

# Contents

## Part I Industrial Engineering Theory

<b>Extended Replacement Policy for a Regular Overhauling Deteriorating Repairable System . . . . .</b>	<b>3</b>
Wen-feng Wu, Yun-xiang Ling and Hao Li	
<b>Researching on the Dynamic Dependence Structure of Liquidity . . . . .</b>	<b>11</b>
Yang Han and Jian-min He	
<b>The Optimization Design of Emergency Logistics Distribution Path Based on Ant Colony Algorithm. . . . .</b>	<b>23</b>
Xiao Wei and Xiang-quan Chang	
<b>Grey Correlation Analysis of Factors Influencing the Construction Industry Development in Shandong Province . . . . .</b>	<b>33</b>
Xu Yang and Xing-yuan Wang	
<b>An Approach to Multiple Attribute Decision Making Under Linguistic Environment . . . . .</b>	<b>43</b>
Ji-bin Lan, Ying-zhi Yang and Dan-dan Yan	
<b>Impacts of Government Replacement Subsidy on Differential Pricing Closed-Loop Supply Chain. . . . .</b>	<b>55</b>
Xin-ran Li and Yi-biao Wu	
<b>Research on Rapid and Innovative Design of Product Based on 3D Digital Visualization Technology. . . . .</b>	<b>69</b>
Xia Han and Yan-xia Wan	
<b>Relationship Between the Maturity of Industrial Clusters and Financial Support . . . . .</b>	<b>77</b>
Xiao-ran Hu, C.Y. Xie and H.H. Hu	

<b>Review and New Insights of the Car-Following Model for Road Vehicle Traffic Flow . . . . .</b>	87
You-zhi Zeng and Ning Zhang	
<b>Research on the Evaluation System and Quantitative Methods of Smartphone Based on User Experience . . . . .</b>	97
Yan Zhou and Shan-shan Niu	
<b>Study on the Change Rules of Visual Threshold Perspectives of Different Background Grayscales Under the Ideal Illumination . . . . .</b>	107
Li-fang Yang, Yuan-yuan Li and Yan-ping Fu	
<b>The Application of Project Management to the Implementation of China Military Specifications . . . . .</b>	117
Wei-gang Li, Li Wang, Jin-ming Chen and Ji-hong Yan	
<b>The Impact of Big Data Applications on Supply Chain Management . . . . .</b>	127
Dong-xiang Zhang and Bin Cheng	
<b>Model of Container Port's Alliance Under the Perspective of Cooperative Game . . . . .</b>	137
Xin-hai Xia	
<b>Improvement Suggestion of Ergonomics Experiment Based on Apparatus Usability Evaluation . . . . .</b>	147
Lifang Yang and Zhongzhe Li	
<b>Linear Multi-step Prediction and Correction Algorithm of 6-DOF Space Manipulator for Continuous Trajectory Tracking . . . . .</b>	153
Shuang Liu and Qiang Zhang	
<b>Analysis on the Magnetic Effectiveness by Finite Element Method . . . . .</b>	167
Pan Pan, Yu-lan Han, Ming-li Ding, Jia-yun Song and Yong-ping Zhao	
<b>An Improved Dynamic Phasor Tracking Algorithm Using Iterative Unscented Kalman . . . . .</b>	179
Xiong-bo Xiao, Li Xia, Li-ming Wang and Yan-dong Wang	
<b>An Explicit and Implicit Tailored Finite Point Method for Option Pricing Simulation . . . . .</b>	189
Yu-Tuan Lin, Yin-Tzer Shih and Hui-Ching Wang	
<b>Forward Motion Performance of a Mechanism Based on Self-growing Organisms . . . . .</b>	201
Sora Park, D. Hong and Se Mi Yoon	

**Research of Tool-Coupling Based Electro-hydraulic System Development Method** . . . . . 213  
 Jin-zhi Lu, Jian-wan Ding, Fan-li Zhou and Xiong Gong

