

# Table of Contents

<b>Study on Ultrasound Visual Protection System</b>	<b>1</b>
<i>Jingqin Hu</i>	
<b>The Light Curve Variability Period of PKS 0235-618 on Optical R Band</b>	<b>7</b>
<i>Haiyan Yang, Xiaopan Li, Na Jiang, and Guofang Du</i>	
<b>Transformer Bushing Temperature Measurement Model Based on Infrared Temperature Measurement</b>	<b>11</b>
<i>Chen Gu, Yu Yin, Qinyu Pan, Min Xu, Wangwang Shi, Guifeng Wu, and Donglei Chen</i>	
<b>The Design and Analysis of Nondestructive Testing System for Oil and Gas Pipeline</b>	<b>18</b>
<i>Chong Zhao, Huaifei Gao, and Min Ji</i>	
<b>Phase-Controlled Capacitor Circuit and Efficiency-Based Tuning Method for Wireless Power Transfer</b>	<b>22</b>
<i>Sheng Lu, Dong Huang, Pan Feng, and Yang Zhao</i>	
<b>Research on Improved Partition Clustering Method Based on K-Means Algorithm</b>	<b>27</b>
<i>Qing Tan, and Wuchao Zhao</i>	
<b>Design of Full Digital Telemetry Recording System Based on Disk Array</b>	<b>32</b>
<i>Wang Xiquan, Liu Yang, and He Jing</i>	
<b>Design and Implementation of Machine Learning-based Assisted Sleep System</b>	<b>36</b>
<i>Jianhao Yang, Yike Xu, Shaocong Guo, Huawei Zhang, Shiyuan Liu, and Fanfan Zheng</i>	
<b>A Kinect-based Robot Grinding and Polishing Method</b>	<b>43</b>
<i>Chao Xu, Ying Sun, and Jinrong Tian</i>	
<b>Design of Rapid Detection Equipment for Gun Control Box</b>	<b>49</b>
<i>Hejia Li, Fei Gao, Jiuchao Li, Fushan Yao, Zhao Jin, Bin Ma, and Xinchun Huang</i>	
<b>A Design of Negative Pressure Fish Tank Control System</b>	<b>54</b>
<i>Yan Li, JiaoJiao Li, and Yan Huang</i>	
<b>Method Selection in EPDL Parsing</b>	<b>60</b>
<i>Jiang Na, Yang Haiyan, and Gu Qingchuan</i>	
<b>Design of Intelligent Fire Real-time Sensing and Monitoring System Based on Wireless Sensor Network</b>	<b>65</b>
<i>Bo Li, Tingting Li, Dechang Huang</i>	

<b>A Middleware for Web Database Security</b>	<b>72</b>
<i>Zhenhui Wang</i>	
<b>A Novel Video-based Human Object Extraction Method</b>	<b>77</b>
<i>Qiuyan Li, Yan Ma, Hui Huang, and Yuping Zhang</i>	
<b>Remote Intellectualized Regulate and Control to LED Luminaire Based on PWM</b>	<b>85</b>
<i>Zhiguo Meng, and Lingxin Shi</i>	
<b>Image Matching Based on Binarized SIFT Descriptors</b>	<b>90</b>
<i>Hui Huang, Yan Ma</i>	
<b>Design of Baby Diaper Cleaner</b>	<b>99</b>
<i>Miao Shang, Xinlin He, and Wenming Ma</i>	
<b>Ontology Alignment Optimization Method Based on NSGA-II</b>	<b>104</b>
<i>Shaorong Feng</i>	
<b>Modeling and Studying the Stylized Facts of VIX Index</b>	<b>112</b>
<i>Lin Zhu</i>	
<b>Simulation Study on the Safety of the Explosion of a Certain Type of Dyeing Bomb</b>	<b>117</b>
<i>Ma Yongzhong</i>	
<b>Acquisition and Processing of Depth Image Based on Kinect</b>	<b>122</b>
<i>Jinrong Tian, Ying Sun, and Chao Xu</i>	
<b>A Novel Body Feature Point Extraction Method Based on 2D Image</b>	<b>127</b>
<i>Junying Jia, Yan Ma, Hui Huang, and Yuping Zhang</i>	
<b>Automatic Detection of Cloth Defects based on Laws Texture Filtering</b>	<b>135</b>
<i>Guanxiong Ding, Hui Huang, and Yan Ma</i>	
<b>Research on 3D reconstruction technology based on Kinect</b>	<b>140</b>
<i>Haojie Duan</i>	
<b>Distance Perception of Unknown Environment Based on Kinect</b>	<b>144</b>
<i>Yao liu, and Yangwei Cheng</i>	
<b>Software Bug Location Algorithm on the basis of the Integration of Fuzzy Multi-objective Model</b>	<b>149</b>
<i>Gao Yinsheng</i>	
<b>Design and Application of Semiconductor Light Professional Shared Resource Database</b>	<b>159</b>
<i>Zhiguo Meng, Haiyan Wang</i>	

