changjun</i>	
<b>Fuzzy Availability Analysis of a Repairable Consecutive-2-out-of-3: F System</b> .....	434
<i>G. Chongshan</i>	
<b>The Non-Equal-Interval Direct Optimizing Verhulst GM (1,1) Model and its Application to Fatigue Test</b> .....	438
<i>Y. Luo, Z. He, M. Chen</i>	
<b>Research on Unbiased GM (1.1) and its Optimization</b> .....	443
<i>P. P. Xiong, Y. G. Dang, Z. X. Wang</i>	
<b>An Optimization Method of Estimating Parameters in GM (1,1) Model</b> .....	448
<i>L. Xue-Mei, D. Yao-Guo, Z. Jie-Jue</i>	
<b>Research on the New Algorithms of Simple Grey Numbers, Complex Grey Numbers and Multiple Grey Numbers</b> .....	452
<i>N. M. Xie, S. F. Liu</i>	
<b>Weighting Generating GM (1,1) Model and its Application</b> .....	458
<i>Y. Hu, D. Yao-Guo, Q. Wu-Yong</i>	
<b>A New Type of Data Transformation and its Application in GM (1,1) Model</b> .....	461
<i>W. Y. Qian, Y. G. Dang, X. M. Li, J. J. Zhao</i>	
<b>The Weight Inverse Triangle Transform GM (1,1) and its Application in the Prediction of Pitch Motion</b> .....	466
<i>D. Hui, W. Ruihang</i>	
<b>Construction and Application of Unequal Interval GM (1,1) Prediction Model Based on Multilevel Residual Amendment</b> .....	471
<i>K. Li</i>	
<b>Micro-Mechanical Gyro Drift Modeling Based on GM(1,1) of Reconstruction of Background Value</b> .....	476
<i>J. Yang, Y. Zhang</i>	
<b>Establishment and Applications of the New Strengthening Buffer Operators with Exponential Type</b> .....	480
<i>C. Liu, Z. Shao, G. Yan</i>	
<b>An Application of GM (0, N) on Analyzing the First van Hiele Geometrical Thinking Level</b> .....	485
<i>D. B. Wu, H. L. Ma, G. S. Chen, H. T. Chang</i>	
<b>An Application of GM(0, N) on Factors Affecting the Occupation Selection of the Department of Child Care Students</b> .....	491
<i>H. T. Chang, T. W. Sheuand, D. B. Wu, G. S. Chen</i>	
<b>Gray Verhulst Modeling Prediction and Education Research for Beijing SARS</b> .....	497
<i>Y. Boming, W. Yuanbo</i>	
<b>Bayesian Network with Grey Entropy Data Pre-Processing for Modeling Students' Learning Status</b> .....	502
<i>T. Y. Hsieh, B. C. Kuo, R. C. Chao, S. I. Yeh, P. C. Chen</i>	
<b>Demand Forecast of FTTX: an Application of Grey Thory in Taiwanese Market</b> .....	506
<i>H. S. Chen</i>	

<b>A Grey Forecasting Model for Coal Production and Consumption</b> .....	512
<i>H. W. Ma, D. Q. Zhang</i>	
<b>Liquidity-Constrained Portfolio Model and Empirical Analysis</b> .....	517
<i>C. Xiaojun, L. Sifeng</i>	
<b>Grey System Theory Based Default Risk Model of Power Clients</b> .....	521
<i>H. Zhou, Y. Wang, W. Wang, T. Li, H. Yang</i>	
<b>Application of the Residual GM (1,1) Calamities Model to Aridity Forecast in Sichuan</b> .....	525
<i>X. Jiang, S. Chen</i>	
<b>Evolutionary Prisoner's Dilemma Game on Small-World Network</b> .....	529
<i>M. Lin, N. Li, H. Guo</i>	
<b>The Prediction of Ship Motion via Updating MGM(1,n) Model</b> .....	533
<i>J. Shen, C. Zhang, J. Li</i>	
<b>Application of Trigonometric Grey Prediction Approach to Forecasting China Grain Yield</b> .....	538
<i>H. Q. Hu, D. Zhang, Q. P. Wang</i>	
<b>The Interval Forecasting Method Based on Non-Equidistant GM(1,1) with Application to Regional Grain Production</b> .....	543
<i>L. Bing-Jun, H. Chun-Hua</i>	
<b>The Gap Prediction for Sci-Tech Innovative Talents of Jiangsu Province</b> .....	549
<i>J. Wang, S. Liu, Y. Wang</i>	
<b>Comprehensive Evaluation on Suppliers of Aircraft Based on Grey Bayesian Network Model</b> .....	552
<i>W. F. Yuan, S. F. Liu, Z. G. Fang, H. Z. Chen</i>	
<b>Resource Emergency Dispatching Mathematical Model Under Transport Capacity Constraints</b> .....	559
<i>C. Chao, Z. Dequn, B. Yang</i>	
<b>Grey System Theory in China: A Bibliometrics Analysis</b> .....	564
<i>H. Yue, S. Liu</i>	
<b>Financial Time Series Prediction Based on Grey Model Integrated with Support Vector Regression</b> .....	570
<i>J. Hui, W. Zhizhong</i>	
<b>A Hybrid Forecasting Method for Day-Ahead Electricity Price Based on GM(1,1) and ARMA</b> .....	577
<i>R. Wang, L. Yao, Y. Li</i>	
<b>A Grey Analytic Network Process (ANP) Model to Identify Storm Tide Risk</b> .....	582
<i>W. Zhang, X. Zhang, X. Fu, Y. Liu</i>	
<b>Simulation of Karst Hydrological Processes Using GM(1,1) Metabolic Model</b> .....	588
<i>Y. Wang, Y. Hao, X. Wang</i>	
<b>Logistics Amount Forecasting Based on Combined ARIMA and ANN Model</b> .....	594
<i>Z. Jing, Z. Jin-Fu</i>	
<b>Piecewise Analysis and Prediction of Spring Flow Based on GM(1,1) Model</b> .....	598