**Study of a Self-adaptive Kalman Filter Method in NGMIMU/GPS Integrated Navigation Scheme** . . . . . 225  
 Xin Li, Yong-qiang Zhang and Xiu-ting Yang

**A Bayes Method for Assessing Large-Scale Electronic Equipment Reliability During External Field Test** . . . . . 237  
 Lei Lu, Jiang-pin Yang and Min Wang

**Mechanical FEA of Spiral Layer in Flexible Pipe** . . . . . 245  
 Lin Zhao, Zhi-Fei Tian and Sha-Sha Zhao

**New Method for Determining Reliability Demonstration Test Plan with Exponential Subsystem Data.** . . . . . 253  
 Lei Lu, Jiang-pin Yang, Min Wang and Zhi-fang Zuo

**Operational Availability Model of k-out-of-N System Under a Hard Time Maintenance Strategy** . . . . . 261  
 Min Wang, Jiang-ping Yang, Lei Lu and Yong-pan Wang

**Research on Eigen Value of Coaxial Resonator with Inner-Outer Corrugation** . . . . . 271  
 Shenyong Hou, Sheny Yu, Qixiang Zhao and Youwei Yang

**Performance, Governance Structure and Executive Compensation of Listed Commercial Banks** . . . . . 279  
 Dong Wang and Furong Chen

**An Implementation Approach for Interoperation Between Virtools and HLA/RTI in Distributed Virtual Reality System.** . . . . . 293  
 Ying Liu, Jian-Wang Hu and Pei-Zhang Cui

**Measurement System Capability Analysis for Simple Linear Profiles.** . . . . . 301  
 Liangxing Shi, Wei Chen and Zhen He

**Part II Industrial Engineering Technology Application**

**Research on Climbing Carrier with Suitable Surface.** . . . . . 309  
 Ce Sun, Xueyang Yao and Zihang Zhou

**Study on the Management Quality of Internal Control—Empirical Analysis of the Quoted Companies in Chian.** . . . . . 319  
 Yu-na Li and Zheng Luo

**Study on Fatigue Life for the Wheel of Locomotive DF4.** . . . . . 329  
 Yu-xin Li and Xin-can Jin

<b>Cooperation Issue in BIM Application in China and Its Solution . . . . .</b>	341
Heng-zhen Huang and Guo-hua Zhou	
<b>The Evaluation of Lean Logistics Performance Based Rough Sets and Grey Theory . . . . .</b>	349
Hua-jie Li, Rong Xiao and Xue-dong Liang	
<b>Study on Application of Cost Driver Optimization Model on Survey and Design Enterprises . . . . .</b>	359
Jian-min Hang, Si-yuan Li and Ying-xin Wu	
<b>The Application of QFD and Information Entropy in Improved Design for the Manned Capsule . . . . .</b>	371
Deng-kai Chen, Yu-qian Wang, Na Jin and Dong-hui Liu	
<b>The Development and Evaluation of Virtual Reality Platform for Emergency Evacuation in Coal Mines . . . . .</b>	381
Yang Liu, Da-wei Ren, Zhao-ge Liu and Ya-ru Lou	
<b>Research on Design of Topic Tracking System Under Network . . . . .</b>	389
Zheng Luo and Yu-na Li	
<b>An Improved Self-adaptive Genetic Algorithm for Scheduling Steel-Making Continuous Casting Production . . . . .</b>	399
Ling Li, Qihua Tang, Peng Zheng, Liping Zhang and C.A. Floudas	
<b>Optimal Pricing and Ordering Policies for Non Instantaneous Deteriorating Items with Price Dependent Demand and Maximum Lifetime . . . . .</b>	411
Feng Lin, Zhe-chao Yang and Tao Jia	
<b>Optimal Ordering Policies with Time-Varying and Inventory-Dependent Demand Under Trade Credit Financing . . . . .</b>	423
Cheng-feng Wu and Qiu-hong Zhao	
<b>Modeling and Simulation of Large-Scale Grid-Connected Photovoltaic System on RTDS . . . . .</b>	437
Qing Xiong, Xiaoming Jin, Danyang Guo and Baohui Zhang	
<b>A Study of Polluted River Remediation by Aeration . . . . .</b>	451
Li Zhang	
<b>Study on the System and Operation Mechanism of Crisis Information Management in Hazardous Chemicals Accident of Disaster Conditions . . . . .</b>	463
Cong-cong Lin, Xiu-feng Li, Ming-chun Zheng and Guo-feng Wang	