<b>Software Engineering Data Modeling Based on OWL</b>	<b>164</b>
<i>Donghu Gu, Hongyu Li and Jinsheng Zhang</i>	
<b>Manipulator Path Planning Based on Improved Hybrid Algorithm</b>	<b>169</b>
<i>Cheng Liao, Shuang Xu, and Zhengyuan Xi</i>	
<b>A Linear Regression Model of TensorFlow Based on Python Language</b>	<b>174</b>
<i>Fukang Ning</i>	
<b>Method for the Automatic Generation of Software Test Data Based on the Integration of Structural Equation Model</b>	<b>178</b>
<i>Han Likai, and Liu Jun</i>	
<b>An Improved DTW Method for Human Behavior Recognition</b>	<b>187</b>
<i>Shengnan Li, Yan Ma, Hui Huang, and Shunbao Li</i>	
<b>Research on the Combination of Electromagnetic Voltage Transformer and Straight-through Current Transformer</b>	<b>193</b>
<i>Dingzhen Li, Jianchang Guo, and Jing Fan</i>	
<b>The Construction of Security Warning Zone Based on Kinect</b>	<b>199</b>
<i>Yangwei Cheng, Ying Sun, and Yao Liu</i>	
<b>Analysis of Internet Ware Performance Modeling Based on the Fusion of Process Group Component Model</b>	<b>203</b>
<i>Zhang Hongxiang</i>	
<b>Visual Positioning System in Changing Outdoor Environments Based on Kinect</b>	<b>213</b>
<i>Yaoqing Weng, and Ying Sun</i>	
<b>Overview of Cloud Computing Development</b>	<b>217</b>
<i>Juntao Ba</i>	
<b>In-depth Learning of Face Recognition Based on Python</b>	<b>223</b>
<i>Bojun Zhu</i>	
<b>Theoretical Calculation of Electronic Structure and Optical Properties of MgB<sub>2</sub></b>	<b>227</b>
<i>Zhang Jun</i>	
<b>Damage Identification of Bridge Structures based on Improved Genetic Algorithms</b>	<b>232</b>
<i>Junge Li</i>	
<b>Research on Optimizing Anti-jamming Software Approach of Single Chip Computer System Based on Data Acquisition</b>	<b>237</b>
<i>Ying Zhou, Pancheng Li</i>	

