

江西省优秀科技期刊
中国期刊全文数据库收录期刊
中国学术期刊（光盘版）全文收录期刊
中国核心期刊（遴选）数据库收录期刊
中国学术期刊综合评价数据库统计源期刊

万方数据——数字化期刊群全文入网期刊
中国煤炭数字图书馆全文收录核心期刊
中国煤炭技术与设备网入网期刊
煤炭科技论文数据库收录期刊
中文科技期刊数据库收录期刊

ISSN 1006-2572
CN 36-1121/TD

江西煤炭科技

JIANGXI COAL SCIENCE & TECHNOLOGY

4

2023

第4期 2023年11月出版

江西省煤炭学会
江西省能源集团有限公司
江西省煤炭经济研究会
江西省煤炭工业科学研究所

主办

ISSN 1006-2572



11>

9 771006 257231

江西煤炭科技

JIANGXI MEITAN KEJI

(季刊)

-----1979 年创刊-----

2023 年第 4 期(总第 180 期)

2023 年 11 月出版

主管单位 江西煤矿安全监察局

主办单位 江西省煤炭学会

江西省能源集团有限公司

江西省煤炭经济研究会

江西省煤炭工业科学研究所

编辑出版 《江西煤炭科技》编辑部

通讯地址 江西省南昌市北京东路 23 号
(330029)

主 编 吴银富

责任编辑 郭 丹 彭呈喜

电 话 0791-88326754

电子信箱 jxmtkj@163.com

发行范围 公开发行

订 购 处 《江西煤炭科技》编辑部

国内统一连续出版物号 CN 36-1121/TD

国际标准连续出版物号 ISSN 1006-2572

广告经营许可证号 3600004000039

印 刷 江西晨光彩印包装有限责任公司

定 价 25.00 元

本刊关于作者稿件版权转让的声明

本刊已被中国核心期刊(遴选)数据库、中国期刊全文数据库、中国学术期刊综合评价数据库、中文科技期刊数据库、煤炭科技论文数据库等收录。

本刊对发表的文章同时持有与网络数据库合作以数字化方式复制、编绘、发行、信息网络传播的权利,文章著作权使用报酬及稿酬一次付清。稿件一经采用,作者向本刊提交文章发表的行为即视为同意本刊上述声明。

作者如不同意上述约定,请在来稿中声明,编辑部将做适当处理。

目 次

●采矿技术

- 急倾斜煤层下保护层开采的卸压效应研究 陈 宝,张 坤,潘立文,等(1)
切顶卸压技术在旭升煤矿的试验与应用 吴兆军(6)
大断面岩巷综掘快速掘进技术应用 胡加振(10)
基于煤研信号特征的自动化放煤技术研究 姚士茂(13)
矿井煤巷快速掘进技术实践 王汉涛(16)
东曲矿柔性网大采高综采工作面收尾工艺应用 姚鸿基(20)
矿井深部大变形巷道注浆加固技术应用 叶东生(23)
切眼扩刷无锚支护一体化施工工艺应用 郭磊磊(26)
磁窑沟矿积水空区下回撤通道围岩控制技术 王永茂(29)
沿空留巷巷旁支护充填加固技术数值模拟研究 张宝君(33)
综采工作面过断层区域注浆加固技术应用 李永宾(36)
上端头支架在智能化综采工作面的应用 杨 健,张 凯,陈琪琪,等(39)
水力压裂弱化顶板技术在 18402 面初采中的应用 张智超(43)
近距离煤层综放面矿压显现特征模拟与观测 史宏宝(47)
特厚煤层综放工作面撤架通道矿压特征分析 翟振宇(50)
高家庄矿大断面硬岩巷道智能化快速掘进应用 冯秀青,付玉平(54)
综采工作面坚硬顶板治理方案应用实践 郭 艮(57)
中深孔爆破技术在西曲矿 14308 综采面的应用 田树平(60)
综采工作面端面破碎顶板联合支护技术应用 魏秋玉(63)
不规则残采区沿空巷道煤柱留设与支护探讨 常少锋(66)
切顶卸压沿空留巷技术在综采工作面的应用 王瑞飞(70)
软弱破碎围岩煤层巷道支护技术应用分析 魏治刚(73)
综放工作面小煤柱沿空掘巷围岩控制应用 王晓波,樊 帆(76)
中能煤业基于大数据的综放面矿压显现分析 韩 杰(80)
快速掘进煤巷支护关键参数优化与应用 高树强,付玉平(83)
掘进巷道过断层破碎区支护应用分析 王海江(87)
莒山煤矿充填开采工作面膏体材料初步研究 郭智勇(90)
一种新型锚杆在谢桥煤矿的成功应用 张五一,李育宗(93)
综采工作面快速过老巷联合支护技术应用 武炎龙(97)
近距离煤层采空区下大断面巷道支护技术探讨 王建伟(100)
特厚煤层超前支承压力分布面长效应实测研究 马海军(103)
切顶卸压自成巷技术在薄煤层采面的应用 赵熠明(106)
薄煤层液压支架存在的问题与应对建议 马艳伟(109)

