

ISSN 1007-7162  
CN 44-1428/T  
CODEN GDAXFR



JOURNAL OF GUANGDONG UNIVERSITY OF TECHNOLOGY

# 广东工业大学学报

中国 广州  
GUANGZHOU CHINA

广东工业大学学报

第三十五卷  
第五期



2018 NO. 5

双月刊

9月 第35卷 总第136期  
Sept. Vol.35

万方数据

二〇一八年九月

# 广东工业大学学报

第 35 卷 第 5 期 2018 年 9 月

## 目 次

### · 可拓论坛 ·

传导过程元与过程元可拓集及其工程应用 ..... 王丰, 顾佼佼, 孙江, 林瑜 (1)

基于功能相似矩阵的异类产品专利规避设计 ..... 肖河曼, 成思源, 杨雪荣, 李苏洋, 张海燕 (5)

### · 综合研究 ·

基于 CycleGAN 的非配对人脸图片光照归一化方法 ..... 曾碧, 任万灵, 陈云华 (11)

结合 ReliefF 和互信息的多标签特征选择算法 ..... 陈平华, 黄辉, 麦森, 周宏虹 (20)

金融大数据中条件非相关波动模型的单纯形搜索算法 ..... 白颖, 姚家进, 张茂军, 李桥兴 (26)

基于卷积神经网络的视觉闭环检测研究 ..... 杨孟军, 苏成悦, 陈静, 张洁鑫 (31)

基于 GIS 的城市历史文化遗产管理信息系统建设研究 ..... 何韶颖, 郑弘, 汤众 (38)

视网膜氧分布与脑红蛋白作用模型解的存在唯一性 ..... 陈美葵, 卫雪梅 (45)

多因素制约下的 SIR 传染病模型的元胞自动机仿真模拟研究 ..... 郑三强, 韩晓卓 (51)

基于状态反馈的单相 LCL 逆变器研究 ..... 张森, 郭兴屹, 张兴旺 (60)

紧凑型四频微带贴片天线的快速设计 ..... 张超群, 陈煊邦 (65)

旋转集热板式太阳能烟囱性能研究 ..... 吴成赫, 刘丽孺, 陈毅刚, 王璋元 (70)

不同长度  $\alpha$ -MnO<sub>2</sub> 纳米线的可控合成及其催化燃烧性能的研究 ..... 廖秀红, 蒋勇, 简国坤, 程高, 孙明 (75)

醇相光引发 RAFT 分散聚合制备全丙烯酸酯二嵌段共聚物纳米材料 ..... 刘冬冬, 谭剑波, 张力 (80)

先进制造业与生产性服务业互融发展现状及其对策研究——以广州市为例  
..... 杨诗炜, 刘贻新, 朱怀念, 张光宇 (86)

本期执行编辑: 赵少飞 杨耀辉 王威娜 张玮欣 陈 辉 本期责任校对: 赵少飞 本期英文审核: 熊荣斌

期刊基本参数: CN 44 - 1428/T \* 1984 \* b \* A4 \* 94 \* zh \* P \* ¥10.00 \* 1050 \* 15 \* 2018 - 09

# JOURNAL OF GUANGDONG UNIVERSITY OF TECHNOLOGY

Volume 35 Number 5 September 2018

## CONTENTS

### Forum on Extension

Transmission Process Element and Process Element Extension Set and Its Engineering Application

..... Wang Feng, Gu Jiao-jiao, Sun Jiang, Lin Yu (1)

Patent Avoidance Design for Heterogeneous Products Based on Function Similarity Matrix

..... Xiao He-man, Cheng Si-yuan, Yang Xue-rong, Li Su-yang, Zhang Hai-yan (5)

### Comprehensive Studies

An Unpaired Face Illumination Normalization Method Based on CycleGAN ..... Zeng Bi, Ren Wan-ling, Chen Yun-hua (11)

Multi-label Feature Selection Algorithm Based on ReliefF and Mutual Information

..... Chen Ping-hua, Huang Hui, Mai Miao, Zhou Hong-hong (20)

A Simple Search Algorithm on Conditionally Uncorrelated Volatility Models in Financial Big Data

..... Bai Jie, Yao Jia-jing, Zhang Mao-jun, Li Qiao-xing (26)

Loop Closure Detection for Visual SLAM Using Convolutional Neural Networks

..... Yang Meng-jun, Su Cheng-yue, Chen Jing, Zhang Jie-xin (31)

A Research on the Construction of Urban Historical and Cultural Heritage Management Information System Based on GIS

..... He Shao-ying, Zheng Hong, Tang Zhong (38)

Existence and Uniqueness of Global Solution for a Model of Retinal Oxygen Distribution and the Role of Neuroglobin

..... Chen Mei-gui, Wei Xue-mei (45)

A Simulation of Cellular Automata Based on the SIR Infectious Disease Model with Multifactorial Constraints

..... Zheng San-qiang, Han Xiao-zhuo (51)

A Research on Single Phase LCL Inverter Based on State Feedback Abstract ..... Zhang Miao, Guo Xing-yi, Zhang Xing-wang (60)

Fast Design of a Compact Four-band Microstrip Patch Antenna ..... Zhang Chao-qun, Chen Xuan-bang (65)

A Performance Study of Solar Chimney with Rotating Collector ..... Wu Cheng-he, Liu Li-ru, Chen Yi-gang, Wang Zhang-yuan (70)

Controllable Synthesis of  $\alpha$ -MnO<sub>2</sub> Nanowire with Different Length and Its Catalytic Combustion Activity

..... Liao Xiu-hong, Jiang Yong, Jian Guo-kun, Cheng Gao, Sun Ming (75)

Preparation of All-acrylic Diblock Copolymer Nano-objects via Alcoholic Photoinitiated RAFT Dispersion Polymerization

..... Liu Dong-dong, Tan Jian-bo, Zhang Li (80)

A Research on the Situation and Countermeasures of the Interactive and Integrative Development of Advanced Manufacturing and

Producer Service—Taking the Guangzhou City as an Example ..... Yang Shi-wei, Liu Yi-xin, Zhu Huai-nian, Zhang Guang-yu (86)