<b>Research on Automatic Acceptance Technology of OCS Main Station Based on Artificial Intelligence</b>	<b>242</b>
<i>Zongbao Zhang, Yingqi Huang, Jin Wang</i>	
<b>Application and Analysis of Computer Programming Software Development Technology Based on Cloud Computing</b>	<b>247</b>
<i>Su Buda</i>	
<b>Guided kernel fuzzy c-means clustering with spatial information for remote-sensing image segmentation</b>	<b>253</b>
<i>Xiaolei Zhang</i>	
<b>Research on Mechanical Performance Testing of Ultrasound Motor in High Temperature Environment Based on Sociological Theory</b>	<b>260</b>
<i>Zhang Yanmin</i>	
<b>Research on the mechanical device and structure of the elevator</b>	<b>265</b>
<i>Zheng Jie, Cao Huaizhi, Zheng Zhihua, Zhang Chenlong</i>	
<b>Discussion on Inspection Work of Elevator Mechanical Safety Device</b>	<b>268</b>
<i>Zhang Chenlong, Zheng Zhihua, Cao Huaizhi, Zheng Jie</i>	
<b>Research on Effective Strategies for Improving the Level of CNC Machining Technology</b>	<b>271</b>
<i>Yanmin Zhang</i>	
<b>Application of CNC machining Technology in Modern Machining</b>	<b>275</b>
<i>Yanmin Zhang</i>	
<b>“Limited Slope” and “Maximum Slope”—Some thoughts on “limit slope” to “maximum slope”</b>	<b>280</b>
<i>Xu Zhilin</i>	
<b>The Application of CC2431-based Wireless Sensor Network in Greenhouse Environment Monitoring</b>	<b>283</b>
<i>Zhang Shuhua</i>	
<b>Numerical Simulation algorithm of Magnetic Resonance brain tissue Elastic Imaging</b>	<b>287</b>
<i>Sun Rui</i>	
<b>Dynamic construction safety evaluation of weathered granite slope based on attribute identification theory</b>	<b>292</b>
<i>Yan Zongling, Qin Geng, and Yue Weijie</i>	
<b>Construction of satisfaction degree model of physical education quality based on Analytic Hierarchy Process</b>	<b>299</b>
<i>Zhao Hailong, Liu Ming, Changlong Wang</i>	

<b>Present Situation and Development Trend of Five-Axis CNC Machine Tool Technology</b>	<b>303</b>
<i>Duan Mingzhong</i>	
<b>The Development of Virtual Reality Technology Enlightens the New Way of Creation of New Media Animation</b>	<b>307</b>
<i>Shao Dong</i>	
<b>Study on the Application of PLC Automatic Control Technology in Frequency Converter</b>	<b>311</b>
<i>Zhongkai Mo</i>	
<b>Studies on the accuracy of sense of speed in sprint</b>	<b>315</b>
<i>Leipo Chen</i>	
<b>Research on Safety Management in Mine Mining Technology Based on Standardized Grade Evaluation Method</b>	<b>320</b>
<i>Liu Fangfang</i>	
<b>Design of Intelligent Warehouse Management System Based on RFID Technology</b>	<b>326</b>
<i>Meilian Zhao, Yujie Chen, Haichun Niu</i>	
<b>Design of Medical Call System Based on CAN Fieldbus Technology</b>	<b>333</b>
<i>Haichun Niu, Fuzhen Qin, Meilian Zhao</i>	
<b>Research on Smart Home Control System Based on Cloud Platform</b>	<b>337</b>
<i>Ma Qiuhuan, Xue rui, Zhu Qingqing</i>	
<b>Design and Construction of Industrial Network for Intelligent Factory</b>	<b>341</b>
<i>Mei Lin, Jia Sheng Li, Li Juan Zou</i>	
<b>Application of NSC200NT in power automation project</b>	<b>345</b>
<i>Wendong Ji, Jing Zhang, Yuzhen Cao</i>	
<b>An Algorithm for Personalized Tourism Recommendation Based on Time Series</b>	<b>350</b>
<i>Yeping Peng</i>	
<b>An Analysis of Algorithms for Periodic Pattern Mining in Time Series</b>	<b>354</b>
<i>Yeping Peng</i>	
<b>A Presentation of Time Series Algorithm Based on K-Mean and Its Application in Clustering</b>	<b>358</b>
<i>Yeping Peng</i>	
<b>Research on the Application of Fuzzy Variable Time Series</b>	<b>362</b>
<i>Yeping Peng</i>	
<b>A Representation of Time Series Pattern Based on Skeleton Points</b>	<b>366</b>
<i>Yeping Peng</i>	

