

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

1

2014

ISSN 1006-2572



万方数据

江西省煤炭学会  
江西省煤炭集团公司 主办  
江西省煤炭经济研究会  
江西省煤炭工业科研所

# Contents

## Colliery Safety

- Study on Gas Occurrence Regularity in 5<sup>-3</sup> Coal Seam ..... Ran Yongjin(1)  
Analysis of Gas Overrun Law at 2405 Working Face and Prevention Measures ..... Mao Guanghe, Wang Qiang, Gan Hailong(4)  
Determination of Gas Drainage Radius of Drilling Holes ..... Jiao Yanzhao, Zhan Huanan(6)  
Application of Long-distance Relay Ventilation Technology in Inclined Shaft Construction ..... Yi Xiangbao, Xu Siling(9)  
Hazard Prediction of Coal and Gas Outburst at 10103 Mining Face ..... Shu Weijun(12)

## Technology & Experience

- Driving Technology of Crossing Downgrade Section in Dewatering Lane  
with Soft Surrounding Rock ..... Zhang Shufeng, Zhang Tiansheng(14)  
Technology Research on Control of Floor Heave in Soft-rock Crossheading at Deep Mine Face ..... Zhang Guoping(16)  
Study on Strip Mining under Buildings in Longgu Colliery ..... Liu Zishan, Sun Jun(18)  
Study and Practice on Large-Cross-section Rapid Construction Technology of Raise Track ..... Wang Yong(21)  
Application Practice on Preventing Floor Heave by Pressure-relieve  
with Cutting Groove in Roadway Floor ..... Ma Zhiyong(23)  
Case Analysis of Bunker Rapid Restoration Technology ..... Jiang Xilin(25)  
Upgrading and Application of Multi-rope Friction Hoist in Vertical Shaft ..... Guo Chao, Liu Huibao(27)  
Application of Boom-type EBH-35 Roadheader in Zhenxing Colliery ..... Dui Yu(29)  
Improvement and Application of Forepoling-bar Ring in Shelving Roadway ..... Zhang Dong(31)  
Two Cases of Typical Trouble Shooting of Medium-frequency Power Supply ..... Gao Guojun(33)  
Transformation on Reducer in Belt Subinclined Shaft of Pinghu Colliery ..... Zou Hualin, Chen Guangjun, Zou Leihui(35)  
Technical Improvement on electric control system of Hoist in Linjiafang Colliery ..... Fang Hemin(37)  
Research and Application of Automatic Alarm Device for Car catcher in Inclined Roadway ..... Liu Xiaogang(39)  
Common Operation Faults and Treatment Methods of GPJ60A Pressure Filter ..... Liu Ruiqin(40)

## Topic Exposition

- Experimental Study on Static Load Properties of Bolt Anchorage ..... Yang Dangwei, Li Qingfeng, Ou Yi(43)  
Prediction of Water Inflow in 104 Mining Area of Suntuan Colliery ..... Meng Lingpu, Wang Laibin, Wang Jian, et al(47)  
Application of Rock Roadway Integrated Dust Removal Technology ..... Pei Zhiqiao, Su Juduan(49)  
Technical Analysis of End Support in Fully Mechanized Caving Face ..... Lu Hao(52)  
Discussion on Editing Method of 1,1000 Low Altitude Aerial  
Survey Topographic Map in Ningdu ..... Luo Fen, Tang Bingxiang, Huang Xia(54)  
Application of Total Station and VRS-RTK in Location Survey ..... Nie Fei, Jiang Meng(58)  
Application and Design of Roller Dam of Water Taking Construction in Power Plant ..... Huang Jialin, Fu Xuefeng(60)  
Analysis of the Production and Inhibition Method of Harmonic in Mine Power Supply System ..... Tian Yuhu(64)  
Application of Mine Cooling System in Suburban Mine ..... Li Bingyan, Niu Jinxing(66)  
The Comparative Study on Determining of Iron Content in Coal Ash  
by Atomic Absorption Spectrometry and Spectrophotometry ..... Wu Jinjing(69)

