



中文核心期刊
中国科技核心期刊

ISSN 1000-1646
CODEN SGDXEO

沈阳工业大学学报

沈阳工业大学学报

JOURNAL OF SHENYANG UNIVERSITY OF TECHNOLOGY

第42卷 第5期
Vol.42 No.5

2020

5



中国 沈阳
SHENYANG CHINA

沈阳工业大学学报

Shenyang Gongye Daxue Xuebao

第 42 卷 第 5 期 2020 年 9 月

目 次

· 电气工程 ·

- 计及季节与趋势因素的综合能源系统负荷预测 张铁岩, 孙天贺(481)
直流输电换流阀晶闸管级阻抗测试系统设计 刘隆晨, 汪万平, 苏明虹, 张鹏, 唐世雄(488)
基于量子算法的电热系统双层优化模型 邓博夫, 张铁岩, 回茜(493)
基于 OLAP 技术的电力客户能效评估模型 许娟, 郭素平, 戴鸿昊, 易同燕, 袁晓丹(499)

· 材料科学与工程 ·

- 液态模锻 6061 铝合金轮毂组织及性能 袁晓光, 孟凡博, 林雪健, 黄宏军, 崔泽文(504)
表面滚压强化 A473M 钢的组织及性能 张松, 刘也川, 谭俊哲, 关锰, 陶邵佳(509)
反电晕强化低温等离子体技术处理含甲醛废气 沈欣军, 李家仁, 梁旭, 谷建龙, 周伟(515)
磷氮阻燃固化剂对环氧树脂阻燃性能的影响 厉安昕, 毛萍莉, 梁兵(520)

· 机械工程 ·

- HNBR 与 DBP 共混物玻璃化温度及机械性能分子模拟
..... 王世杰, 孙小涵, 杨斌, 唐美玲, 孙静婷(526)
不锈钢管内壁腐蚀层厚度的涡流检测仿真 刘峰, 李宏伟, 张双楠, 蔡桂喜, 李建奎(532)

· 信息科学与工程 ·

- 基于动态帧时隙 ALOHA 的危险品运输 RFID 防碰撞算法
..... 魏福禄, 刘攀, 李志斌, 孙锋, 郭永青, 曹宁博(540)
基于加权质心算法的无线网络节点定位方法 张维, 赵亮(545)
基于 AES-128 密码算法的嵌入式系统安全 黄灿英, 汪莹, 陈艳(549)
一种低功耗高共模抑制比运算放大器设计 冯开平, 周佳胤, 罗立宏, 叶海(554)
基于同态加密机制的云平台计算安全与完整性保护算法
..... 王志高, 邓科, 严利雄, 王身丽, 李挺(559)

· 控制工程 ·

- 用于高压电气设备监测装置的激光发生器
..... 林海艺, 何国华, 莫琼锋, 黎丽, 黄俊潮, 陈晨(564)
新高次四维超混沌系统的广义反同步 郑莉, 孙常春(569)
基于移动互联网的心电脉搏信号动态监控系统 吴涛, 李里亚(573)

· 建筑工程 ·

- 基于 AR 模型的大跨悬索桥脉动风速时程模拟 白泉, 徐樊, 杨少波(578)
鱼腹式钢箱梁横向剪力滞效应分析 李艳凤, 罗天泽, 包龙生(583)
自密实再生混凝土梁斜截面抗裂试验与计算 姚大立, 黄潇宇, 余芳(589)
基于 BP 神经网络的地下管廊施工质量控制 张军, 王帅, 张玉丽(595)

本期责任编辑：尹淑英

英文总审校：林立

期刊基本参数：CN 21-1189/T * 1964 * b * A4 * 120 * zh * P * ¥28.00 * 1 000 * 22 * 2020-09

本刊已参加“期刊编校无差错承诺活动”