●地测防治水技术

- 赣西北地区荷塘组页岩气有机地化特征分析 * 王 鹤,冯玉霞(112)
边坡地质灾害治理工程施工分析 赵会兵(116)
浅谈韩城矿区水文地质条件和煤矿水害 楼伟昆(120)
赣州市南康区罗垅钨矿区地质特征与找矿方向 韩永顺,焦 璇,吴中丽(126)
浅析工作面物探及断层超前探查工作 姚 远,冯国栋,刘维新(130)

<p>Jiangxi Coal Science & Technology JIANGXI MEITAN KEJI (Quarterly) -----Started in 1979-----</p> <p>No. 4 2023 (Series No. 180) November 2023</p> <p>Responsible Institution</p> <p>Jiangxi Bureau of Colliery Safety Supervision</p> <p>Sponsor</p> <p>Jiangxi Coal Society</p> <p>Jiangxi Energy Group Limited company</p> <p>Jiangxi Research Institute of Coal Industry</p> <p>Jiangxi Research Institute of Coal Industry</p> <p>Editorial and Publishing Dept.</p> <p>Editorial Office of Jiangxi Coal Science&Technology</p> <p>Address</p> <p>No.23, Beijing east road, nanchang, jiangxi (330029)</p> <p>Chief Editor Wu Yinfu</p> <p>Responsible Editor Guo Dan Peng Chengxi</p> <p>Tel/Fax (0791)88326754</p> <p>E-mail jxmtkj@163.com</p> <p>Issue Scope Public Offering</p> <p>Order Office</p> <p>Order Office Editorial Office of Jiangxi Coal Science&Technology</p> <p>Periodical Registration No. CN 36-1121/TD ISSN 1006-2572</p> <p>License No. of Advertising 3600004000039</p> <p>Printed by Jiangxi morning light color printing & printing Inc</p> <p>List Price 25.00</p>	<p>崇义县地形地貌与地质灾害的关系探讨 陈冲, 王洪永(133)</p> <p>高陡边坡地质灾害治理工程实践分析 白杰(136)</p> <p>无人机航测在霍尔辛赫煤业地形测绘中的应用 韦云峰(139)</p> <p>增子坊煤矿 5305 回采工作面超前探放水设计 刘伟杰(142)</p> <p>定向钻机在探放水方面的技术应用 张武龙(146)</p> <p>覆岩离层注浆技术在赵庄煤矿采面中的应用 花伟(149)</p> <p>虎龙沟煤矿 81517 工作面顶底板富水性探测 刘鹏程(152)</p> <p>3501 工作面采动覆岩离层注浆控制地面降沉技术 彭虎(156)</p> <p>F-RFPA2D 在煤层顶板突水危险性分析中的应用 梁吉曾(159)</p> <p>综采工作面过断层综合防治水技术应用 苗瑶(163)</p> <p>●通风安全技术</p> <p>粒度对煤炭复燃行为特性的影响规律 郭志国, 张志达, 郑彪华(166)</p> <p>马兰矿综采工作面气水雾化降尘技术实践 刘贤臣(169)</p> <p>采空区瓦斯地面井抽采瓦斯来源及储量预测研究 邹虎(173)</p> <p>沿空留巷综放工作面瓦斯综合治理技术应用 郭四龙(178)</p> <p>气相压裂和水力割缝强化瓦斯抽采技术应用 * 申军伟(181)</p> <p>大直径定向钻孔抽采技术在 150317 工作面的应用 李振华(184)</p> <p>瓦斯抽采钻孔孔内二次注浆堵漏技术应用 刘业忠(188)</p> <p>裕兴煤矿综采工作面综合抽采瓦斯技术应用 孙慧卿(191)</p> <p>15117 综采工作面综合防灭火技术应用 陈文波(194)</p> <p>大平煤矿通风系统优化数值模拟应用研究 张星(197)</p> <p>采煤机喷雾降尘装置的优化设计与应用 张晓亚(201)</p> <p>●机电信息化技术</p> <p>选煤厂智能快速装车系统设计 刘剑红(204)</p> <p>可伸缩带式输送机张紧装置设计与验证 李久承(207)</p> <p>皮带运输机变频驱动方案设计与实现 王小雅(210)</p> <p>矿用带式输送机跑偏分析及纠偏装置改进 王丽军(213)</p> <p>矿用绞车远程监测及安全保障技术研究与应用 赵炎(216)</p> <p>掘进机液压系统工作原理分析及其使用维护 顾启强(219)</p> <p>电子皮带秤在选煤厂带式输送机上的应用 史良超(222)</p> <p>变频一体电机在综采面刮板运输机上的应用 靳张浩(225)</p> <p>煤矿变电站智能监控系统设计与实现 王磊(227)</p> <p>主通风机工况监测与报警系统研究 马芳芳(230)</p> <p>变压器局部放电检测技术分析 习腾之(232)</p> <p>悬臂式掘进机控制系统优化设计 于漳(235)</p> <p>矿用带式输送机巡检机器人系统设计与研究 米丽(238)</p> <p>矿井提升机减速器箱体结构的优化设计研究 郭媛(241)</p> <p>薄煤层综采工作面智能化控制技术应用 杨燕敏(244)</p> <p>无人值守矿井主通风机技术的应用与分析 王瑞雄(247)</p> <p>矿用柴油胶轮车安全运行检测系统开发 王景辉(250)</p> <p>●环保清洁能源技术</p> <p>韩家洼煤矿采空区水污染物溶解释放规律研究 * 王治文, 李艳龙, 孙建军, 等(254)</p>
---	---

