

合 肥 工 业 大 学 学 报

(自然科学版)

2016 年 1 月

总第 273 期

第 39 卷第 1 期

[期刊基本参数] CN 34—1083/N * 1956 * m * A4 * 144 * zh * P * ¥12.00 * 1 000 * 26 * 2016—01

目 次

• 机械与汽车工程 •

基于 SOA 的废旧家电产品逆向物流信息平台构建	倪 楠, 刘光复, 黄海鸿(1)
RDWKPSO-PCA-BPNN 的汽车燃油消耗预测	姜 平, 祖春胜, 李晓勇(7)
叉车底盘神经网络逆系统解耦控制	夏 光, 唐希雯, 胡金芳, 赵林峰(14)
无线车辆检测系统能量高效分时分簇路由研究	雷 旭, 丁 恒, 闫茂德(20)
某大件运输车主梁结构多目标拓扑优化	汪 洋, 钱立军, 吴 迪(26)
可变气门正时机构特殊模式控制策略的仿真研究	张晓松, 滕 勤, 李 杰(30)

• 电气与自动化工程 •

混合动力汽车分离离合器液压系统的滑模控制	孔慧芳, 刘松林, 鲍 伟(35)
S 变换熵理论及其在电力系统故障检测中的应用研究	陶维青, 夏 熠, 陆鼎堃(40)
基于数据驱动的 PID 自整定方法的研究	房 耀, 董学平, 张薛礼(46)

• 计算机与信息工程 •

基于无损压缩的加密图像可逆信息隐藏	郑淑丽, 曹 敏, 胡东辉, 李丹丹(50)
一种能快速抑制鬼影及静止目标的 ViBe 改进算法	吴尔杰, 杨艳芳, 田中贺, 蒋建国(56)
声谱图显著性在音频识别中的应用	弓彦婷, 程小雪, 任洪梅, 陈雁翔(62)
基于改进的多特征哈希的近重复视频检索	罗红温, 杨艳芳, 齐美彬, 蒋建国(67)
基于 MooseFS 分布式云存储系统负载均衡方法的研究	崔海莉, 黄 戈(73)
光储微网系统设计与应用	王晓华, 孙德亮, 李维华(79)
多特征融合和交叉核 SVM 的车辆检测方法	胡庆新, 焦 伟, 顾爱华(84)

• 电子科学与工程 •

3 种光纤在 BB84 协议模型中的兼容性问题	朱卫民, 吕洪君, 解光军(90)
一种易于调谐的小型圆极化微带天线设计	周 东, 孙玉发, 胡少启(94)
应用特征基函数法和增强间隙源模型分析阵列天线的电磁辐射特性	张锦军, 杜 平, 赵泽方(99)
基于改进人工蜂群算法的共形阵列波束形成	刘 超, 樊良慧(103)

• 土木与水利工程 •

温度作用后大理岩加-卸荷破裂特性试验研究 李宏国, 朱大勇, 姚华彦, 潘鹏志, 周玉新, 汪 然(109)

大跨度空间结构金属屋面板抗风揭性能试验研究 王海涛, 王静峰(115)

基于模态贡献度系数的大跨度桥梁抖振响应分析 邹孔庆, 黄文锋, 王美芹, 周焕林(122)

• 化学工程 •

氨基功能化石墨烯/水性聚氨酯复合材料的制备与性能研究 李晓萱, 王忠娟, 伍胜利(128)

• 生物与食品工程 •

粒毛盘菌多糖纯化、硫酸酯化修饰及抗氧化活性评价
..... 杜湛湛, 张 婧, 徐 平, 王玉芬, 叶 明(134)

• 数理科学 •

求解最小比率旅行商问题的混合行为蚁群算法 倪郁东, 赵 群, 沈吟东, 张玉洁(140)

• 信息与动态 •

《合肥工业大学学报(自然科学版)》欢迎投稿 (13)

CONTENTS

• Machinery and Automobile Engineering •

Research on reverse logistics information platform of waste household appliances based on SOA
..... NI Nan, LIU Guang-fu, HUANG Hai-hong(1)

Automobile fuel consumption prediction based on RDWKCPSO-PCA-BPNN
..... JIANG Ping, ZU Chun-sheng, LI Xiao-yong(7)