**Research on Carbon Reduction Responsibility of China’s Industries** . . . . . 475  
 Hai-dong LIU and Guo-hong ZHEN

**An Evidence Reasoning Approach to Solve the Plan Recognition Problem** . . . . . 489  
 Hao Chen, Jing Chen and Wan-peng Zhang

**Research on Engine Remanufacturing Recovery Mode Considering Public Service Advertising** . . . . . 499  
 Hong-juan Lu and Wei Guo

**The Feature Analysis of Induction Coil Measuring Underwater Alternating Electric Field** . . . . . 509  
 Fang He, Jianlan He and Xiangjun Wang

**Reverse Factoring Versus Prepayment in Supply Chain with Demand Uncertainty and Capital Constraint** . . . . . 515  
 Yifan Tang and Minlu Cai

**Virtual Assembly Simulation and Ergonomics Analysis for the Industrial Manipulator Based on DELMIA** . . . . . 527  
 Li-zhong Zhao, Yong-hui Zhang, Xing-hui Wu and Ji-hong Yan

**Environmental Kuznets Curve of Industrial Carbon Emissions Analysis in the West of China** . . . . . 539  
 Dan Wang and Meng Li

**The Method of Grading Cabin Information for Armored Vehicle Based on TOPSIS** . . . . . 547  
 Wei-ping Liu, Quan Wang, Jun-feng Nie and Ji-yuan Wu

**Research on Application of 3D Rapid Prototyping Technology in the Industrialization of the Garment Accessories** . . . . . 555  
 Xia Han

**Study on Human Neck Muscles’ Comfort of Different Height Levels Based on sEMG Method** . . . . . 563  
 Li-fang Yang and Bo Kang

**Sugar Precipitation Control of Chinese Medicine Mixed Solution Based on Nonlinear Model Predictive** . . . . . 575  
 Hong-jun Duan and Qing-wei Li

**Cutting Characteristics of Single Abrasive Grit in Ultrasonic Vibration Assisted Grinding** . . . . . 585  
 Hong-li Zhang and Shu-xia Zhou

**Failure Mechanism Analysis and Life Estimation of Dry Friction Damping Shock Absorber** . . . . . 593  
 Ying Chen, Liu Yang and Cui Ye

**Researches on the Energy Regeneration and Vibration Reduction Performance of a New Hydraulic Energy Regenerative Suspension** . . . . . 605  
 Jia-han Bao, Yu-wan Cen, Xiao-hua Ye and Ye Ye

**DEA Malmquist Productivity Measure: Performance of Change in High-Tech Listed Companies’ IPO Fundraising** . . . . . 617  
 Yong Yang and Ming Zhao

**A Chinese Text Similarity Calculation Algorithm Based on DF\_LDA** . . . . . 627  
 Chao Zhang, Li Chen and Qiong Li

**When Biometrics Meet IoT: A Survey** . . . . . 635  
 Chun-xiao Ren, Yu-bin Gong, Fei Hao, Xin-yan Cai and Yu-xiao Wu

**Knowledge Management of Project Team Based on Life Cycle Theory** . . . . . 645  
 Feng Qin and Peng Chen

**Stability of Electromechanical Integrated Toroidal Drive Considering Effect of Extended Tooth Contact** . . . . . 653  
 Xiu-hong Hao, Jia-lei Su and Hong-fei Zhang