<b>Research on Security Issues in the Application of Cloud Computing</b>	<b>370</b>
<i>Honggang Wang</i>	
<b>Data Mining and Its Application Problem Analysis in the Era of big Data</b>	<b>374</b>
<i>Xiangyu Han, Xiaomeng Wei, Zhenhang Wang</i>	
<b>The Design of Smart Windows Which can automatically close in Rainy Days Based on Single Chip Computer</b>	<b>379</b>
<i>Qinzhu Wang</i>	
<b>The Application of Machine Learning in Data Mining</b>	<b>384</b>
<i>Zhenhang Wang, Xiaomeng Wei, Jilin Yang</i>	
<b>An overview of soil moisture measurement methods</b>	<b>389</b>
<i>Fengjuan Zhang, Yiman Zhang, Jieqiong Ruan, Hong Liu</i>	
<b>Research on flag-based network scanning technology</b>	<b>395</b>
<i>Guofang Zhang</i>	
<b>Research on the Application of Automatic Control Technology in Agricultural Machinery</b>	<b>399</b>
<i>Tongxuan Xue, Jiaxun Sun, Hongqin Wang</i>	
<b>Mobile Manufacturing: Framework, Research Status and Trends</b>	<b>404</b>
<i>Jianzhu Sun, Qingshan Zhang</i>	
<b>Analysis of Single Chip Micryoco in Embedded System Based on Internet of Things</b>	<b>412</b>
<i>Su Zhihua</i>	
<b>Research on the Application of Embedded Computer Technology</b>	<b>416</b>
<i>Wang Guang</i>	
<b>Research on Adaptive Migration and Fusion of Stored Data Based on Block Chain Technology</b>	<b>420</b>
<i>Gao Fei</i>	
<b>Analysis of Tensile Fatigue Crack Propagation Path of Polypropylene Fiber Reinforced Concrete</b>	<b>424</b>
<i>Lin Haiwei</i>	
<b>Effective Application of BIM Technology in Construction Safety of High-rise Buildings</b>	<b>429</b>
<i>Li Yan, Wu Yansheng, Gao Xiong, Zhang Xiaolong</i>	
<b>Research on Path Planning of Mobile Robot Based on Artificial Neural Network</b>	<b>433</b>
<i>Wei Wenqiang</i>	
<b>Analysis on the Influence of Artificial Intelligence in Computer Network Technology</b>	<b>437</b>
<i>Xiao Guideng</i>	

<b>Analysis on ESD Protection Technology of Integrated Circuits</b>	<b>441</b>
<i>Ma Ningli</i>	
<b>The Static Analysis of the Gyro-Stabilized Platform</b>	<b>446</b>
<i>Yang Xiuli, Song Limin, Jin Dawei, Guo Wenjing</i>	
<b>Research on Basic Quality Classification of Rock Mass Based on Fuzzy Theory</b>	<b>450</b>
<i>Yunguo Zhang, Jingbin Wang and Guangjing He</i>	
<b>Research on Risk Assessment of Waterway Dangerous Goods Transportation Based on Artificial Neural Network Algorithm</b>	<b>457</b>
<i>Wenge Cheng</i>	
<b>Research on Earthwork Allocation Problem Based on Linear Programming Mathematical Algorithm</b>	<b>463</b>
<i>Xinyu Yang, Weisan Wu</i>	
<b>Research on Elevator Optimization Scheduling Based on Statistical Analysis</b>	<b>470</b>
<i>Weisan Wu, Xinyu Yang, Di Wu</i>	
<b>Discussion and Attempt on Construction Technology of Asphalt Road Pavement in Expressway</b>	<b>476</b>
<i>Wang Li</i>	
<b>Analysis and Research on Construction Technology of Road Cement Stabilized Macadam</b>	<b>480</b>
<i>Shi Xiaoxing</i>	
<b>Construction Process Management of Prefabricated Building Based on BIM and RFID Technology</b>	<b>485</b>
<i>Ly Ping</i>	
<b>Numerical Simulation of Shock Initiation on Solid Rocket Propellant</b>	<b>490</b>
<i>Pang Songlin, Chen Xiong, Xu Jinsheng</i>	
<b>Feature Enhancement Strategy for Computer Three-Dimensional Bionic Images Based on Virtual Reality Technology</b>	<b>494</b>
<i>Yang Ling</i>	
<b>Differentiation of Induced Transformation in Gene Transcription Regulation System with Cross-correlated White Noise and Colored Noise</b>	<b>498</b>
<i>Fu Yan</i>	
<b>Influence of word-of-mouth and familiarity on diffusion and adoption of WeChat wallet in South Africa</b>	<b>503</b>
<i>Elizabeth D. Matemba, Guoxin Li and Baraka J. Maiseli</i>	

