

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

2022

第4期 2022年11月出版

ISSN 1006-2572



9 771006 257224

1 1 >

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

江西煤炭科技

总第一百七十六期

二〇二二年十一月 第四期

江西煤炭科技

JIANGXI MEITAN KEJI

(季刊)

-----1979年创刊-----

2022年第4期(总第176期)

2022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 岑代全 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

主动治理断层技术在兴安煤矿的成功应用

..... 张秉德,李宝柱,连鸿全(1)

近距离煤层采空区下巷道围岩控制技术研究 张 鹏(5)

综放工作面后部运输机现场管理经验探讨 方志林(8)

浅埋煤层沿空掘巷窄煤柱合理宽度探讨 孟 瑞(11)

3204采面回采巷道锚杆全长锚固支护技术应用 ... 武东亮(14)

综放工作面回撤形成空间方案优选及应用实践 ... 郝少龙(18)

综采工作面快速过陷落柱工程技术实践 徐立志(21)

特厚煤层综放工作面小煤柱沿空掘巷技术应用 ... 李海龙(24)

新景矿工作面巷旁充填沿空留巷支护技术应用 ... 田晓龙(28)

综放面末采II梁+单体与锚网索支护比对分析 ... 康志强(31)

综采面运输巷机械化原巷充填采煤工艺研究 张重阳(34)

泥质胶结顶板条件下巷道围岩控制技术应用 丰臣甲(38)

斜沟煤矿岩石巷道悬臂综掘掘进技术应用 吴 鹏(40)

一采区回风巷断层带围岩控制技术方案的与应用 ... 廉 强(45)

煤矿井下巷道新型掘进技术的应用 张 永(48)

白洞矿综采工作面智能化采煤技术应用 严 鑫(52)

综采工作面回采巷道锚网索分次支护工艺研究 ... 王彦斌(55)

CO₂预裂爆破技术在马兰矿的应用 杨 威(58)

深部软岩大断面巷道底鼓防治技术应用 杨茂青(61)

近距离煤层孤岛工作面两侧煤柱留设宽度探讨 ... 郭腾飞(64)

回坡底煤矿掘进巷道支护方案优化探讨 房旭康(68)

东周窑矿沿空巷道煤柱留设与支护技术探讨 石艳阳(71)

台头前湾煤业高应力巷道底鼓控制技术实践 杨 博(74)

正令煤业回采巷道掘进过断层支护技术探讨 郭伟锋(77)

孤岛工作面小煤柱沿空送巷围岩控制技术探讨 ... 王 华(80)

墩柱加柔膜式沿空留巷护巷墩柱合理参数研究 ... 撒书一(83)

鹿台山煤矿切顶卸压沿空留巷技术应用 戎 鹏(87)

103综采面俯斜法过断层施工工艺 闫永青(91)

30301运输顺槽过采空区锚注加强支护技术应用 ... 樊殿鑫(94)

23111工作面顶板预裂爆破技术参数设计与应用 ... 连晓阳(97)

马道头煤矿回风联巷过断层安全技术应用 袁 斌(100)

下霍矿大断面大跨度切眼过断层支护技术探讨 ... 崔浩东(103)

古城煤矿N1302工作面顶板预裂技术应用 李航宇(105)

回采面采空区悬顶膨胀致裂切顶卸压技术应用 ... 张洪鹏(108)

前湾煤业2S201工作面回采巷道支护应用分析 ... 高铁柱(111)

孤岛工作面回采巷道支护技术应用探讨 常海军(115)

沿空掘巷扩帮充填墙参数设计与应用效果 徐 镇(118)

回采巷道补强注浆锚索超前支护技术应用 孙 端(121)

●地测防治水技术

曲江井田老山下亚段沉积环境及聚煤规律

..... 龚荣林,刘 慧(125)

洞村矿区地质构造条件及复杂性分析 ... 王 茜,张玉树(128)

无人机航摄技术在地质灾害中的应用——以乐平市鸬鹚乡为例

..... 聂 飞,徐贵兴(131)

Jiangxi Coal Science & Technology

JIANGXI MEITAN KEJI

(Quarterly)

-----Started in 1979-----

No. 4 2022 (Series No. 176)

November 2022

Responsible Institution

Jiangxi Bureau of Colliery Safety Supervision

Sponsor

Jiangxi Coal Society

Jiangxi Energy Group Limited company

Jiangxi Research Institute of Coal Industry

Jiangxi Research Institute of Coal Industry

Editorial and Publishing Dept.