<i>Y. Hao, L. Zhang, T. Wei, X. Wang</i>	
<b>The Exel Test Modeling via Four Data in Evaluation of Decuation Information</b> .....	604
<i>C. Tang, B. Yin</i>	
<b>Food Security, Food Production and the Gray System Modeling</b> .....	608
<i>Z. Yijun, T. Laifeng, F. Zongxiang</i>	
<b>Grey Topological Prediction Method and Implication in China's Stock Market Price Index</b> .....	614
<i>S. Tao, L. Weijia</i>	
<b>A Grey-Markov Predication for Unemployment Rate Graduates in China</b> .....	619
<i>X. Li, W. Chen</i>	
<b>Forecasting Research on Real Estate Prices in Shanghai</b> .....	625
<i>Y. Zhang, S. Liu, S. He, Z. G. Fang</i>	
<b>Passenger Traffic Forecast Based on the Grey-Markov Method</b> .....	630
<i>Z. Wei, Z. Jinfu</i>	
<b>Development Prediction for Yantai City's Service Industry Based on Grey System Model</b> .....	634
<i>X. Meixiang, D. Yingao, M. Jianjun</i>	
<b>Research on the Development of Adult Higher Education in China Based on Grey System Theory</b> .....	638
<i>C. Si</i>	
<b>The Verhulst Modeling for Education Quality of High School in Pudong New Area, and Carry Out in Computer</b> .....	644
<i>J. Sheping</i>	
<b>Grey System Research on Influencing Factor and Forecast of Scale of Chinese Ordinary Higher Education</b> .....	648
<i>L. Dongjiao</i>	
<b>An Effective Supply Chain Performance Prediction Method and its Application</b> .....	651
<i>D. Chen</i>	

<b>China's Grain Security Warning Based on the Integration of AHP-GRA</b> .....	655
<i>M. Kepei, W. Beijun, T. Sasa, J. Liangyu</i>	
<b>Improvements on Grey Models for Non-Equidistant Sequence</b> .....	660
<i>K. Hanbin, S. Liu, Z. G. Fang</i>	
<b>The Prediction and Precaution of Financial Risk in China: Evidence from the Data During 1997-2007</b> .....	664
<i>M. Qianru, W. Qiujing, C. Fuzhong</i>	
<b>The Gray Disaster Forecast of Stock Market</b> .....	670
<i>C. Jianguo, D. Yao-Guo</i>	
<b>The Analysis and Forecast for Common Senior High School Education of China Based on Grey Theory</b> .....	673
<i>S. K. Hui</i>	
<b>Grey Model of County-Level Fiscal Income &amp; Expenditure and Application</b> .....	678
<i>C. Shu</i>	
<b>Virtual Enterprise Knowledge Sharing Risk Early-Warning Based On Rough Sets Grey Theory</b> .....	682
<i>C. D. Shi, D. X. Bian</i>	
<b>The PID Prediction Control System Using Particle Swarm Optimization and Genetic Algorithms</b> .....	687
<i>G. D. Li, C. H. Wang, S. Masuda, D. Yamaguchi, M. Nagai</i>	
<b>Prediction of International Crude Oil Futures Price Based on GM (1,1)</b> .....	692
<i>A. Lin</i>	
<b>Critical Path for a Grey Interval Project Network</b> .....	697
<i>S. Zhongmin, Y. Xizu</i>	
<b>Study on Improved Grey Integrated Clustering Method and its Application</b> .....	702
<i>D. Fenyi, L. Junjuan, L. Bin</i>	
<b>Developing Model of Grey Clustering Based on Grey Number</b> .....	708
<i>l. Junjuan, L. Aizeng, D. Fenyi</i>	
<b>A New Dynamic Clustering Algorithm for Interval Grey Number</b> .....	713
<i>W. Shunxiang, Y. Junjie, W. Wenchang, L. Lihua, L. Zhifeng</i>	
<b>A Method of Evaluation on 2-Tuple Linguistic Clustering Results Based on Grey Measure</b> .....	719
<i>S. He, S. Liu</i>	
<b>Improved Entropy Weighted Cluster Analysis and its Application</b> .....	723
<i>S. A. Ping</i>	
<b>Study on the Identification Model of Poor College Students Based on The Grey Clustering Method</b> .....	728
<i>L. Hongqi, Y. Ying, W. Qing-Chun</i>	
<b>Risk Assessment of Project Based on Analytic Hierarchical Model and Gray Relative Analysis and its Application</b> .....	735
<i>L. Feng, Y. Hongtao, F. Xiaoxia</i>	
<b>Evaluation of Aerial Target Threat Degree Based on Improved Grey Interrelated Analysis Method</b> .....	740
<i>Z. Jun, L. Jianyong, F. Chengqun, C. Kai</i>	
<b>Research on the Risk Assessment of Information System Based on Grey Fuzzy Evaluation Theory</b> .....	745
<i>J. Hua, C. Zhenxing</i>	
<b>The Industry Performance Evaluation for Western Cities in China</b> .....	750
<i>Z. Honghui, W. Zongjun</i>	
<b>The Diagnosis of Firm's "Diseases" Using the Grey Systems Theory Methods</b> .....	755
<i>C. Delcea, E. Scarlat</i>	
<b>Stroke Order Computer-Based Assessment with Grey Measure Scoring</b> .....	763
<i>G. S. Chen, Y. D. Jheng, D. B. Wu, H. T. Chang</i>	
<b>A Study of Employment Conflict Management Strategies for Chinese Enterprises in Transnational Mergers and Acquisitions</b> .....	769
<i>Z. Jie</i>	
<b>The Regional Characteristics Analysis of the Development of new Industries in Jiangsu Province</b> .....	775