## Problem Probe

- Numerical Simulation of Pressure Relief and Anti-reflection of Roadway  
Excavation at Close Distance Coal Seam in Nuodong Colliery ..... Lian Hongquan, He Zhilong, Song Dazhao(72)  
Study on Relationship between Changbu-Xiyunshan Synclinal Form and Coal Seam in Lianhua County ..... Guo Wei(76)  
Probe into Technology of Roadway Support in Loose and Broken Strata ..... Liu Jingwei, Zhang Lei(79)  
Application of "Small Bench Construction" in Heading Excavation of Large Section ..... Li Songqiang, Hu Shaoyong(81)  
Analysis of Stratigraphic Age of Anyuan Formation, Luotian, Jishui County ..... Yin Hongmei(84)  
Seek Workable Seam in Guanshan Section by Roadway Exploration and Drilling ..... Sun Yang, Sun Yuli, Sun Senlin(87)  
Application Research on Roadway Support Technology on the Roof of Soft Rock ..... Wang Ailong(89)  
Analysis of Rock Pressure and Roof Management in Working Face in Coal Mines ..... Liu Haiqi(91)  
Crane coal ore - 450 m can be resistance to deformation of floor heave  
of winch the installation and application ..... Zhang Huisuo, Liu Baoguo, Jiu Jinxia(94)  
Discussion on Relations of Maximum Thickness of Colloidal Matter Layer and Caking Index ..... Li Guolan(96)

## Managing Management

- Application of Grey Relational Analysis in Performance  
Evaluation of Mine Safety Management ..... Lv Jinhui, Hu Yanmin, Li Yunxiao(98)  
Strategy Probe into Fund Refinement Management of Coal Enterprise ..... Xu Weihua, Liu Wei(101)  
Discussion on Fine Management in Outburst Prevention Prediction ..... Gao Guodong(103)  
Improving Economic Benefit of Aging Mine by Science and  
Technology Innovation ..... Qi Mingfeng, Han Changqiang, Miao Feng(106)  
Research on Coal Mine Safety Precaution and Management  
of the Electrical Equipments ..... Li Xiangwei, Zhang Haifang(109)

翻译:彭晓娟,应红雨

Translator: Peng Xiaojuan, Ying Hongyu

# 目次

## 煤矿安全

发耳煤业 5 <sup>-3</sup> 煤层瓦斯赋存规律研究 .....	冉永进(1)
朋古鲁煤矿 2405 工作面瓦斯超限的防治 .....	毛光和,王强,甘海龙(4)
孟津矿钻孔瓦斯抽放半径确定 .....	焦彦召,展华南(6)
斜井施工长距离接力通风技术的应用 .....	易香保,徐思凌(9)
丰龙 10103 工作面煤与瓦斯突出危险性预测 .....	舒伟君(12)

## 技术经验

软弱围岩疏水巷过煤层下坡段掘进技术 .....	张树峰,张天胜(14)
深井工作面软岩顺槽底鼓控制技术研究 .....	张国平(16)
龙固煤矿建筑物下条带开采研究 .....	刘兹山,孙军(18)
轨道上山大断面快速施工工艺研究与实践 .....	王勇(21)
巷道底板切槽卸压防治底鼓的应用实践 .....	马智勇(23)
煤仓快速修复技术实例分析 .....	姜喜林(25)
竖井多绳摩擦轮提升机升级改造与应用 .....	郭超,刘会宝(27)
EBH-35 小型掘进机在振兴矿的应用 .....	兑宇(29)
架棚巷道前探梁吊环的改进与应用 .....	张栋(31)
中频电源典型故障检修 2 例 .....	高国军(33)
坪湖煤矿皮带暗斜井减速器改造 .....	邹华林,陈光俊,邹雷辉(35)
林家坊矿提升机电控系统的技术改进 .....	方和敏(37)
斜巷捕车器自动报警装置的研制及应用 .....	刘小刚(39)
GPJ60A 加压过滤器常见故障及处理 .....	刘瑞芹(40)

## 专题论述

锚杆锚固静载特性试验研究 .....	杨党委,李青锋,欧懿(43)
孙疃煤矿 104 采区涌水量预测 .....	孟令谱,王来斌,王建,等(47)
岩巷综掘粉尘防治技术的应用 .....	裴治巧,苏举端(49)
综放工作面端头支护技术分析 .....	芦浩(52)
宁都 1:1000 低空航测地形图的编辑方法 .....	罗芬,唐冰香,黄霞(54)
全站仪和 VRS-RTK 在定位测量中的应用 .....	聂飞,江萌(58)
火电厂取水配套工程滚水坝的设计及应用 .....	黄家林,付学锋(60)
浅析矿井供电系统中谐波的产生及抑制方法 .....	田玉虎(64)
矿井降温系统在城郊煤矿的应用 .....	李丙炎,牛金星(66)
原子吸收法与分光光度法测煤灰中铁含量比对研究 .....	武晋晶(69)

