

# 目次 MUCI

# 煤矿安全

MEIKUANG ANQUAN

月刊(1970年创刊)

2010年第4期

第41卷(总第426期)

## 主管单位

煤炭科学研究院沈阳研究院

## 主办单位

煤炭科学研究院沈阳研究院

中国煤炭工业劳动保护科学技术学会

主 编	罗海珠
副 主 编	梁绍权 金丽华
执行编辑	王福厚
广告主管	金丽华
发行主管	刘明智

出版单位 《煤矿安全》编辑部  
地 址 辽宁省抚顺市经济开发区  
顺大街北段 9 号

邮政编码 113122

电 话 (0413)6616988 6616981

传 真 (0413)6616987 6616881

电子信箱 mkaq@163.com(稿件)  
mkaqgg@163.com(广告)

网 址 mkaq.chinajournal.net.cn

发行范围 国内发行

发行单位 《煤矿安全》编辑部

或全国各地邮局

邮发代号 8-293

印刷单位 煤炭科学研究院沈阳  
研究院胶版印刷厂

刊 号 ISSN 1003-496X  
CN 21-1232/TD

广告经营许可证号 2104004000017

商标注册证 第 1144537 号

出版日期 每月 10 日  
定 价 15.00 元

本刊广告总代理 北京嘉诚禾力  
广告有限公司  
电 话 010-51638371

## 试验研究

- 基于吸附分理论的煤对 N<sub>2</sub> 吸附特性的研究 ..... 杨宏民,于保种,王兆丰(1)  
吸附压力对瓦斯放散初速度( $\Delta P$ )测定的影响研究 ..... 康建宁(4)  
矿用有机固化泡沫配方研究 ..... 奚志林,王德明,郭新安,等(6)  
煤矿用聚氨酯泡沫塑料的改性 ..... 刘超,谭允桢,李雪连(10)  
工作面不同采高与导水裂隙带高度关系研究 ..... 刘洋(13)  
开切眼支护解除条件下巷道稳定性数值模拟 ..... 李强(18)

## 技术经验

- 李沟煤矿与瓦斯突出区域预测指标及临界值的确定 ..... 孟中泽,潘少杰,郝富昌,等(22)  
深井高温煤层注水防尘技术 ..... 陈金玉(25)  
煤矿炮掘工作面综合防尘实践 ..... 王涛,程子华,崔石磊(28)  
西庞煤矿采空区遇煤复采煤层自燃火灾的防治 ..... 马威,米楚明,王祥(31)  
泵送充填构筑密闭墙技术的应用 ..... 黄玉诚,靳建顺,耿向慧,等(34)  
大兴矿煤自然发火标志气体指标体系 ..... 宋双林,武勇,张卫亮(36)  
王台矿 2304 采面自然“三带”观测及数值模拟 ..... 干家学,潘荣锯,余明高(39)

- 易自燃厚煤层综放面低速推进条件下煤自燃预防技术 ..... 崔小伟,段义斌,杨联恒,等(43)  
特厚煤层综放开采煤岩冒放规律及放煤工艺 ..... 李成喜,章磊,干益品,等(46)

- 软岩巷道间隔破裂特征及控制 ..... 干益品,章磊,张军,等(49)  
基于地音监测技术的冲击危险性预测 ..... 王元杰,齐庆新,毛德兵,等(51)  
沿空留巷高预紧力锚杆支护技术实践 ..... 武海(55)  
深部高应力煤层群开采沿空掘巷技术应用 ..... 蒋世杰(58)  
风氧化带复合顶板大跨度切眼锚索网支护设计 ..... 李晓斌(61)  
冲击地压矿井大断面复合支护巷道快速掘进技术 ..... 别小飞,张帅(64)  
成套综放设备在高瓦斯复燃工作面的快速修复技术 ..... 朱海洲,马先滨,高玉涛(67)

- 复杂地质条件下矿井安全高效开采地质保障技术 ..... 张世阔,曹思华(70)  
井下湿度传感器的设计 ..... 王志达,华钢,张锦锦,等(73)  
煤矿炸药生产专用对辊式破碎机安全性研究 ..... 王忠生,陈之林(78)  
煤矿井下点线结合的监测和救援数据采集装置 ..... 程德龙,苑晓东,周仲伟,等(81)