<i>S. Dejin, L. Sifeng</i>	
<b>A Measurement of Organizational Complexity and its Impact on Quality Economics - A Grey Perspective</b> .....	783
<i>Z. Zhang, H. Qin, L. Wang</i>	
<b>Apply GM(h, N) to Cluster the Influence Factor in Heart Rate Variability Index Evaluation Using Five-Minute Electrocardiogram</b> .....	788
<i>Y. T. Lee, M. L. You, K. L. Wen</i>	
<b>Evaluation of Clustered Enterprises' Knowledge Management Based on Weighted Grey Relational Model</b> .....	792
<i>C. Youhua, C. Guohong, Z. Qishan</i>	

<b>The Analysis of China's Macro-Economy with Grey Dynamic Model in 30 Years of Reform and Opening up</b> .....	797
<i>D. Juan, W. Xuemeng</i>	
<b>Use of Grey System for Assessment of Drinking Water Quality: A Case Study of Jiaozuo City, China</b> .....	803
<i>L. Hu, C. Zhang, C. Hu, G. Jiang</i>	
<b>A Fuzzy ANP Model for Evaluating Material Support Plan in Development Phase</b> .....	809
<i>L. Qu, R. Kang, J. Long</i>	
<b>The Process Assessment of Green University Based on Grey Incidence Degree Analysis</b> .....	814
<i>T. Min, L. Hongwei, S. Zuoren</i>	
<b>An Evaluation of Trap Oil-Bearing Property Based on Grey System</b> .....	821
<i>W. Guoping, W. Yiqi, X. Hongyan</i>	
<b>Regional Innovation Efficiency of China and its Influencing Factors</b> .....	826
<i>Z. P. Tian</i>	
<b>The Comparison of Transfer Model and Metabolism GM(1,1) Model in Fuzhou Port's Throughput Prediction</b> .....	831
<i>C. Kejia, C. Jiaying, Z. Qishan</i>	
<b>Study on Eliminating the Effect of External Factors to the Comprehensive Evaluation Based on PLS Regression</b> .....	835
<i>G. Yingyu, L. Chunping</i>	
<b>The Research of Creative Industry's Influence on Economic Growth: Grey Incidence Analysis Approach</b> .....	839
<i>H. Shunfa, L. Xiangmin</i>	
<b>Appraisal of Red Flag Car Drivers Base on Grey Incidence Analysis</b> .....	844
<i>H. Du, H. Shi</i>	
<b>On the Convergence of China's Regional Innovation Efficiency</b> .....	849
<i>J. Li, Q. Tan, J. Bai</i>	
<b>Analysis of Research Status on Grey System in the Chinese Social Science Circle</b> .....	854
<i>L. Chao</i>	
<b>Application of Grey Incidence Analysis to China's Balance of Payments Impact in Financial Crisis</b> .....	858
<i>H. H. Xu</i>	
<b>The Synthetic Evaluation of Airline' Adaptability Based on Grey Analytic Hierarchy Process</b> .....	863
<i>Y. Kewu, H. Tao</i>	
<b>Energy-Saving-Based Industrial Restructuring of Jiangsu Using Grey Programming Model</b> .....	867
<i>Y. Chaoqing, L. Sifeng</i>	
<b>Research of Three-Dimensional Comprehensive Evaluation in Educational Informationization Based on Gray Theory</b> .....	871
<i>Z. Zeng, Y. Wang</i>	
<b>On Mergers &amp; Acquisitions Performance of Information Technology Sector in Short-Term Perspective</b> .....	876
<i>F. Z. Chen, Q. J. Wu, J. L. Wang, Q. R. Mao</i>	
<b>Research on River Water Quality Assessment of Eastern Route of South-to-North Water Transfers Based on Grey Cluster Evaluation Model</b> .....	882
<i>J. Chen, S. Zhao, Y. Weng</i>	
<b>Evaluation Research of University's Doctoral Theses Based on Grey Relational Analysis</b> .....	888
<i>K. Xiangpei, N. M. Xie</i>	
<b>Research of Competitiveness Evaluation and Cluster Analysis on Airlines</b> .....	893
<i>K. Yonggang, W. Tongshui, Z. Xinghui</i>	
<b>An Extension of the Promethee II Method Based on Generalized Fuzzy Numbers</b> .....	897
<i>W. Li, B. Li</i>	
<b>Analysis on Tax Elasticity in China Based on ECM and GM(1,1) Model</b> .....	905
<i>L. Jiashu, J. Lirong</i>	
<b>Study of Patent Asset Appraisal Basing on Fuzzy Mathematics</b> .....	910
<i>S. Wei</i>	
<b>The Evaluation Model of the Campaign Capabiltiy of Air and Space Integration Based on Grey Correlation Entropy</b> .....	915
<i>W. Hu, J. Yang, L. Tian</i>	
<b>Productivity Change and its Inherent Trend in China's Airlines in 2003-2008: An Analysis Employing Malmquist Productivity Index and GM(1,1) Model</b> .....	919
<i>X. Hu, K. Jiang, B. Liu</i>	
<b>Detection of Undergraduates' Psychological Crisis</b> .....	924
<i>L. Ying, L. Zhixiang, S. Mengyang, H. Manling</i>	



<b>A Fuzzy Comprehensive Evaluation Approach with Application to Measuring Tourism Destination Service Quality</b> .....	929
<i>S. Mengyang, L. Ying, S. Meiyu</i>	
<b>An Empirical Research on the Preference in Earning Management Methods of Listed Companies with Meager Profit</b> .....	934
<i>L. Yiping, Z. Yi</i>	
<b>Analysis of Southern Jiangsu Economic Growth Factors Based on Grey Production Function Model</b> .....	938