Decoupling control of forklift truck chassis based on neural network inverse system
..... XIA Guang, TANG Xi-wen, HU Jin-fang, ZHAO Lin-feng(14)

Research on divided-period energy-efficient clustering routing protocol for wireless vehicle detector system
..... LEI Xu, DING Heng, YAN Mao-de(20)

Multi-objective topology optimization for girder structure of big truck
..... WANG Yang, QIAN Li-jun, WU Di(26)

Simulative study of control strategy of special modes for the mechanism of variable valve timing
..... ZHANG Xiao-song, TENG Qin, LI Jie(30)

• Electrical Engineering and Automation •

Sliding mode control for hydraulic system of the clutch of separation of HEV
..... KONG Hui-fang, LIU Song-lin, BAO Wei(35)

Study of S-transform entropy theory and its application in fault detection of electric power system
..... TAO Wei-qing, XIA Yi, LU Ding-kun(40)

Research on PID parameter self-tuning based on data-driven control
..... FANG Yao, DONG Xue-ping, ZHANG Xue-li(46)

• Computer and Information Engineering •

Reversible data hiding in encrypted images based on lossless compression
..... ZHENG Shu-li, CAO Min, HU Dong-hui, LI Dan-dan(50)

An improved ViBe algorithm for restraining ghost and stay object
..... WU Er-jie, YANG Yan-fang, TIAN Zhong-he, JIANG Jian-guo(56)

Application of the saliency of spectrogram in audio recognition
..... GONG Yan-ting, CHENG Xiao-xue, REN Hong-mei, CHEN Yan-xiang(62)

A near-duplicate video retrieval method based on improved multiple feature hashing
..... LUO Hong-wen, YANG Yan-fang, QI Mei-bin, JIANG Jian-guo(67)

Research on load balancing method for distributed cloud storage system based on MooseFS
..... CUI Hai-li, HUANG Ge(73)

Design and application of photovoltaic and energy-storage micro-grid system
..... WANG Xiao-hua, SUN De-liang, LI Wei-hua(79)

Vehicle detection method based on multi-features fusion and intersection kernel SVM
..... HU Qing-xin, JIAO Wei, GU Ai-hua(84)

• Electronic Science and Engineering •

Compatibility problem of three kinds of optical fiber in BB84 protocol model
..... ZHU Wei-min, LÜ Hong-jun, XIE Guang-jun(90)

Design of an easy tuning compact circular polarization microstrip antenna
..... ZHOU Dong, SUN Yu-fa, HU Shao-qi(94)

Analysis of electromagnetic radiation characteristics of antenna array by using CBFM and enhanced gap source model
..... ZHANG Jin-jun, DU Ping, ZHAO Ze-fang(99)

Conformal array beamforming based on improved artificial bee colony algorithm ... LIU Chao, FAN Liang-hui(103)

• Civil and Hydraulic Engineering •

Loading and unloading test on fracture characteristics of marble after heating
..... LI Hong-guo, ZHU Da-yong, YAO Hua-yan,
PAN Peng-zhi, ZHOU Yu-xin, WANG Ran(109)

Experimental study of wind resistance of metal roofing panels of large-span spatial structure
..... WANG Hai-tao, WANG Jing-feng(115)

Time domain analysis of buffeting response of long-span bridge based on modal contribution coefficients
..... ZOU Kong-qing, HUANG Wen-feng, WANG Mei-qin, ZHOU Huan-lin(122)

• Chemical Engineering •

Preparation and properties of amino-functionalized graphene/polyurethane composites
..... LI Xiao-xuan, WANG Zhong-juan, WU Sheng-li(128)

• Biotechnology and Food Engineering •

Purification and sulfated modification of a *Lachnum* polysaccharide and evaluation of its antioxidant activity
..... DU Zhan-zhan, ZHANG Qiang, XU Ping, WANG Yu-fen, YE Ming(134)

• Mathematics and Physics •

Mixing behavior ant colony algorithm for solving minimum ratio traveling salesman problem
..... NI Yu-dong, ZHAO Qun, SHEN Yin-dong, ZHANG Yu-jie(140)