Editorial Office of Jiangxi Coal Science & Technology

Address

No.23, Beijing east road, nanchang, jiangxi (330029)

Chief Editor Wu Yinfu

Responsible Editor Cen Daiquan Peng Chengxi

Tel/Fax (0791)88326754

E-mail jxmtkj@163.com

Issuance Scope Public Offering

Order Office

Order Office Editorial Office of Jiangxi Coal Science & Technology

Periodical Registration No.

CN 36-1121/TD
ISSN 1006-2572

License No. of Advertising

3600004000039

Printed by

Jiangxi morning light color printing & pre-pressing llc

List Price 25.00

沿空下山掘进巷井下探放水技术实践 李 扬(134)
综采工作面上方老空水治理技术分析与实践 ... 郭亮亮(137)
15103运输顺槽掘进探放水技术分析 刘海瑞(140)
老采空积水区下掘进巷道钻探技术应用分析 ... 赵少鹏(143)
81621工作面开采地表沉陷变形规律探析 崔 鑫(146)
南凹寺煤业顶板倾斜探水钻孔封孔技术优化 ... 冯鹏峥(149)
隔水层薄弱区混合注浆监测试验研究 张飞虹(152)
二₃-13170工作面水害综合治理技术研究与应用
..... 王 菲(155)

●通风安全技术

综放工作面连续低温注氮防火技术应用
..... 臧燕杰,杨彦龙(158)
浅析工贸企业有限空间作业风险与控制措施
..... 张 坤,邓小明,潘立文,等(162)
茂通煤业煤层瓦斯分布规律及涌出量预测 张志勇(166)
江西省重特大自然灾害事件的时空分布特征*
..... 郑美霞,鲍家兴(169)
特厚煤层综放工作面停采自燃事故分析及对策 ... 张 倩(174)
基于皮带秤的煤矿智能喷雾降尘装置的应用 ... 陈彦青(177)
注氮在小煤柱工作面邻近采空区瓦斯防治中应用
..... 李 晨(180)
深孔预裂爆破在工作面瓦斯抽采中的应用 郭育东(183)

●机电信息化技术

架空乘人装置一机两巷运输设计和实践
..... 张天山,程宝军,陈跃朋(185)
煤矿装车站智能控制系统设计与实现 李琳芸(188)
煤矿智能综合供电监控系统技术研究 李小东(192)
矿用液压支架姿态监测技术及系统研究 谢明明(195)
选煤厂洗选系统降低介耗技术研究 于 飞(198)
煤矿智能化工作面远程供液技术应用 和世江(201)
循环冷却水系统在胶带输送机中的应用 郭洪丽(204)
永磁变频直驱系统在煤矿胶带输送机中的应用 ... 李金翔(207)
基于PLC的煤矿液压支架电液控制系统研究和设计
..... 宋云霞(209)
浅谈煤矿智能化转型对企业管理的作用 管 璇(212)
煤泥在倾斜板窄通道中的分选研究和实践 张红霞(215)
煤矿典型电气事故分析及预防措施 李海昕(218)
防爆电动无轨胶轮车在井下的应用 王发桐(220)
矿井主通风机故障在线智能检测与诊断系统 ... 薛军军(223)
惠龙易通无车承运人运作模式研究* 杨文轩(226)
自动化集中控制系统在乐矿排水站的应用
..... 叶迪保,叶迪银(229)

●环保清洁能源技术

煤矸石组分特征及资源化利用现状分析 高凌峰(233)

●经营管理及其他

“电子封条”智能监管技术在煤矿安全监管中的应用探析
..... 梁秀龙(236)
煤矿安全文化氛围对安全绩效的影响 张 莹(239)
煤矿企业“网格化”安全包保管理办法探讨 姚文杰(242)