Contents

Mining Technology

Study on Pressure Release Effect of Mining Protecting Strata in Steep Seam	Chen Bao, Zhang Kun, Pan Liwen, et al(1)
Test and Application of Roof Cutting Pressure Release Technology in Xusheng Colliery	Wu Zhaojun(6)
Application of Rapid Rock Drivage Technology in Large-section Rock Roadway	Hu Jiazen(10)
Research on Automatic Caving Technology Based on Gangue Signal Characteristics	Yao Shimao(13)
Practice of Fast Driving Technology for Coal Roadway in Mine	Wang Hantao(16)
Application of Closing Technology in Large Mining-height Fully-mechanized Working Face with Flexible Mesh in Dongqu Colliery	Yao Hongji(20)
Application of Grouting Reinforcement Technology in Roadway with Large Deformation in Deep Ground of Mine	Ye Dongsheng(23)
Application of the Integrated Construction Technology of Cut and Brushing Bolt-free Support	Guo Leilei(26)
Surrounding Rock Control of Equipment Remove Gateway in Water Goaf of Ciyaogou Colliery	Wang Yongmao(29)
Numerical Simulation Research on Roadside Packing Reinforcement Technology of Gob-side Entry Retaining	Zhang Baojun(33)
Application of Grouting Reinforcement Technology in Crossing Fault Area at Fully-mechanized Working Face	Li Yongbin(36)
Application of Upper-end Support in Intelligent Fully-mechanized Coal Face	Yang Jian,Zhang Kai,Chen Qiqi, et al(39)
Application of Hydraulic Fracturing Weakening Roof Technology in Initial Mining of 18402 Working Face	Zhanng Zhichao(43)
Simulation and Observation of Characteristics of Mine Pressure Behavior in Close-distance Coal Seam at Fully-mechanized Caving Face	Shi Hongbao(47)
Analysis on Mine Pressure Characteristics of Dismantling Supports Gateway in Extremely Thick Coal Seam at Fully-mechanized Caving Face	Zhai Zhenyu(50)
Application of Intelligent Rapid Excavation in Large Section Hard Rock Tunnel of Gaojiazhuang Colliery	Feng Xiuqing, Fu Yuping(54)
Application Practice of Hard Roof Treatment Scheme in Fully-mechanized Mining Face	Guo Gen(57)
Application of Medium-length Hole Blasting Technology in 14308 Fully-mechanized Coal Face of Xiqu Colliery	Tian Shuping(60)
Application of Combined Support Technology in End Face Broken Roof of Fully-mechanized Working Face	Wei Qiuyu(63)
Discussion on Coal Pillar Retention and Support in Goaf Roadway in Irregular Residual Mining Area	hang Shaofeng(66)
Application of Cutting Roof Pressure Relief Gob-side Entry Retaining Technology in Fully-mechanized Mining Face	Wang Ruifei(70)
Application Analysis of Roadway Supporting Technology with Soft and Broken Surrounding Rock Coal Seam	Wei Zhigang(73)
Application of Surrounding Rock Control in Small Coal Pillar Driving Along Gob in Fully-mechanized Caving Face	Wang Xiaobo, Fan Fan(76)
Analysis of Mine Pressure Behavior at Fully-mechanized Caving Face Based on Big Data in Zhongneng Coal Industry	Han Jie(80)