**Study on the Train Sleeping Berth Optimization Design Based on Ergonomics Evaluation** . . . . . 661  
 Chao Wang, Juan Li and Yong Zhang

**Multiple Allocation Hub Location Problem with Flow-Dependent Set-up Cost** . . . . . 671  
 Chen-hao Fang, Shu-xia Li and Yi-fan Wu

**Research on WBS-CBS Model for Single-Ship Repair Projects** . . . . . 679  
 Meng-yuan Jiang, Xiao-bing Liu, Shang-yuan Yu and J. Scheibler

**An Evolutionary Game Model Among Manufacturers for Return of E-wastes Under Government Regulation** . . . . . 691  
 Yu-xiang Yang, Fei-yang Chen and Tong Tong

**Optimal Policy for Competing Retailers When the Supplier Offers a Temporary Price Discount with Uncertain Demand** . . . . . 703  
 Yu-hong Meng and Yuan-tao Song

**Based on Fairness Criterion for Multi-objective Emergency Logistics Distribution Path Selection** . . . . . 713  
 Yuan Fang and Jian Zhang

**Modeling of Missile Launch Point and Burnout Point Estimation Function of Early Warning Satellite System** . . . . . 721  
 Lei Hu, Shi-qiang Yan, Hui Liu and Song Xu

**Human Factors Application in Exterior Design of the Numerical Control Machine Tools** . . . . . 731  
 Xiao-dong Li

**Phenomenon of Resource Curse: Evolution of Dynamic Mechanism in China’s Dairy Industrial Clusters** . . . . . 739  
 Wei Wang and Minhui Gao

**Modeling of High-Frequency Induction Heating Surface Cladding Process: Numerical Simulation, Experimental Measurement and Validation** . . . . . 747  
 Cheng-kai Li, Yan-cong Liu, Yong-jun Shi, Peng Yi, Jiang-hao Xie, Xiao-li Ma and Lan-fang Cui

**Fuzzy Cluster Analysis on Customer Requirement Elicitation Pattern of QFD** . . . . . 761  
 Yi-shun Hong and Kai-ping Feng

**Design of Clock Synchronization Based on Integrated Platform Management System** . . . . . 773  
 Xiong-bo Xiao, Li Xia, Li-ming Wang and Yan-dong Wang

**Finite Element Analysis for the Jib System of the MQ2535 Crane** . . . . 783  
 Nan Shan, Kai-ling Li, Wei-xiao Tang, Xue-ping Zhao and Xi-jun Liu

**An Intensive Automatic Warehousing System Based on Two-Way Shuttle Plate** . . . . . 791  
 Min-de Shen, Peng Zhang, Lan-qiang Cong and Cheng-min Gao

**Orthogonal Optimal Design of Piston Skirt with Bionic Holes Based on Finite Element Method** . . . . . 799  
 Bo Wu, Jing-yi Ma and Shaojiang Jin

**Research on Application of the HR Supply Chain Models of T Co. Ltd** . . . . . 809  
 Rui-meì Zhao

**Rough Tool Path Generation for NC Machining of Loop Subdivision Surfaces** . . . . . 817  
 Tian-tian Chen and Gang Zhao

**Structure Parameters Design and Simulation for Inverter Reconstruction of Chopped-Wave Cascade Speed Control Driver System . . . . .** 827  
Jun-wei Zhang, Yi-Kai Li, Fang Wang, Pu Zhao and Shun-Yan Hou

**The Study of the Relationship Between Load Capability and Oil Film Flow in Two-Dimension in Micro-scale . . . . .** 839  
Dong-ju Chen, Yan-hua Bian and Jin-wei Fan

**A Comparative Study on the Performance Assessment of Two Types of Military Vessel Propulsion Systems Based on ADC Model. . . . .** 849  
Ye Kuang, Chao Xie and Si-qi Liu

**Quality Control and Management of Research Experimental Project . . . . .** 859  
Chun-lai Tian, Shan Zhou and Li-yong Han