Contents

Mining Technology

Successful Application of Active Control Fault Technology in Xing'an Colliery	Zhang Bingde, Li Baozhu, Lian Hongquan(1)
Study on Roadway Surrounding Rock Control Technology under Close Distance Goaf	Zhang Peng(5)
Discussion on Experience of Field Management of Rearward Transport at Fully Mechanized Caving Face	Fang Zhilin(8)
Discussion on Reasonable Width of Narrow Coal Pillar for Gob-side Driving in Shallow Seam	Meng Rui(11)
Application of Full-length Anchoring Support Technology in Gateway of 3204 Mining Face	Wu Dongliang(14)
Optimization and Application Practice of Space Plan for Retraction at Fully Mechanized Caving Face	Hao Shaolong(18)
Engineering Technique Practice at Overriding Subsided Column at Fully Mechanized Working Face	Xu Lizhi(21)
Application of Gob-side Entry Driving Technology for Small Coal Pillars at Fully Mechanized Caving Face of Extra-thick Coal Seam	Li Hailong(24)
Application of Support Technology of Roadside Packing on Gob-side Entry Retaining in Xinjing Colliery	Tian Xiaolong(28)
Comparative Analysis of Traditional Support and Bolt-mesh-anchor Support at the End of Fully Mechanized Caving Face	Kang Zhiqiang(31)
Research on Coal Mining Technology of Mechanized Original Roadway Packing in Fully Mechanized Mining Face Transportation Roadway	Zhang Chongyang(34)
Application of Roadway Surrounding Rock Control Technology under the Condition of Resin Mudstone Roof	Feng Chenjia(38)
Application of Rapid Excavation Technology for Rocky Roadways in Xiegou colliery	Wu Peng(40)
Technical Scheme and Application of Surrounding Rock Control in the Fault Zone of Return Air Roadway in the First Mining Area	Lian Qiang(45)
Discussion and Application of New Excavation Technology for Underground Roadway in Coal Mine	Zhang Yong(48)
Application of Intelligent Mining Technology in Fully Mechanized Coal Face in Baidong Colliery	Yan Xin(52)
Research on Fractional Supporting Technology of Bolt-mesh-anchor at Gateway of Fully Mechanized Coal Face	Wang Yanbin(55)
Application of CO ₂ Presplitting Blasting Technology in Malan Colliery	Yang Wei(58)
Application of Floor Heave Prevention Technology in Deep Soft Rock and Large Section Roadw	Yang Maoqing(61)
Discussion on Reserve Width of Coal Pillars on Both Sides at Gateway in Island Coal Face of Close Distance Coal Seams	Guo Tengfei(64)
Discussion on Optimization of Excavation Roadway Support Scheme in Huipodi Colliery	Fang Xukang(68)
Discussion on Coal Pillar Reserve and Support Technology of Gob-side Entry in Dongzhouyao Colliery	Shi Yanyang(71)
Practice on Floor Heave Control Technology in High Stress Roadway of Taitouqianwan Coal Industry	Yang Bo(74)
Discussion on Support Technology of Mining Roadway Crossing Fault in Zhengling Coal Industry	Guo Weifeng(77)
Discussion on Surrounding Rock Control Technology of Small Coal Pillar Goaf Roadway in Isolated Island Working Face	Wang Hua(80)
Research on Reasonable Parameters of Gob-side Entry Retaining with Pier Column and Flexible Film - - -	Han Shuyi(83)
Application of Gob-side Entry Retaining Technology for Roof Cutting and Pressure in Lutaishan Colliery	Rong Peng(87)
Construction Technology of Crossing Fault by Rill Cutting in 103 Fully Mechanized Coal Face	Yan Yongqing(91)
Application of Bolt-grouting Reinforcement Supporting Technology of Crossing Goaf in 30301 Conveyor Gateway	Fan Dianxin(94)
Design and Application of Technical Parameters of Roof Presplitting Blasting in 23111 Working Face	Lian Xiaoyang(97)
Application of Safety Technology of Crossing Fault in Return Air Combined Roadway in Madaotou Colliery	Yuan Bin(100)
Discussion on support technology of large section and large span cut through fault of Xiahua Mine - - -	Cui Haodong(103)
Application of Roof Presplitting Technology in N1302 Working Face, Gucheng Colliery	Li Hangyu(105)
Application of Roof Cutting and Pressure Relief Technology for Overhanging Roof Expansion Fracturing in Goaf of Mining Face	Zhang Hongpeng(108)
Application Analysis of Roadway Support in 2S201 Working Face of Qianwan Coal Industry	Gao Tiezhu(111)
Discussion on Application of Supporting Technology for Mining Roadway in Isolated Island Working Face	Chang Haijun(115)
Parameter Design and Application Effect of Expanding Backfill Wall for Gob-side Entry Retaining	Xu Zhen(118)

Application of Advanced Supporting Technology of Supplement Grouting Anchor Cable
in Mining Roadway Sun Rui(121)

Water Control Technology in Geological Survey

Sedimentary Environment and Law of Coal Accumulation of Laoshanxia Subsection of Qujiang Minefield
..... Gong Ronglin, Liu Hui(125)

Analysis of Geological Structure Conditions and Complexity in Dongcun Mining Area
..... Wang Qian, Zhang Yushu(128)

Application of UAV Aerial Photography Technology in Geological Disasters
--Taking Luci Town of Leping City as an Example Nie Fei, Xu Guixing(131)