<i>X. Ning, D. Yao-Guo, S. Yuting</i>	
<b>Evaluation on Economies of Scale of Higher Education with Grey Relational Model - A Case in Heilongjiang Province</b> .....	942
<i>X. Guangming, X. Naiming, L. Huilin, Z. Qiuming</i>	
<b>The Customer Satisfaction Evaluation of Mobile Industry Based on Multilevel Structural Equation Model</b> .....	947
<i>F. Xiuqin, X. Xinping, G. Huan</i>	
<b>Applying the Method of Grey Cluster Analysis to Evaluate Innovation Capability About High-Tech Industry of Jiangsu Province</b> .....	952
<i>W. Yedong, L. Sifeng, F. Zhigeng</i>	
<b>Study on the Production Buffer of Critical Equipment with Petri Net under Grey Uncertain Information</b> .....	957
<i>L. Yuan, F. Zhigeng, H. Jingjing</i>	
<b>The Multiple Gray Synthetic Evaluation on Internal Control of Commercial Banks</b> .....	962
<i>Z. Chunxi</i>	
<b>Studying on the Influencing Factors of China's "Eleventh Five-Year" Energy-Saving Goals Based on Structural Equation Model</b> .....	968
<i>F. Junxing, G. Benhai, L. Sifeng, F. Zhigeng</i>	
<b>Impact of Local Economic Development on Drought Risks: A Case of North China</b> .....	974
<i>Z. Hui-Ming, Y. Xian-Ping, Z. Suo-Quan</i>	
<b>IT Service Level Agreements Based on the Optimal Strategies</b> .....	978
<i>H. Yang</i>	
<b>Study on the Comprehensive Evaluation of Financial Risk of Institutions of Higher Education</b> .....	982
<i>Y. Deling, L. Bo, P. Ling-Ling</i>	
<b>Multi-Hierarchy Gray Cluster Appraisal of University Independent Innovation</b> .....	987
<i>W. Jing, C. Xiachu, C. Wan-Ming, Z. Yiwen</i>	
<b>The Regional Development Level of Vocational Education and Influencing Factors Analysis Based on Gray System Theory - A Case of Jiangsu Province</b> .....	992
<i>S. Xian-Shan, C. Yi</i>	
<b>Gray System Theory Based Study on Constructing School Education-Teaching Resources Database</b> .....	998
<i>Z. Donghong</i>	
<b>Quantitative Analysis on the Contribution of Jiangsu's Education Investment to its Economic Growth</b> .....	1003
<i>G. Chengxuan, L. Nan, C. Tin</i>	
<b>Similarity to Ideal-Based Grey Relational Projection for Multiple Criteria Decision-Making</b> .....	1008
<i>K. Hongfa, L. Sifeng</i>	
<b>Integrated Model for Grey Multi-Attribute Risk Group Decision-Making</b> .....	1013
<i>L. Dang, Z. Ling</i>	
<b>Study on Optimization Model of Supporting Fund for Social Benefit Maximum Based on Technology Introduction</b> .....	1019
<i>F. Zhigeng, Y. Baohua, L. Zheng-Wei</i>	
<b>The Optimization Model of Objective Weight in Grey Situation Decision</b> .....	1025
<i>D. Yao-Guo, W. Zheng-Xin, L. Xue-Mei, X. Ning</i>	
<b>Grey Relational Analysis Algorithm on Weights in Multi-Attribute Group Decision-Making</b> .....	1029
<i>C. Youliang, K. Hongfa, L. Yingsheng</i>	
<b>Grey Relational Grade Decision Model for Selection of Project Delivery System</b> .....	1033
<i>L. Huimin, W. Zhoufu</i>	
<b>Study on the Grey Social Welfare Function</b> .....	1038
<i>W. Lifeng, W. Yinao</i>	
<b>A Study on R-OWGA Operators</b> .....	1042
<i>L. Zhang, D. Zhou</i>	
<b>A Comparative Study on Solutions for Multiple Attribute Decision Problems Based on Grey Theory</b> .....	1046
<i>W. Li, Y. Wang, Y. Wei</i>	
<b>Study on Grey Distance Entropy Model with Application in Multiple Attribute Decision Making</b> .....	1051
<i>W. Pengfei, F. Zhigeng, L. Junmin, C. Yali</i>	

<b>Hybrid Multi-Attribute Decision Model of Grey Target</b> .....	1055
<i>Z. Wang, Y. G. Dang, L. Bo, L. Zheng-Wei</i>	
<b>Grey Relational Analysis Method of Linguistic Information and its Application in Group Decision</b> .....	1061
<i>Q. Wang, D. Zhang, H. Hu</i>	
<b>Grey Multiple Attribute Decision Making Method Based on the Minimax Regret Approach</b> .....	1066
<i>X. Chen</i>	
<b>Partial Ordering of Interval Grey Number and its Application</b> .....	1070
<i>Y. Li, S. Mao</i>	
<b>Study on Aggregation Method of Group Decision Making with Grey Judgment Matrix</b> .....	1075
<i>R. Aiqing, X. Xiaofeng</i>	
<b>Analysis of Influencing Factors for the Grey Multi-Attribute Group Decision Making</b> .....	1081
<i>G. Yan, C. Liu, Z. Shao</i>	
<b>The Pattern of Multi-Objective and Multi-Dimensional Grey-Fuzzy Decision with Self Feedback</b> .....	1087
<i>L. Xican, W. Jing</i>	
<b>On Priority Models of the Grey Interval Preference Relation</b> .....	1092
<i>Z. Gong, T. Yao, J. Cao</i>	
<b>A Decision-Making Method Based on Grey Interval Linguistic Judgment Matrix</b> .....	1096
<i>D. Ye, Z. Jianjun, H. Hongyu, Z. Ningning</i>	