<b>Application Research of Optimization Theory in Mathematical Modeling</b>	<b>511</b>
<i>Jieyu Zhang</i>	
<b>Oil Impregnated Paper Condenser Transformer Bushing Damage Accident Analysis</b>	<b>514</b>
<i>Tong Wu, Lixia Shang, Huijie Cao, Jiaying Wang, Xiaolei Yang, Xinming Chuai, Haoming Zhao, Zhao Zhang, Shuyi Tao, Huiyan Cao</i>	
<b>Research on Micro-navigation and Mechanical Control System of Vector Propulsion Model Helicopter</b>	<b>519</b>
<i>Liu Yulin</i>	
<b>Smart grid dispatch control system and grid system safe operation</b>	<b>523</b>
<i>Chen Mingliang, Zou Genhua, Li Wei, Zhang Junfeng</i>	
<b>Design and Error Analysis of Material Sorting System Based on Machine Vision</b>	<b>527</b>
<i>Zhang Weifen, Li Yongmei, Qian Ru</i>	
<b>Design of Intelligent Logistics AGV Car Terminal System</b>	<b>533</b>
<i>Junjun Huang</i>	
<b>Application Analysis of Logistics Data Management Platform Based on Distribution Transformer Monitoring System</b>	<b>537</b>
<i>Junjun Huang</i>	
<b>Data Mining Strategy of Information Fingerprint Self-learning Mechanism</b>	<b>541</b>
<i>Liu Xin, Wang Wenting, Chen Jianfei, Wang Rui, Zhang Hao</i>	
<b>Analysis of Key Technologies in the Construction of Ubiquitous Power Internet of Things</b>	<b>544</b>
<i>Liu Xin, Niu Deling, Zhang Hao, Dong Haiyan</i>	
<b>A Knowledge Multidisciplinary Fusion Map Construction Method for Network Security Congestion Data Prediction</b>	<b>548</b>
<i>Zhang Zhiwei, Chen Dan, Feng Zhichang, Hou Tianwei, Wang Wenting</i>	
<b>Application and advancement in Two-dimension multi-factors weight mesh dividing method on distributing charging station</b>	<b>552</b>
<i>Ming Wang, Yongtong Xu, Xin Xia, Yihao Luo</i>	
<b>Grey prediction model of dengue fever infectious diseases in Guangzhou</b>	<b>558</b>
<i>Jinlan Guan</i>	
<b>Stability analysis of hand foot and mouth infectious disease model with time delay and non monotonic contact rate</b>	<b>560</b>
<i>Jinlan Guan</i>	
<b>Stability research of dengue model with time delay</b>	<b>566</b>
<i>Jinlan Guan</i>	