Practical Application of Underground Water Detection and Release Technology
for Roadway Driving along Next Goaf Li Yang(134)

Study on Goaf Water Control Technology at Fully-mechanized Working Face Guo Liangliang(137)

Analysis of Water Detection and Release in Driving at 15103 Conveyor Gateway Liu Hairui(140)

Application Analysis of Drilling Technology in Excavation Roadway under Goaf Water Area Zhao Shaopeng(143)

Discussion on Surface Subsidence Deformation Law in Mining at 81621 Working Face Cui Xin(146)

Optimization of Hole Sealing Technology in Roof-inclined Water Detection Drilling
In Nan'aosi Coal Industry Co. Feng Pengzheng(149)

Study on Composite Grouting Monitoring Test in Weak-Aquiclude Area Zhang Feihong(152)

Research And Application of Comprehensive Water Hazard Control Technology Wang Fei(155)

Ventilation Safety Technology

Application of Fire Prevention Technology with Continuous Low-temperature
Nitrogen Injection at Fully Mechanized Caving Face Zang Yanjie, Yang Yanlong(158)

Analysis of Operation Risk in Limited Space in Industry and Trade Enterprises and Control Measures
..... Zhang Kun, Deng Xiaoming, Pan Liwen, etc(162)

Prediction of Seam Gas Distribution Law and Emission in Maotong Coal Industry Co., Ltd. Zhang Zhiyong(166)

Spatial and Temporal Distribution Characteristics of Serious Natural Disasters
in Jiangxi Province Zheng Meixia, Bao Jiaying(169)

Analysis and Countermeasures of Spontaneous Combustion Accident during Mining Stoppage
at Fully-mechanized Caving Face with Extra-thick Coal Seam Zhang Qian(174)

Application of Intelligent Dust Suppression Spraying Device Based
on Belt Conveyor Scale in Mines Chen Yanqing(177)

Application of Nitrogen injection in Gas Control at Small-coal-pillar Working Face Adjacent to Goaf Li Chen(180)

Application of Deep-hole Pre-splitting blasting in Gas Drainage at Working Face Guo Yudong(183)

Electromechanical Informatization Technology

Design and Practice of "One Machine and Two Lanes" Transportation with Aerial Manned Device
..... Zhang Tianshan, Cheng Baojun, Chen Yuepeng(185)

Design and Realization of Intelligent Control System of Coal Mine Loading Station Li Linyun(188)

Study on Technology of Coal Mine Intelligent Integrated Power Supply Monitoring System Li Xiaodong(192)

Study on Attitude Monitoring Technology and System of Mining Hydraulic Support Xie Mingming(195)

Study on Medium Consumption Reduction Technology in Coal Washing System
Of Coal Preparation Plant Yu Fei(198)

Application of Remote Liquid Supply Technology at Intelligent Working Face of Mine He Shijiang(201)

Application of Circulating Cooling Water System in Belt Conveyor Guo Hongli(204)

Application of Permanent Magnet Frequency Conversion Direct Driving System
in Belt Conveyor of Coal Mine Li Jinxiang(207)

Study and Design of Electro-hydraulic Control System
in Coal Mine Hydraulic Support Based on PLC Song Yunxia(209)

Discussion of Significance of Intelligent Transformation of Coal Mine to Enterprise Management Guan Xuan(212)

Study and Practice on Slime Separation in Inclined-plate Narrow Tunnel Zhang Hongxia(215)

Analysis and Preventive Measures of Typical Electrical Accidents in Colliery Li Haixin(218)

Application of Explosion-proof Electric Trackless Rubber-wheel Vehicle in Underground Mine Wang Fatong(220)

Online Fault Detection and Diagnosis System of Mine Main Ventilator Xue Junjun(223)

Research on Operation Mode of Non-Truck Operating Common Carrier Of WELLONG ETOWN Yang Wenxuan(226)

Application of Automatic Centralized Control System in Drainage Station Ye Dibao, Ye Diyin(229)

Environmental Clean Energy Technology

Analysis of Composition Characteristics and Resource Utilization of Coal Gangue Gao Lingfeng(233)

Operating Management, etc.

Discussion on Application of Electric-Seal Intelligent Monitoring Technology
in Mine Safety Supervision Liang Xiulong(236)

Influence of Coal Mine Safety Culture Atmosphere on Safety Performance Zhang Ying(239)

Discussion on Management Method of "Grid" Safety Guarantee in Coal Mine Enterprises Yao Wenjie(242)