Journal of Shenyang University of Technology

Vol. 42 No. 5 Sep. 2020

Contents

· Electrical Engineering ·

Loading forecast for integrated energy system considering season and trend factors	ZHANG Tie-yan, SUN Tian-he(481)
Design of impedance test system for thyristor level HVDC converter valve	LIU Long-chen, WANG Wan-ping, SU Ming-hong, ZHANG Peng, TANG Shi-xiong(488)
Bi-level optimization model for integrated power and heating system based on quantum algorithm	DENG Bo-fu, ZHANG Tie-yan, HUI Qian(493)
Energy efficiency evaluation model for power customers based on OLAP technology	XU Juan, GUO Su-ping, DAI Hong-hao, YI Tong-yan, YUAN Xiao-dan(499)

· Materials Science & Engineering ·

Microstructure and properties of wheel hub prepared with liquid die forged 6061 aluminum alloy	YUAN Xiao-guang, MENG Fan-bo, LIN Xue-jian, HUANG Hong-jun, CUI Ze-wen(504)
Microstructures and properties of surface rolling strengthened A473M steel	ZHANG Song, LIU Ye-chuan, TAN Jun-zhe, GUAN Meng, TAO Shao-jia(509)
Treatment of formaldehyde-containing exhaust with back corona enhanced non-thermal plasma technology	SHEN Xin-jun, LI Jia-ren, LIANG Xu, GU Jian-long, ZHOU wei(515)
Effect of phosphorus nitrogen flame retardant curing agent on flame retardancy of epoxy resins	LI An-xin, MAO Ping-li, LIANG Bing(520)

· Mechanical Engineering ·

Molecular simulation for glass transition temperature and mechanical properties of HNBR and DBP blend	WANG Shi-jie, SUN Xiao-han, YANG Bin, TANG Mei-ling, SUN Jing-ting(526)
Simulation of eddy current detection for corrosion layer thickness on inner wall of stainless steel tube	LIU Feng, LI Hong-wei, ZHANG Shuang-nan, CAI Gui-xi, LI Jian-kui(532)

· Information Science & Engineering ·

RFID anti-collision algorithm for hazardous materials transportation based on dynamic frame slotted ALOHA	WEI Fu-lu, LIU Pan, LI Zhi-bin, SUN Feng, GUO Yong-qing, CAO Ning-bo(540)
Node localization method for wireless sensor network based on weighted-centroid-algorithm	ZHANG Wei, ZHAO Liang(545)
Security of embedded system based on AES-128 cryptographic algorithm	HUANG Can-ying, WANG Ying, CHEN Yan(549)
Design of an operational amplifier with low power consumption and high common mode rejection ratio	FENG Kai-ping, ZHOU Jia-yin, LUO Li-hong, YE Hai(554)
Cloud platform computing security and integrity protection algorithm based on homomorphic encryption mechanism	WANG Zhi-gao, DENG Ke, YAN Li-xiong, WANG Shen-li, LI Ting(559)

· Control Engineering ·

Laser generator for high-voltage electrical equipment monitoring device	LIN Hai-yi, HE Guo-hua, MO Qiong-feng, LI Li, HUANG Jun-chao, CHEN Chen(564)
Generalized anti-synchronization of new high-order four-dimensional hyperchaotic system	ZHENG Li, SUN Chang-chun(569)
Dynamic monitoring system of ECG and pulse signals based on mobile internet	WU Tao, LI Li-ya(573)

· Architectural Engineering ·

Time-history simulation of fluctuating wind speed for long-span suspension bridge based on AR model	BAI Quan, XU Fan, YANG Shao-bo(578)
Analysis on lateral shear lag effect of fish-bellied steel box girder	LI Yan-feng, LUO Tian-ze, BAO Long-sheng(583)
Tests and calculation for diagonal cross-section crack resistance of recycled aggregate self-compacting concrete beams	YAO Da-li, HUANG Xiao-yu, YU Fang(589)
Construction quality control of underground pipe gallery based on BP neural network	ZHANG Jun, WANG Shuai, ZHANG Yu-li(595)