**Effectiveness Evaluation and Operational Application Research of Anti-Radiation Missile Decoy . . . . .** 869  
Wei Song, Jun He, Xiao-hua Wu and Si-jia Lou

**Benefit of Compression in Hadoop: A Case Study of Improving IO Performance on Hadoop . . . . .** 879  
Li-Hui Xiang, Li Miao, Da-Fang Zhang and Feng-Ping Chen

**Simulation Research on Routing Protocols in ZigBee Network. . . . .** 891  
Hao-fei Xie, Feng Zeng, Guo-qi Zhang and De-long Su

**Research on Autonomous Navigation of Navigation Constellation Based on X-Ray Pulsars and Satellite-to-Satellite Link . . . . .** 899  
Xiao-peng Liang, Jun Li, Zhao-hui Wang and Kong-yang Peng

**Research on the Flexible Job Shop Scheduling Problem Using Drum-Buffer-Rope Approach . . . . .** 911  
Guo-hui Zhang and Yong-cheng Wang

**Evolution Analysis of Value Chain in the Process of Manufacturing Servitization . . . . .** 921  
Wei-tao Ni

**Agri-Food Supply Chain Network Robustness Research Based on Complex Network . . . . .** 929  
Yang Li and Zi-ping Du

**Using an Engineering Change Propagation Method to Support Aircraft Assembly Tooling Design . . . . .** 939  
Dun-bing Tang and Lei-lei Yin



**Research on Rate-Variable Fundamental In-tree in Supply Chain Performance Management for Automotive Enterprises . . . . .** 953  
 Cheng-ming XIE and You-yuan WANG

**The Optimization Design of Reverse Logistics Network on Paper Packaging Waste . . . . .** 963  
 Li-shu Wang, Guang-jun Hua and Zheng-jun Li

**Impact of DFIG-Based Wind Farm on Outgoing Transmission Line Protection . . . . .** 971  
 Xiaoming Jin, Qing Xiong, Linhao Chen and Baohui Zhang

**Agri-Food Supply Chain Network Risk Propagation Research Based on Complex Network . . . . .** 985  
 Yang Li, Zi-ping Du and Liang Zhang

**Improved Particle Swarm Optimization Algorithm Based on Inertia Weight in the Application of the Elevator Group Control . . . . .** 995  
 Jia-jia Cheng and Yue-min Liu

**Assessment for Radar Equipment Maintenance Quality Based on Grey Relational Analysis . . . . .** 1003  
 Yong-pan Wang, Jiang-ping Yang, Jian-jun Huang and Min Wang

**The Prediction and Plan of the Agricultural Industry . . . . .** 1013  
 Wen-xi Duan

**The Research of Photoelectric Joint Transform Correlation Spectral Enhancement Technology . . . . .** 1025  
 Bo Wang and Li-xin Liu

**3D Human Model Generation Based on Skeleton Segment and Contours of Various Angles. . . . .** 1033  
 Xin Huang, Xi-rong Ma and Zi-ping Zhao

**Voice Conversion Based on Radial Basic Function Network and Joint Spectral Parameters . . . . .** 1043  
 Xian-tong Chen and Ling-hua Zhang

**Optimization Model of Empty Container Reposition of Liner Alliance Based on Mutually Renting Strategy in Short Sea Service . . . . .** 1055  
 Ying-feng Ji, Hua-long Yang, Quan-ying Zhu and Yu-wei Xing

**Find You from Who You Mentioned @: Home Location Inference Based on Social Ties in Social Media . . . . .** 1065  
 Dan Xu and Shiqiang Yang



<http://www.springer.com/978-94-6239-147-5>

Proceedings of the 6th International Asia Conference  
on Industrial Engineering and Management Innovation  
Core Theory and Applications of Industrial Engineering  
(volume 1)

Qi, E. (Ed.)

2016, XV, 1073 p. 421 illus., 211 illus. in color.,

Hardcover

ISBN: 978-94-6239-147-5

A product of Atlantis Press