Optimization and Application of key Parameters for Rapid Excavation Coal Roadway Support	Gao Shuqiang, Fu Yuping(83)
Supporting Application Analysis of Drifting Tunnel Passing through Fault and Broken Zone	Wang Haijiang(87)
Preliminary Study on Paste Materials for Filling Mining Face in Jushan Colliery	Guo Zhiyong(90)
Successful Application of A New Type of Bolt in Xieqiao Colliery	Zhang Wuyi, Li Yuzong(93)
Application of Combined Support Technology in Rapid Crossing Old Roadway in Fully-mechanized Mining Face	Wu Yanlong(97)
Discussion on Support Technology for Large Section Roadways under Close Distance Coal Seam Goaf	Wang Jianwei(100)
Field Measurement Study on Distribution Face Length Effect of Advanced Abutment Pressure in Extra-thick Coal Seam	Ma Haijun(103)
Application of Roof Cutting Pressure Relief Roadway Excavation Technology in Thin-coal-seam Mining Face	Zhao Yiming(106)
Problems and Countermeasures of Hydraulic Support in Thin Coal Seam	Ma Yanwei(109)

Water Control Technology in Geological Survey

Analysis of Organic Geochemical Characteristics of Shale Gas in Hetang Formation of Northwest Jiangxi Province*	Wang He, Xiao Zishan(112)
Construction Analysis of Slope Geological Disaster Management Engineering	Zhao Huibing(116)
Discussion on Hydrogeological Conditions and Coal Mine Water Disasters in Hancheng Mining Area	

.....	Lou Weikun(120)
Geological Characteristics and Prospecting Direction of Luolong Tungsten Mine Area in Nankang District of Jiangxi Province	Han Yongshun, Jiao Xuan, Wu Zhongli(126)
A brief analysis of working face geophysical exploration and fault advance exploration	Yao Yuan, Feng Guodong, Liu Weixin(130)
Discussion on the Relationship between Topography and Geological Disasters in Chongyi County	Chen Chong, Wang Hongyong(133)
Practical Analysis of Geological Disaster Management Engineering for High and Steep Slope	Bai Jie(136)
Application of UAV Aerial Survey Technology in Topographic Mapping of Holsinghe Coal Industry ...	Wei Yunfeng(139)
Advanced Water Detection and Release Design at 5305 Working Face in Zengzifang Colliery	Liu Weijie(142)
Technical application of Directional Drilling Machine in Water Detection and Release	Zhang Wulong(146)
Practice on Separated Overlying Strata Grouting and Mining with Filling at 2307 Working Face in No. 2 Shaft of Zhaozhuang Colliery	Hua Wei(149)
Detection of Water Yield Property in Roof and Floor of 81517 Working Face in Hulonggou Colliery	Liu Pengcheng(152)
Study on Ground Subsidence Control by Separated Strata Grouting in Mining Overlying Strata at 3501 Working Face	Peng Hu(156)
Application of F-RFPA2D in Water Outburst Risk Analysis in Coal Seam Roof	Liang Jizeng(159)
Application of water control technology through faults in fully mechanized mining face	Miao Yao(163)