<b>A Hybrid Approach of Grey Rough Set And Probabilistic Neural Network to Uncertain Decision</b> .....	1101
<i>J. Lirong, L. Sifeng</i>	
<b>Study on the Multi-Attribute Decision-Making Model of Grey Target</b> .....	1107
<i>S. Jie, D. Yao-Guo, L. Xuemei, W. Zheng-Xin</i>	
<b>Ranking Decision-Making Units by Imagined Grey Interval DEA Model Based on Public Weights</b> .....	1111
<i>W. Jiefang, L. Sifeng, Z. Qiaozhan, W. Le</i>	
<b>The Multi-Attribute Weighing Decision Model of Grey Target Based on Savage Decision Criteria</b> .....	1115
<i>Z. Hua, Y. G. Dang, J. Song, X. Li</i>	
<b>Study on Grey Evolutionary Game of "Industry-University-Institute" Cooperative Innovation</b> .....	1120
<i>H. Z. Chen, Q. Q. Zhao, Z. X. Jin</i>	
<b>Grey Clustering Statistic, Policyholder's Risk Attitude and Purchase Decision</b> .....	1126
<i>H. Ker-Tah, L. Weiling, Y. Tzung-Ming</i>	
<b>Evaluating the Regional Independent Innovation Efficiency by Grey Target Theory</b> .....	1132
<i>H. Xinhuan, Z. Qishan</i>	
<b>Dynamic Evaluation and Analysis on Regional Technological Innovation Capacity Based on Grey Target</b> .....	1137
<i>M. Li, H. Zhuang, G. Chen</i>	
<b>A New Early Warning Method and its Applications of the Complex Systems for Real Estate Market</b> .....	1143
<i>C. Senfa, C. Yan</i>	
<b>Study on Adjustment and Optimization Model of Regional Agricultural Structure</b> .....	1147
<i>L. Ye, H. Yunhe, L. Bin</i>	
<b>A Grey Degree model for Facility Location in Large-Scale Emergencies</b> .....	1152
<i>L. Xianglin, H. Yunxian</i>	
<b>A Weighted Grey Target Theory-Based Strategy Model for Emergency Facility Location</b> .....	1158
<i>D. Yu, D. Zhou, X. He</i>	
<b>Software Project Risk Assessment Based on Fuzzy Linguistic Multiple Attribute Decision Making</b> .....	1163
<i>Y. Li, N. Li</i>	
<b>Template Game Analysis of Supervision on Research Funds of Colleges and Universities in China</b> .....	1167
<i>J. Xu, Z. G. Fang, S. Liu, H. Chen</i>	
<b>Option Game on R&amp;D Investment Decision Under Uncertainty: The Case of Labor-Managed and Profit-Maximizing Firms</b> .....	1172
<i>L. Jianli, Z. Weijun</i>	
<b>Game Analysis on Banking Risk Supervision Under Asymmetric Information</b> .....	1177
<i>M. Xin</i>	
<b>Coordinating an Online-Dual-Channels Supply Chain with Asymmetric Information</b> .....	1182
<i>L. Bin, Z. Rong, B. Hongyuan</i>	
<b>Design of Variable Structure Fault Tolerant Controller for Nonlinear System</b> .....	1189
<i>X. Zhan, X. Zhang</i>	
<b>A Method of Modeling Logistic</b> .....	1193
<i>Y. Wang, L. Wu, F. Cai</i>	
<b>GIS-Based Education Decision-Making System</b> .....	1198
<i>W. Aihua, G. Wenge, X. Guoxiong, J. Jiyou, W. Dongmao</i>	
<b>Research on Product Differentiation in Chinese Travel Agencies Based on Game Theory</b> .....	1203
<i>Y. Li, L. Bangyi, Z. Xufeng</i>	

<b>Game Analysis on Road Freight Transport Service in China</b> .....	1208
<i>H. Mo</i>	
<b>Path Selection for the Greatest Viability of Military Transportation Based on Grey Evaluation Theory</b> .....	1214
<i>C. Changjun, F. Zhigeng, Z. Wei</i>	
<b>Research on Informatization Construction Evaluation of Logistics Enterprise in China</b> .....	1219
<i>X. Meidan, L. Junjuan, L. Bin</i>	
<b>Multi-Objective Function of Linear Programming Model of Technology Productivity Flow and Optimization Configuration Based on the Perfect Mechanism</b> .....	1224
<i>H. Shi, H. Du, T. Wang</i>	
<b>Application of Residential Landscape Design Scheme Evaluation Based on Fuzzy Comprehensive and Grey System Methods</b> .....	1230
<i>X. Wang, M. Shi, Y. Zhang, X. Tan, H. Liu</i>	
<b>Air Cargo Overbooking Model with Stochastic Capacity and Penalty Cost Under CVaR Framework</b> .....	1234
<i>L. Lei, J. Zhou, H. Wang</i>	
<b>Development and Application of Computer Decision-Making System for Crop Grey Breeding (CDSCGB)</b> .....	1241
<i>G. Ruilin, W. Zhanzhong, L. Yafei, W. Jingshun</i>	
<b>Study on a New GERT Network Model with Several Variables Based on Value Flow Process</b> .....	1246
<i>B. Yu, Z. G. Fang, Q. Q. Zhao, B. Yang</i>	
<b>Leading Industries Choice of Regional Emerging Industries Development - Taking Jiangsu Province as the Example</b> .....	1251
<i>B. Guo, Z. G. Fang</i>	
<b>Research on Uncertainty Translated into Certainty Based on SPA Theory</b> .....	1258
<i>Y. Huang</i>	
<b>The Chaotic Characteristics of GM(1,1)</b> .....	1262
<i>S. Chun-Guang, P. Ling-Ling, L. Zheng-Wei, S. Haiping</i>	
<b>An Empirical Research of TMT Social Network, Cohesion and Decision Quality</b> .....	1267
