

中华人民共和国教育部 主管  
西南大学 主办

NATURAL SCIENCE EDITION  
自然科学版

JOURNAL OF SOUTHWEST UNIVERSITY  
西南大學學報



中国科学引文数据库（CSDA）来源期刊 中文核心期刊  
中国精品科技期刊 中国高校百佳科技期刊  
RCCSE核心学术期刊 川渝一流科技期刊  
重庆市出版专项资金资助期刊

9 Vol. 44  
September 2022

### 目 次

#### · 喀斯特退化生态系统植被恢复专题 ·

喀斯特不同土壤厚度小生境下土壤种子库特征 ..... 罗杰, 陈金艺, 郭旭曼, 雷颖, 刘锦春 (002)

喀斯特生境中山麻杆种群与环境因子的关系 ..... 曾嘉庆, 陶建平 (011)

降雨极端化对喀斯特草本植物功能性状的影响 ..... 咎瑛, 索朗玉珍,  
马竟文, 余钰淋, 陶建平, 罗唯学 (020)

#### · 农业与生命科学 ·

三叶木通种质资源形态学标记的遗传多样性分析 ..... 杨西萌, 李桂香,  
潘玉芳, 石多丽, 孙正琼, 眭顺照, 李名扬 (032)

有机肥施用年限对菜地重金属累积迁移的影响 ..... 安雨丽, 李顺晋,  
张育文, 王媛, 崔玉涛, 李浩然, 陈新平, 张伟 (041)

基于高光谱成像的枇杷果实品质检测 ..... 吴习宇, 曾凯芳, 郭启高, 任丹, 伍柯翰, 徐丹 (052)

魔芋不同生理状态的愈伤组织和丛生芽内源激素及抗氧化酶研究 ..... 蔡阳光, 段龙飞,  
覃剑锋, 郭邦利, 陈国爱, 张百忍 (061)

优质紫肉食用型甘薯新品种万紫薯 11 的选育研究 ..... 史婵, 张菡, 张兴端, 李秋卓, 顾嘉赞 (068)

#### · 经济研究 ·

资源投入对企业参展绩效的影响研究: 人力资源与财务资源的效能比较  
..... 周菲菲, 许欣, 田敏 (073)

社会养老保险和社会网络与风险金融资产配置 ..... 张明, 柯占莲, 李罗的, 张腾 (083)

中国“十三五”期间空气质量时空演变特征及社会经济驱动力 ..... 赵伟, 刘吴铮, 蒲海霞 (099)

#### · 地球与环境科学 ·

西南地区不同海拔极端降水时空变化特征 ..... 董欣, 倪相 (110)

基于 MODIS-EVI 的四川植被覆盖地形分布特征 ..... 朱林富, 谢世友, 杨华, 马明国, 夏军 (122)

成渝城市群生态保护红线分析及其配套政策建议 ..... 杨妃, 李志刚 (133)

#### · 工程与信息技术 ·

湖南省有色金属工业场地时空格局及成因分析 ..... 冯德坤, 杨雪, 万咏咏, 高宏杰, 杨勇 (144)

用于物联网的 RPL 节能负载均衡方法 ..... 张虫金, 余欣 (156)

直觉模糊偏好度量序决策表的近似约简 ..... 张晓燕, 刘峥, 侯江龙 (168)

一种基于语义推理的网络社区发现模型 ..... 任薇, 阮淇昱, 韩孟凯, 邱玉辉 (178)

基于网络的 T-S 模糊系统的有限时间控制 ..... 刘玉军, 姚合军 (187)

基于分组量化的高效超维计算分类方法 ..... 姚晓芳, 田波 (197)

基于 GIS 的城市公园夜晚灯光对游人行为偏好影响的研究 ..... 杨阳, 王佳杰 (205)

# JOURNAL OF SOUTHWEST UNIVERSITY

## (NATURAL SCIENCE EDITION)

Vol. 44 No. 9

Total No. 333

Sep. 20, 2022

### CONTENTS

The Characteristics of Soil Seed Bank in Karst Area under Different Soil

Thickness Niches ..... LUO Jie, CHEN Jinyi, GUO Xuman, LEI Ying, LIU Jinchun (002)

