



HUNAN
AGRICULTURAL
UNIVERSITY

ISSN 2096-8736
CN 43-1555/S

农业工程与装备

AGRICULTURAL ENGINEERING AND EQUIPMENT

2023年 **1** 期
2023年2月 总第348期



ISSN 2096-8736



9 772096 873233

02

双月刊·1974 年创刊

国内统一连续出版物号: CN 43-1555/S

国际标准连续出版物号: ISSN 2096-8736

编委会主任: 方 逵

编委会副主任: 杨 洲 吴明亮 刘木华

编委会委员: (按姓氏笔画排序)

王 辉 王佩之 王海林 龙志军
叶大鹏 朱立学 朱幸辉 向卫兵
孙松林 李 明 李立君 吴卫国
汪小岳 张才道 罗 琳 黄大金
龚 昕 蒋 蘋 谢方平 谢守勇
廖庆喜

主管单位: 湖南省教育厅

主办单位: 湖南农业大学

编辑出版: 《农业工程与装备》编辑部

主 编: 王新宇

副主编: 阳湘晖

责任编辑: 张亦弛 邓勇林 吴志立
唐琦军

地 址: (410028) 湖南省长沙市

芙蓉区湖南农业大学

电 话: 0731-84673528

投稿邮箱: nygcyzb@126.com

邮发代号: 42-345

定 价: 15 元

印 刷: 长沙裕锦印务实业有限公司

征订发行: 各地邮政所

感谢湖南省农业机械安全协会大力支持!

——版权声明——

本刊已许可知网、万方、维普、超星、长江文库等在其系列数据库产品中以数字化方式复制、汇编、发行、传播《农业工程与装备》杂志全文。作者向本刊提交文章发表的行为即为同意上述声明。



农业装备技术

水稻泥浆育秧双齿辊筛分式制浆机的设计与试验···郭龙涛, 谢方平 01



农业机械化

云南省大蒜收获机的应用调研分析·····耿小芳, 朱代根 07



农业水土工程

自压滴灌技术在农田灌溉中的应用与研究·····李 媛 09

节水灌溉技术在农田水利工程中的应用·····彭建清 12



农村电气技术

豫南地区农村配电网规划设计·····刘 晋 15



设计制造及理论研究

电机设计及振动噪声研究

——以深海航行器为例·····白继刚, 张 泉 17

电气自动化控制中变频调速技术的应用与研究·····郭宏宇 21

钳工技术在机械装配作业中的应用与分析·····胡文泉 23

数控机床的人机界面设计策略·····皇甫瑞云 26

机电一体化在农业机械设计中的优势与应用·····李万虎 28

电梯制动器电气控制系统的检测与优化·····陶 旭 31

浅析人工智能技术在电气自动化控制系统中的应用·····虞叶鸣 34

无刷电机的相电流重构同步整流控制研究·····张 泉, 白继刚 36

内燃机零部件结构的优化设计及应用·····赵永燕 40

基于 ORB-SLAM 的单目无人机视觉自动追踪技术的研究···何 玲 42

自动焊接技术在机械加工作业中的应用·····陆平平 45

PLC 技术在农机电气控制系统中的应用与研究·····孙 菁 48

焊条电弧焊仰焊单面焊双面成型技术探究·····于记伟 50



教学研究

乡村振兴战略下农林高职院校学生创业行为驱动因素研究···戴园园 53

高职机电一体化技术专业教学标准研究

·····赵冬梅, 廉良冲, 王 峰, 付亚鑫 57

基于软硬件相结合的自动控制原理课程实验教学改革·····郭亚琴 61

行为导向教学模式在机械加工课程教学中的运用探究·····韩 超 65

中职院校加工制造类专业现代学徒制人才培养模式的改革与实践

·····李 杨 67

地方应用型高校服务乡村振兴战略的路径探析·····田 勇 70

基于工学一体化的非标自动化设备设计课程改革与实践·····翟勇波 73

机械精度设计课程思政教学的思考与探索·····鄂 蕊 76

C CONTENTS

Vol.50 No.1 February 2023

- Design and experimental of double tooth roller screening pulping machine for rice seedling raising with slurry.....GUO Longtao, XIE Fangping (01)
- Investigation and analysis on the application of garlic harvester in Yunnan province
.....GENG Xiaofang, ZHU Daigen (07)
- Research and application of self-pressure drip irrigation technology in farmland irrigation.....LI Yuan (09)
- Application of water saving irrigation technology in farmland water conservancy projects
.....PENG Jianqing (12)
- Planning and design of rural distribution network in southern Henan Province.....LIU Jin (15)
- Research on motor design and vibration noise -- taking underwater vehicle as an example
.....BAI Jigang, ZHANG Quan (17)
- Application and research of frequency conversion and speed regulation technology in electrical automation control.....GUO Hongyu (21)
- Analysis of the fitter's operation skills in mechanical assembly.....HU Wenquan (23)
- Design strategy of human-machine interface for CNC machine tools.....HUANGFU Ruiyun (26)
- The advantages and applications of mechatronics integration in agricultural machinery design
.....LI Wanhu (28)
- Research on electrical control and related inspection of elevator brake.....TAO Xu (31)
- Application of artificial intelligence in electrical automation technology.....YU Yeming (34)
- Research on the phase current reconstruction synchronous rectification control of brushless motor
.....ZHANG Quan, BAI Jigang (36)
- Structural design and application analysis of internal combustion engine components.....ZHAO Yongyan (40)
- Research on automatic visual tracking technology of monocular unmanned aerial vehicle
based on ORB-SLAM.....HE Ling (42)
- The application of automatic welding technology in mechanical processing operations.....LU Pingping (45)
- Application and research of PLC technology in the electrical control system for agricultural machine
.....SUN Jing (48)
- Research on double side forming technology of single side welding under overhead welding for stich arc
welding.....YU Jiwei (50)
- Research on the driving factors of entrepreneurial behavior of students in agricultural and forestry
vocational colleges under the strategy of rural revitalization.....DAI Yuanyuan (53)
- Research on teaching standards for electromechanical integration technology major in higher vocational
education.....ZHAO Dongmei, LIAN Liangchong, WANG Feng, FU Yaxin (57)
- Experimental teaching reform of automatic control principle based on the combination of software and
hardware.....GUO Yaqin (61)
- Research on the effective application of behavior oriented teaching method in secondary vocational
machining teaching.....HAN Chao (65)
- Modern Apprenticeship Talent Training Model for Processing and Manufacturing Majors in Vocational
Colleges Reform Practice.....LI Yang (67)
- The path analysis of local application-oriented universities serving rural revitalization strategy
.....TIAN Yong (70)
- Curriculum reform and practice of non-standard automation equipment based on integration of
engineering and learning.....ZHAI Yongbo (73)
- Thinking and exploration on the ideological and political teaching route of Mechanical Precision Design
.....E Rui (76)