## 问题探讨

近距离煤层煤巷掘进卸压增透效果数值模拟 .....	连洪全,何志龙,宋大钊(72)
莲花县长埠—西云山向斜形态与煤层关系初探 .....	郭伟(76)
松散、破碎岩层巷道支护技术探讨 .....	刘景伟,张磊(79)
“小台阶施工”在大断面煤巷掘进中的应用 .....	李松强,胡绍勇(81)
吉水县螺田安源组地层时代的析疑 .....	殷红梅(84)
利用巷探和钻探在官山段寻找可采煤层 .....	孙阳,孙玉礼,孙森林(87)
软岩顶板煤巷支护技术应用研究 .....	王爱龙(89)
试析煤矿回采工作面矿压与顶板管理 .....	刘海旗(91)
鹤煤五矿—450m 抗底鼓变形绞车安装应用 .....	张会所,刘保国,酒金霞(94)

### 经营管理

灰色关联分析在安全管理绩效评价中的应用 ..... 吕金辉,胡彦敏,李云晓(98)

煤炭企业资金精细化管理战略初探 ..... 徐卫华,刘伟(101)

浅谈防突预测过程的精细化管理 ..... 高国栋(103)

以科技创新提高衰老矿井经济效益 ..... 祁明峰,韩昌强,苗锋(106)

煤矿电气设备安全管理浅析 ..... 李向伟,张海芳(109)

## 江西煤炭科技编辑部声明

为适应我国信息化建设,扩大本刊及作者知识信息交流渠道,本刊已和有关数据库合作,其作者文章著作权使用费与本刊稿酬一次性付给(已在论文发表版面费中扣除)。作者向本刊提交文章发表的行为即视为同意我部上述声明。

### 本刊编辑工作委员会

**总顾问** 李良仕 贺爱民  
**顾问** 李松 彭志祥 胡圣辉 樊飞 罗庆贺 徐开云 胡立俭 刘建高 付春生 王正萍 肖华辉  
 邱文奎 陈宗辉 陈水松  
**主任** 张慎勇 **副主任** 郭正义  
**委员** 林国尧 余子兵 兰祖良 蒋荣 刘富生 舒桂德 吴庭龙 李春发 刘效贤 何家发 刘振春  
 吴安德 袁安辉 王明贵 项元海 胡中祺  
**协办单位** 萍乡矿业集团有限责任公司 丰城矿务局 江西省煤田地质局 江西新余矿业有限责任公司  
 乐平矿务局 中鼎国际工程有限责任公司 江西中煤科技有限责任公司 江西工业工程职业技术学院  
 江西煤矿安全培训中心 江西煤矿矿用产品检验中心 江西众一集团公司 武宁县煤矿 横峰县铺前煤矿  
 江西煤炭科技季刊(1979年创刊) JIANGXI COAL SCIENCE & TECHNOLOGY Quarterly(Started in 1979)  
 2014年第1期(总第141期)2014年2月出版 No. 1 2014 (Series No. 141) February 2014

<b>主管</b>	江西煤矿安全监察局	<b>Responsible Institution</b>	Jiangxi Bureau of Colliery Safety Supervision
<b>主办</b>	江西省煤炭学会 江西省煤炭集团公司 江西省煤炭经济研究会 江西省煤炭工业研究所	<b>Sponsor</b>	Jiangxi Coal Society Jiangxi Coal Group Ltd Jiangxi Coal Economy Association Jiangxi Research Institute of Coal Industry
<b>编辑出版</b>	《江西煤炭科技》编辑部	<b>Editorial and Publishing Dept.</b>	Editorial Office of Jiangxi Coal Science & Technology
<b>主编</b>	郭正义	<b>Chief Editor</b>	Guo Zhengyi
<b>责任编辑</b>	胡中祺	<b>Responsible Editor</b>	Hu Zhongqi
<b>地址</b>	南昌市北京东路23号(330029)	<b>Address</b>	23 Beijing East Street, Nanchang, China (Postcode 330029)
<b>电话/传真</b>	(0791)88326754/87151362	<b>Tel/Fax</b>	(0791)88326754/87151362
<b>电子信箱</b>	jxmtkj@163.com	<b>E-mail</b>	jxmtkj@163.com
<b>印刷</b>	江西省人大印刷厂	<b>Printed by</b>	Printing House of Jiangxi People's Congress
<b>发行范围</b>	公开发行	<b>Issuing Scope</b>	Public Distribution
<b>订购处</b>	《江西煤炭科技》编辑部	<b>Order Office</b>	Editorial Office of Jiangxi Coal Science & Technology

刊号 ISSN1006-2572 广告经营许可证号 3600004000039 定价 12.50元  
 Publication No. CN36-1121/TD License No. of Advertisin List Price



刊号 ISSN 1006-2572  
CN 36-1121/TD

定价：12.50 元