Ventilation Safety Technology

Influence Law of Particle Size on Coal Reignition Behavior Characteristics	Guo Zhiguo, Zhang Zhida, Zheng Biaohua(166)
Practice on Gas-water Atomization Dedusting Technology at Fully-mechanized Working Face of Malan Colliery	Liu Xianchen(169)
Study on Gas Sources and Prediction in Extraction Area of Gas Surface Wells in Goaf Area	Zou Hu(173)
Application of Comprehensive Gas Control Technology at Fully-mechanized Caving Face with Gob-side Retaining Roadway	Guo Silong(178)
Technical Application of Gas Drainage Reinforcement with Gas-phase Fracturing and Hydraulic Slotting*	Shen Junwei(181)
Application of Large Diameter Directional Drilling and Extraction Technology in 150317 Working Face ...	Li Zhenhua(184)
Application of Plugging Technology with Secondary Grouting in Gas Drainage Boreholes	Liu Yezhong(188)
Application of Comprehensive Gas Drainage Technology in Fully-mechanized Working Face in Yuxing Colliery	Sun Huiqing(191)
Application of Comprehensive Fire Prevention Technology at 15117 Fully-mechanized Working Face ...	Chen Wenbo(194)
Application Study on Numerical Simulation of Ventilation System Optimization in Daping Colliery	Zhang Xing(197)
Optimal Design and Application of Dust Suppression Device by spraying in Shearer	Zhang Xiaoya(201)

Electromechanical Informatization Technology

Design of Intelligent Fast Loading System for Coal Preparation Plant	Liu Jianhong(204)
Design and Verification of Tension Device in Extendable Belt Conveyor	Li Jiucheng(207)
Design and Implementation of Variable Frequency Drive Scheme for Belt Conveyor	Wang Xiaoya(210)
Application of Hydraulic Control Deviation Correction Device for Mine Belt Conveyor	Wang Lijun(213)
Research and Application of Remote Monitoring and Safety Guarantee Technology of Mining Winch	Zhao Yan(216)
Working Principle Analysis and Operation and Maintenance of Hydraulic System of Roadheader	Gu Qiqiang(219)
Application of Electronic Belt Scale on Belt Conveyor in Coal Preparation Plant	Shi Liangchao(222)
Application of Variable-frequency-integrated Electric Motor in Scraper Conveyor at Fully-mechanized Working face	Jin Zhanghao(225)
Design and Implementation of Intelligent Monitoring System for Coal Mine Substation	Wang Lei(227)
Research on Working Condition Monitoring and Alarm System in Main Ventilator	Ma Fangfang(230)
Study on Partial Discharge Detection Technology in Transformer	Xi Tengzhi(232)
Optimal Design of Control System for Cantilever Roadheader	Yu Zhang(235)
Research and Design of Patrol Inspection Robot System for Mining Belt Conveyor	Mi li(238)
Research on Optimal Design of Reducer Box Structure of Mining Hoist	Guo Yuan(241)
Key Technology Application of Intelligent Mining in Thin-seam Fully-mechanized Working Face ...	Yang Yanmin(244)
Research and Application of Unattended Mine Main Ventilator Technology	Wang Ruixiong(247)
Development of Safe Operation Detection System for Mining Diesel Rubber-wheeled Vehicles	Wang Jinghui(250)

Environmental Clean Energy Technology

Study on Pollutants Dissolution and Release Rules of Goaf Water in Hanjiawa Colliery	Wang Zhiwen, Li Yanlong, Sun Jianjun, et al(254)
--	--

中国标准连续出版物号:
ISSN 1006-2572
CN 36-1121/TD
定价: 25.00元