<i>T. Xuejun, X. Lu</i>	
<b>School Information Technology Education Effectiveness Using Multi-Objective Situation Decision-Making</b> .....	1274
<i>C. Jiu Hua</i>	
<b>Comprehensive Evaluation of the Urban Public Transportation System Based on Grey Entropy</b> .....	1278
<i>M. Wenqing, C. Dongyuan, Z. Yapeng, W. Jichao</i>	
<b>Research on the Optimal Time Buffer Model of Critical Equipments in Multi-Models Production</b> .....	1282
<i>Z. Liang, S. Chun-Guang, W. Pengfei</i>	
<b>Application of Extension Theory in Evaluation of Supply Chain Flexibility</b> .....	1287
<i>W. Gui-Hua</i>	
<b>The Balancing Between E-Commerce Logistics Cost and Service Quality Based on Value Engineering Approach</b> .....	1292
<i>C. Mi, Y. Wang, T. Ma</i>	
<b>Development and Validation of Application Capability of E-Business</b> .....	1296
<i>J. N. Wu, J. L. Luo, L. Liu</i>	
<b>A Study on Business Process Reengineering and Organization Models Based on CAS Theory</b> .....	1304
<i>X. M. Xu, J. Hu</i>	
<b>Research on Support of Dual-Use Core Technology Integration Based on Open Innovation</b> .....	1309
<i>J. M. Fan, G. M. Hou, X. W. He</i>	
<b>A Study on Adaptive Architecture of E-Government Network for Small and Medium Cities</b> .....	1316
<i>J. Wang, R. Gan, Y. Ju</i>	
<b>Product Pricing Game Model Under B2C Market Based on Multi-Agent System</b> .....	1321
<i>Q. Yin, Y. Li, L. Min</i>	
<b>Ontology-Based Enterprise Information Retrieval Model</b> .....	1326
<i>H. Gao, J. Zhao, Q. Yin, J. Wang</i>	
<b>A Study on Information Sharing of E-Government</b> .....	1331
<i>Z. Yan, B. Sun, T. Wang</i>	
<b>A Study of JMI in Supply Chain Based on System Dynamics</b> .....	1336
<i>D. Jin, L. Zhang</i>	
<b>An Architectural Framework of the Integrated Transportation Information Service System</b> .....	1342
<i>F. Chang, R. Gan</i>	
<b>An Architecture of SCM System Based Agent and Ontology</b> .....	1347
<i>Y. Gao, R. Fu</i>	

<b>A Literature Analysis on the Adoption of Mobile Commerce</b> .....	1353
<i>H. Feng</i>	
<b>Safety Risk Assessment Technology of Chemical Industrial Park Based on Grid Partition and Information Diffusion Theories</b> .....	1359
<i>H. Wang, Y. Ma</i>	
<b>Manufacturing Enterprise Business Process Ontology Modeling for Knowledge Integration</b> .....	1365
<i>Y. Fanbo, D. Xianghai</i>	
<b>The Realization of a Kind of Self-Adapted Making Test Paper System Using "Objective-Oriented Programming" for an Example</b> .....	1370
<i>M. Zhao, X. W. Li, Q. P. Liu</i>	
<b>A Study on Push-Pull Mode of Supply Chain Based on System Dynamics</b> .....	1375
<i>Z. Libo</i>	
<b>Network Externality, Call Externality and Price Policy: Consumer Development Analysis of China 3G Mobile Data Services</b> .....	1381
<i>G. Yonghua, L. Bangyi</i>	
<b>Oil Price Forecasting Based on Self-Organizing Data Mining</b> .....	1386
<i>Y. Yi, N. Qin</i>	
<b>Study on Performance Testing of Index Server Developed as ISAPI Extension</b> .....	1391
<i>X. Chen, Z. Hu</i>	
<b>Norm Based Organization Modeling</b> .....	1396
<i>J. Zhao</i>	
<b>Cooperation Quality Supervision and Coordination in Two-Stage Supply Chain of Agriculture Product Logistics Service</b> .....	1401
<i>Z. Dehua, L. Sha, W. Fei</i>	
<b>JINI-Based Design for Dynamic Scheduling Decision System</b> .....	1406
<i>L. Changyi, L. Tingting</i>	
<b>The System Dynamics Simulation Model of Output in Supply Chain Ecosystem</b> .....	1411
<i>W. Xingyuan, Z. Peng</i>	
<b>The Comparative Study on Process Management Capabilities Influence to IT Application Level Between Chinese and Foreign Enterprises</b> .....	1417
<i>J. Peng, X. Zheng</i>	
<b>Ontology Model Developing Based on Semantic Analysis for Inter-view Consistency in Enterprise Architecture</b> .....	1423
<i>G. Mingxin</i>	
<b>Emergency Decision-Making Patterns Research Based on Dynamic Game of Incomplete Information</b> .....	1428
<i>Z. Qi, Z. Lei</i>	
<b>A Comparative Analysis of Discretization Algorithms for Data Mining</b> .....	1434
<i>X. Ming, X. Xinping</i>	
<b>A Model of Web Services with QoS Based MAS</b> .....	1439
<i>K. Yan, Y. Hu, G. H. Lu</i>	
<b>Social and Technical Interaction Improvement in Creating Online E-Learning Community</b> .....	1444
<i>X. Su, Y. Chen</i>	
<b>An Application of GRA to Analyze the Credit Risk in Banking Industry</b> .....	1449
<i>S. J. Wu, S. L. Lin, H. L. Ma, D. B. Wu</i>	
<b>Applying GRA to Construct the System of Balance Score Card in Nonprofit Organization</b> .....	1456
