

工矿自动化

第 50 卷 第 4 期 2024 年 4 月

目 次

· 编委学术专栏 ·

煤矿信息综合承载网标准研究制定..... 孙继平 彭铭(1)

基于改进最佳缝合线的矿井图像拼接方法.....

..... 张旭辉 王悦 杨文娟 陈鑫 张超 黄梦瑶 刘彦徽 杨骏豪(9)

· 综述 ·

煤岩瓦斯复合动力灾害监测预警与防控技术研究进展..... 杨科 李彩青 刘文杰 张寨男(18)

· 科研成果 ·

基于 UWB 的综采工作面推进度测量系统..... 刘清 刘军锋(33)

液压支架关键姿态参数测量系统..... 刘相通 李曼 沈思怡 曹现刚 刘俊祺(41)

矿用对射式风速风向传感器设计..... 安赛 赵忠辉 张浪 李伟 彭然(50)

· 分析与研究 ·

基于图像分析的掘进工作面粉尘颗粒检测方法.....

..... 龚晓燕 冯浩 付浩然 陈龙 常虎强 刘壮壮 贺子纶 裴晓泽 薛河(55)

基于改进切尾均值的矿井图像去噪算法..... 熊增举 姚成贵 张德华(63)

基于红外热成像的煤矸识别方法研究..... 程刚 潘择辉 魏溢凡 陈杰(69)

基于红外热像和振动信号的煤岩识别实验研究..... 刘治翔 孙战 尹家阔 邹康(78)

基于联合编码的煤矿综采设备知识图谱构建..... 韩一搏 董立红 叶鸥(84)

基于视觉与激光融合的井下灾后救援无人机自主位姿估计..... 何怡静 杨维(94)

用于矿井通风网络解算的通风机风压性能曲线自动识别方法..... 吴奉亮 寇露(103)

不同注气成分驱瓦斯效果数值模拟研究..... 徐小马 燕湘湘 黄妹羽(112)

煤的原位瓦斯放散初速度测定装置及方法研究..... 薛伟超(121)

煤矿掘进工作面瓦斯浓度预测..... 陈鲜展 沈易成 洪飞扬 石绅(128)

采煤机滚筒工作性能优化研究..... 王宏伟 郭军军 梁威 耿毅德 陶磊 李进(133)

基于工况触发的采煤机滚筒截割高度模板生成方法..... 李重重 姚钰鹏(144)

考虑煤岩硬度的悬臂式掘进机截割控制..... 许向前 简阔 王宁 李胜利(153)

煤矿场景下单相级联 H 桥整流器解耦控制方法研究..... 刘诗源(159)

JOURNAL OF MINE AUTOMATION

Vol. 50 No. 4 April 2024

CONTENTS

• Academic Column of Editorial Board Member •

Research and formulation of coal mine information comprehensive bearer network standards *SUN Jiping PENG Ming* (1)

A mine image stitching method based on improved best seam-line
..... *ZHANG Xuhui WANG Yue YANG Wenjuan CHEN Xin ZHANG Chao HUANG Mengyao LIU Yanhui YANG Junhao* (9)

• Overview •

Research progress on monitoring, early warning, and prevention and control technologies for coal-rock-gas composite dynamic disasters *YANG Ke LI Caiqing LIU Wenjie ZHANG Zhainan* (18)

• Achievements of Scientific Research •

UWB based measurement system for pushing progress of fully mechanized working face *LIU Qing LIU Junfeng* (33)

Measurement system for key attitude parameters of hydraulic support
..... *LIU Xiangtong LI Man SHEN Siyi CAO Xiangang LIU Junqi* (41)

Design of mine opposed wind speed and direction sensor *AN Sai ZHAO Zhonghui ZHANG Lang LI Wei PENG Ran* (50)

• Analysis and Research •

A method for detecting dust particles in excavation working face based on image analysis *GONG Xiaoyan FENG Hao FU Haoran CHEN Long CHANG Huqiang LIU Zhuangzhuang HE Zilun PEI Xiaoze XUE He* (55)

A mine image denoising algorithm based on improved trimmed mean *XIONG Zengju YAO Chenggui ZHANG Dehua* (63)

Research on coal gangue recognition method based on infrared thermal imaging
..... *CHENG Gang PAN Zeye WEI Yifan CHEN Jie* (69)

Experimental study on coal rock recognition based on infrared thermal imaging and vibration signals
..... *LIU Zhixiang SUN Zhan YIN Jiakuo ZOU Kang* (78)

Construction of knowledge graph for fully mechanized coal mining equipment based on joint coding
..... *HAN Yibo DONG Lihong YE Ou* (84)

Autonomous pose estimation of underground disaster rescue drones based on visual and laser fusion *HE Yijing YANG Wei* (94)

Automatic recognition method of ventilator wind pressure performance curve for mine ventilation network calculation
..... *WU Fengliang KOU Lu* (103)

Numerical simulation study on the coal-bed methane displacement effect of different gas injection components
..... *XU Xiaoma YAN Xiangxiang HUANG Shuyu* (112)

Research on the device and method for measuring the initial velocity of in-situ gas emission from coal *XUE Weichao* (121)

Prediction of gas concentration in coal mine excavation working face
..... *CHEN Xianzhan SHEN Yicheng HONG Feiyang SHI Shen* (128)

Research on optimization of working performance of shearer drum
..... *WANG Hongwei GUO Junjun LIANG Wei GENG Yide TAO Lei LI Jin* (133)

A generation method for the cutting height template of the shearer drum based on working condition triggering
..... *LI Zhongzhong YAO Yupeng* (144)

Cutting control of boom-type roadheader considering coal rock hardness
..... *XU Xiangqian JIAN Kuo WANG Ning LI Shengli* (153)

Research on decoupling control method for single-phase cascade H-bridge rectifier in coal mine scenarios *LIU Shiyuan* (159)