<b>Opioid Control Research Based on BP neural Network and Genetic Algorithm</b>	<b>576</b>
<i>Yu Zhou, Xuemei Liu, Haoyang Miao, Fanyu Zhao, Tianxin Liu</i>	
<b>Market Forecasting Planning Model Based on Improved Neural Network</b>	<b>585</b>
<i>Hao Wu, Yanlin Xiao</i>	
<b>Establishment and research of shredded paper mosaic restoration model</b>	<b>592</b>
<i>Jungang Chen</i>	
<b>Myopia prediction and early warning model based on naive Bayesian model</b>	<b>599</b>
<i>Junfeng Hu</i>	
<b>Research on Optimal Management of Charge and Discharge of Electric Vehicle Based on Optimization Algorithm</b>	<b>608</b>
<i>Yuhang Liu, Xiaoqian Hao, Wendan Hu, Jing Miao</i>	
<b>Louvre evacuation route planning based on ant colony algorithm</b>	<b>613</b>
<i>Xintong Ding, Huachang Wu, Junxi Qiu, Qinghua Deng</i>	
<b>Drug abuse models based on large data analysis</b>	<b>621</b>
<i>Bingze Chen, Yaoran Huang</i>	
<b>Model-based dragon ecological analysis</b>	<b>630</b>
<i>Jiamian Wu</i>	
<b>A study on the DroneGo disaster response system</b>	<b>641</b>
<i>Long Qian, Keyi Wang, Qi Zhang</i>	
<b>DroneGo disaster response system based on genetic algorithm</b>	<b>651</b>
<i>Yongjie Gui, Qiang Luo, Yubin Yue, Liang Zhao</i>	
<b>Vulnerability Index Based on Entropy Method under Climate Change</b>	<b>662</b>
<i>Zhuojun Yao</i>	
<b>Research on the Design of Teacher Workload Management System</b>	<b>670</b>
<i>Zihao Zhou</i>	
<b>Research on Application of AMT in Modern Machinery</b>	<b>677</b>
<i>Zhao Xiangjie</i>	
<b>Research on the Techniques and Tactics of the World Top Badminton Men's Double Combination by Coding Technology</b>	<b>681</b>
<i>Lei Wei, Yu Kemeng</i>	
<b>The Application of Big Data and Cloud Computing Technology in Smart Campus</b>	<b>685</b>
<i>Chen Hong</i>	

<b>Research on the Construction of Library Intelligent Information Service System Driven by Big Data</b>	<b>688</b>
<i>Xianyong Feng</i>	
<b>Research on IGV Mobile Vehicle Robot Path in Dynamic Environment</b>	<b>692</b>
<i>Xu Ronghua, Zhang Guoping, Yu Wenjin, Gao Xuefeng, and Zhang Qingsong</i>	
<b>Anomaly Detection and Association Analysis of Traffic in Communication Network Based on Behavior Analysis</b>	<b>696</b>
<i>Jing Wenlong, Fang Limei, Wang Liujing</i>	
<b>Research on the Application of Mobile Guide System Based on User's Demand</b>	<b>700</b>
<i>Jing Wenlong, Fang Limei, Wang Liujing</i>	
<b>Precipitation Characteristics and Main Influencing Factors in Pamir Plateau</b>	<b>704</b>
<i>Aikedai Salamu, Alim Abbas, Xamxinur Kirem</i>	
<b>Research on Information Technology Iteration and Composite Space Innovation</b>	<b>708</b>
<i>Muchuan Xu</i>	
<b>First-principles study of anisotropic optical properties of MgB<sub>2</sub></b>	<b>712</b>
<i>Zhang Jun</i>	
<b>Tensor Representation and Properties of Multivariable Polynomial</b>	<b>716</b>
<i>Zheng Xiaming</i>	
<b>An application of direct digital frequency synthesizer at frequency transform circuit</b>	<b>721</b>
<i>Xiaohua Zhang, Juan Li, Baocheng Wang, Qunying Wang</i>	
<b>Analysis and research on image technology of virtual reality conference system</b>	<b>725</b>
<i>Rui Deng</i>	