<i>C. Y. Kung, T. M. Yan, C. C. Huang, C. S. Lai</i>	
<b>Hybrid Genetic Algorithm for Travel Time Connectivity Reliability of Optimal Path</b> .....	1460
<i>D. Ma</i>	
<b>Approach to Integrate Weights Based on the Largest Deviation Among the Values of Aggregated Evaluation</b> .....	1465
<i>Q. X. Li, J. M. Yang, Z. X. Wang</i>	
<b>Research on Greedy Simulated Annealing Algorithm for Irregular Flight Schedule Recovery Model</b> .....	1469
<i>Q. Gao, X. W. Tang, J. F. Zhu</i>	
<b>A Chaos Genetic Simulated Annealing Hybrid Algorithm</b> .....	1476
<i>X. G. Bai, H. M. Yang, H. Y. Shu</i>	
<b>Optimization Models for Water Resources Usage in Irrigation Region</b> .....	1480
<i>J. Zhang, R. Gan</i>	
<b>An Empirical Study on the Commercial Prospect of Emerging Technology Through Bibliometrics</b> .....	1484
<i>Y. Lou, X. Fu, L. Huang</i>	
<b>Fuzzy Comprehensive Evaluation Model with Application in Seeds Industry Distributor</b> .....	1490
<i>H. Yi, S. W. L. Liu</i>	

<b>Study on Hybrid AHP Method with its Application</b> .....	1496
<i>N. Ming</i>	
<b>A Privacy Preserving Clustering Technique Using Hybrid Data Transformation Method</b> .....	1502
<i>L. Li, Q. Zhang</i>	
<b>Preference Aggregation-Based Dynamic Evaluation Method with Application</b> .....	1507
<i>Z. P. Lu, S. F. Liu, J. Zhu</i>	
<b>Employee Demission Risk Assessment Based on AHP and BP Neural Network</b> .....	1511
<i>L. Yan</i>	
<b>Fast Simulated Annealing Method of Constrained Impedance Inversion Based on nonlinear Regularization</b> .....	1517
<i>H. Zhang, D. Xie, Z. Shang</i>	
<b>An DEA-Based Assessment for Enterprise Basic Research on Patented Invention</b> .....	1522
<i>J. Gui, X. Lei, M. Sun, P. Li, Z. Zhang</i>	
<b>Efficiency Assessment of Private Economy for Provinces in China Using Fuzzy Comprehensive Evaluation</b> .....	1527
<i>X. D. Li</i>	
<b>Progress Assessment on Energy-Saving Goal Achieving in "11th Five-Year Plan" Period and Analysis of Energy-Saving Situation</b> .....	1532
<i>B. Guo, Z. G. Fang, N. M. Xie</i>	
<b>A New Optimization Algorithm and its Application - Key Cutting Algorithm</b> .....	1537
<i>J. Qin</i>	
<b>Research on Total Factor Energy Efficiency in China Based on Super Efficiency Grey DEA Model</b> .....	1542
<i>Q. Wang, S. Wang, X. Wang</i>	
<b>Study on Alliance Benefit Allocation Using TOPSIS</b> .....	1548
<i>Ye Qiang, Y. Jing</i>	
<b>TOPSIS-Based Attribute Weight Solution Using Three-Point Linguistic Information</b> .....	1552
<i>N. N. Zhu, J. J. Zhu, Y. Ding</i>	
<b>Apply GRA in CSL Communication Topics Selection</b> .....	1556
<i>R. C. Chao, N. Masatake, T. Y. Hsieh, T. W. Sheu, B. C. Kuo, Y. H. Tsai, S. I. Yeh</i>	
<b>Research of Economic Growth Model Based on Product Innovation</b> .....	1562
<i>J. Q. Ren, S. F. Liu</i>	
<b>A Fuzzy Shifting Bottleneck Procedure for Patient Scheduling</b> .....	1566
<i>S. Wang, Q. Ma, Z. Guan</i>	
<b>Density Function Estimation Based on SVM: An Application in Estimating Liquidity Risk in Stock Market</b> .....	1570
<i>Y. Yang, C. Zhang</i>	
<b>Stock Return Prediction Based on Bagging-Decision Tree</b> .....	1575
<i>Hu. Wang, Y. Jiang, H. Wang</i>	
<b>On Partner Selection and task Assignment of Logistics Alliance Under Lean Philosophy</b> .....	1581
<i>C. D. Shi, D. X. Bian</i>	
<b>An Algorithm of Judgment Matrix Consistency Measurement</b> .....	1586
<i>H. Liu</i>	
<b>Blind Number Theory and its Application in Optimization Design of Mechanical Structure Time-Dependent Reliability</b> .....	1591
<i>P. Guo, B. Shi, C. Xiao, Y. Hou, Y. Jiang</i>	
<b>An Improved ACO Algorithm for Vehicle Scheduling Problem in Military Materials Distribution</b> .....	1596
<i>D. Mei, X. Shi, F. Zhao</i>	
<b>Stochastic Multi-Attribute Decision-Making Model Based on Grey Matrix Relational Analysis and its Application</b> .....	1601
<i>C. Ruan, X. P. Xiao</i>	
<b>Model Construction and Empirical Study of ARMA-EGARCH</b> .....	1607
<i>B. Zhang, Z. M. Yin</i>	
<b>Using the Third Order Exponential Smoothing Forecasts on Reducing the Bullwhip Effect and Inventory Costs in Supply Chain</b> .....	1612
<i>C. Wang</i>	
<b>New Algorithm for Degree of Network Relation Coupling in Complex Networks</b> .....	1618
<i>S. Li, Y. Chen</i>	
<b>Research on the Scientific and Technological Innovation of Research University and its Strategic Measures</b> .....	1624
<i>C. Hua</i>	

<b>Allocation Structure and Utilization Efficiency Analysis of Research Expenditure for Science and Technology in China</b> .....	1629