Relationships between *Alchornea davidii* Population and Environmental

Factors in Karst Habitat ..... ZENG Jiaqing, TAO Jianping (011)

Effects of Rainfall Extremes on Functional Traits of Karst Herbaceous Plants ..... ZAN Ying,

Suoliangyuzhen, MA Jingwen, YU Yulin, TAO Jianping, LUO Weixue (020)

Genetic Diversity of Morphological Traits of *Akebia trifoliata* Germplasm

Resources ..... YANG Ximeng, LI Guixiang, PAN Yufang,

SHI Duoli, SUN Zhengqiong, SUI Shunzhao, LI Mingyang (032)

The Effect of Long-Term Application of Organic Fertilizer on the Accumulation and

Migration of Heavy Metals in Vegetable Soil ..... AN Yuli, LI Shunjin, ZHANG Yuwen,

WANG Yuan, CUI Yutao, LI Haoran, CHEN Xinping, ZHANG Wei (041)

Detection of Loquat Fruit Quality Based on Hyperspectral Imaging ..... WU Xiyu,

ZENG Kaifang, GUO Qigao, REN Dan, WU Kehan, XU Dan (052)

Studies on Endogenous Hormones and Antioxidant Enzymes in Callus and

Cluster Buds of Konjac under Different Physiological Conditions ..... CAI Yangguang,

DUAN Longfei, QIN Jianfeng, GUO Bangli, CHEN Guoai, ZHANG Bairen (061)

Breeding of New High-Quality Purple Flesh Food-Use Sweetpotato Variety

Wanzishu 11 ..... SHI Chan, ZHANG Han, ZHANG Xingduan, LI Qiuzhuo, GU Jiayun (068)

Research on the Influence of Resources Investment on Performance of Exhibitor:

Comparison the Efficiency of Human Resources and Financial Resources

..... ZHOU Feifei, XU Xin, TIAN Min (073)

Social Endowment Insurance, Social Networks and Risky Financial Assets Allocation

..... ZHANG Ming, KE Zhanlian, LI Luode, ZHANG Teng (083)

The Spatiotemporal Evolution and Socio-economic Driving Forces of Air Quality in

China during the 13th Five-Year Plan Period ..... ZHAO Wei, LIU Haozheng, PU Haixia (099)

Spatiotemporal Variation of Extreme Precipitation at Different Elevations in

Southwest China ..... DONG Xin, NI Xiang (110)

Topographic Distribution Characteristics of Fractional Vegetation Coverage Based on

MODIS-EVI in Sichuan ..... ZHU Linfu, XIE Shiyou,  
YANG Hua, MA Mingguo, XIA Jun (122)

Analysis on Ecological Protection Red Line of Chengdu-Chongqing Urban

Agglomeration and Suggestions on Supporting Policy ..... YANG Fei, LI Zhigang (133)

Analysis of the Spatial and Temporal Patterns and Causes of the Non-ferrous

Metals Industry Sites in Hunan Province ..... FENG Dekun, YANG Xue,  
WAN Yongyong, GAO Hongjie, YANG Yong (144)

A New Load Balancing Method of Routing Protocol for Low Power Lossy

Network for IoT ..... ZHANG Chongjin, YU Xin (156)

Approximation Reduction in Intuitionistic Fuzzy Ordered Decision Information

System with Preference Measure ..... ZHANG Xiaoyan, LIU Zheng, HOU Jianglong (168)

Semantic Link Based Cyber Community Discovery Model ..... REN Wei,

RUAN Yuqi, HAN Mengkai, QIU Yuhui (178)

Finite-Time Control of T-S Fuzzy System Based on Network ..... LIU Yujun, YAO Hejun (187)

Efficient Hyperdimensional Computing Classification Method Based on

Grouping Quantization ..... YAO Xiaofang, TIAN Bo (197)

Research on the Influence of Nightlight in City Parks on Preference of

Tourist Behavior Based on GIS ..... YANG Yang, WANG Jiajie (205)