<i>P. Huidan, S. Dejin, L. Sifeng</i>	
<b>Research on Vehicle Retirement Simulation</b> .....	1635
<i>C. P. Song, Y. M. Qi</i>	
<b>Research on Emergency Logistics: Situations and Development Trends</b> .....	1638
<i>X. Zuo, Q. Ran, W. Gu</i>	
<b>System Structure Identification by Analyzing Elements Behavior Sequences with GRA-Based ISM</b> .....	1642
<i>X. B. Ai, Z. Y. Zhang</i>	
<b>Return Contract of Supply Chain with Credibility Distribution</b> .....	1647
<i>L. Huo, B. Liu, J. Li</i>	
<b>Location Selection for Time Limited Aeronautical Emergency Material Depot</b> .....	1652
<i>S. Liang, Q. Tu</i>	
<b>The Appraisal of Shenzhen Marine Traffic Security's Social Benefits</b> .....	1658
<i>J. Lu, J. Wang, Y. Liu</i>	
<b>Performance Analysis of China Civil Aviation Industry Market, Regulation and Property Right</b> .....	1664
<i>J. Z. Cao, C. J. Dai</i>	
<b>Estimating Wear Volume of Polymer Compound Based on Two Dimension Surface Figure</b> .....	1671
<i>W. Zheng, J. Peng, J. Zhou, Z. Zhu</i>	
<b>The System Dynamic Modeling and Simulation of Effect Factors on Civil-Military Integration Mechanism in Defense Industry</b> .....	1676
<i>Y. N. Zhang, Z. Jiang</i>	
<b>Analysis of Risk Management Strategy for Enterprise Annuity Fund in China</b> .....	1682
<i>J. Heng</i>	
<b>A Hybrid Model to Improve the Capabilities of Forecasting Based on GRA and ANN Theories</b> .....	1687
<i>K. Y. Huang, T. C. Chang, J. H. Lee</i>	
<b>The Location Problem in Emergency Management Considering Uncertain Information</b> .....	1694
<i>B. Yang, Z. G. Fang, J. Zhao, S. Ye</i>	
<b>An Approach to Designing User-Friendly Software Interface Based on Grey Structure Molding Method</b> .....	1699
<i>C. W. Chen, Y. L. Lee, J. C. Liang, J. S. Chen</i>	
<b>Study on Anomaly Formation in Securities Market Under Rational Human Being Hypothesis</b> .....	1705
<i>B. Li, W. Su, S. Liu</i>	
<b>Empirical Analysis of the Determinants of Health Care Expenditure in China Based on Co-Integration and Error-Correction Model</b> .....	1710
<i>J. Li, M. Zhao, K. Jiang</i>	
<b>Agent-Oriented Simulation and Evaluation of Aerodrome Airside</b> .....	1715
<i>X. Zhu, X. Duan, X. Tang, S. Han</i>	
<b>Study of Manufacturing Competitiveness in Jiangsu, China From a New Pattern Perspective</b> .....	1720
<i>W. Cui, X. Cui, C. Hao</i>	
<b>Research on Epidemic Critical Threshold of Risk of Correctional SIS Virus Style</b> .....	1725
<i>L. Liu, Y. Huang, Y. Wang</i>	
<b>Modeling of User's Route Choice Behavior in Adverse Weather</b> .....	1729
<i>X. Zhang, S. Chen</i>	
<b>Modeling Traffic Flow in Complex Multi-Scale Freeway</b> .....	1734
<i>D. Zhong, S. Chen</i>	
<b>A Fuzzy Risk Analysis Model of Regional Drought Disaster</b> .....	1739
<i>H. Zhu, S. Chen, L. Zhang</i>	
<b>Operational Risk Measurement via the Loss Distribution Approach</b> .....	1744
<i>J. Feng, J. Chen, J. Li</i>	
<b>An Efficient Heuristic Based University Timetabling/ Scheduling</b> .....	1749
<i>A. Rajesh, M. V. Padmini, K. Athre</i>	
<b>IT Outsourcing Risk Assessment for Chinese Enterprises Based on Service Sciences and Factor Analysis</b> .....	1755
<i>J. Hao</i>	
<b>Structural Energy-Saving Goal Assessment in Early Period of "11th Five-Year Plan" and Forecast to Structural Energy-Saving Potential in China</b> .....	1759
<i>F. Zhou, B. Guo</i>	
<b>Rural Input, Government Function, and New Countryside Construction Performance in P. R. China</b> .....	1765
<i>Q. F. He, W. Chen, X. J. Wang</i>	

<b>Optimal Inventory Policy for Non-Instantaneous Items with Stock-Dependent Holding Cost Function and Shortage</b> .....	1772
<i>X. L. Mao, X. P. Xiao</i>	
<b>Performance Analysis of Call Centers Based on M/M/s/k+G Queue with Retrail, Feedback and Impatience</b> .....	1779
<i>R. Zhu, Y. Zhu</i>	
<b>Top Management Team Cohesion, Conflict and Organizational Performance</b> .....	1785
<i>N. Ding, X. Tang</i>	
<b>The Nation-State a Systemic View</b> .....	1790
<i>H. Kuijper</i>	
<b>Research on Performance Appraisal of Scientific Research Management in Universities Basing Upon AHP</b> .....	1798
<i>L. De-Wu, H. Qing-Jiang</i>	
<b>Sustainable Development Ability Analysis for Chinese Private Listed Enterprises</b> .....	1803
<i>L. Zhang, X. Ning</i>	
<b>An Empirical Study of Provincial Human Capital Investment in China</b> .....	1810
<i>X. Li, D. Li</i>	
<b>Hyper-Hamiltonicity Analysis Of Generalized Petersen Graphs <math>P(n,2)</math></b> .....	1816
<i>A. Ning, X. Ning</i>	
<b>Author Index</b>	