- 矿井排水智能控制方法 ..... 史丽萍,刘志远,梁经宛,等(83)  
基于 Wi-Fi 技术的矿井无线通信系统的设计与应用 ..... 孙维(87)  
Hilbert 变换在超声波旋涡式风速传感器的应用 ..... 谢芳,王泰芳(90)  
PCCS-II 集中控制系统在选煤厂的应用 ..... 杨慧丽(93)  
煤矿井下电气绝缘热延伸试验分析 ..... 杨春丽,祖国林,富宝灿(96)

## 问题探讨

- 钻孔瓦斯涌出初速度指标的影响因素分析 ..... 仇海生,曹吉林,都锋,等(99)  
煤层钻孔瓦斯有效排放半径测试方法的实验探讨 ..... 米东峰,张瑞林(102)  
矿井瓦斯爆炸下巷道内的对流换热系数的探讨分析 ..... 段玉龙,周心权,王海燕,等(105)  
龙滩煤矿 K<sub>1</sub> 煤层瓦斯含量控制因素分析 ..... 王永周,崔洪庆,张子敏(109)  
松软突变型煤层螺旋钻进工艺发展 ..... 马沈岐,王力,李乔乔(112)  
煤中水分对煤吸附甲烷量的影响 ..... 陈洋,陈大力,罗海珠(117)  
一次煤与瓦斯动力现象的分析与思考 ..... 石德忠(120)  
高应力软岩返修巷道支护技术与监测结果分析 ..... 徐海鹏,冯超,王博,等(123)

- 大倾角特厚煤层倾斜分层开采地表沉陷预测分析 ..... 齐俊德(126)  
急倾斜煤层开采沉陷的数值模拟 ..... 信晓东(129)

- 运行中南屯矿 35 kV 级开关柜及进线方式改造 ..... 王光生,刘士刚,韩洪彬,等(133)  
浅析带式输送机常见的几种故障原因及处理措施 ..... 李凯,孙传军,张强,等(136)

- 井下工线广播传输特性的分析 ..... 陈鹏,曾伟,郭华(138)

## 安全监察与管理

- 从火灾隐患治理到安全管理的探讨与对策 ..... 苗润田,周松江(142)  
建立煤矿违章的安全心理分析模式 ..... 吴彩虹,李志伟,周心权,等(145)  
煤矿企业互惠性安全文化解析 ..... 董晓波,张同建,谭章禄(148)  
基于 4M 煤矿本质安全管理评价指标体系建立的探讨 ..... 吴金刚,于红(151)  
开展瓦斯治理攻坚 保证煤矿安全生产 ..... 刘俊文(154)  
实施流程细化管理 推动矿井安全发展 ..... 孙洪峰(157)  
日本煤炭产业安全生产体系的形成 ..... 章黎明(159)

# CONTENTS

## Test and Research

- Study on Adsorption Characteristic of Coal to Nitrogen Based on Adsorption Potential Theory ..... YANG Hong-min,YU Bao-zhong,WANG Zhao-feng(1)  
Influence Study on Initial Speed of Methane Diffusion by Adsorption Pressure ..... KANG Jian-ning(4)  
Formula Research of Mineral Product Organic Solidification Foam ..... XI Zhu-jin,WANG De-ming,GUO Xin-an,et al(6)  
The Modification of Polyurethane Foam in Coal Mine ..... LIU Chao,TAN Yun-zhen,JI Xue-jian(10)  
Research on Relationship between Different Width of Working Faces and Height of Water-Flowing Fractured Zone ..... LIU Yang(13)  
Research on Numerical Simulation of Stability of Surrounding Roadway under Condition of Bolt Top Support in Open-off Cut ..... LI Qiang(18)

## Technology Experiences

- The Determination of Coal and Gas Outburst Prediction Indice and The Critical Value of Regional Studies in Ligou Mine ..... MENG Zhong-ze,PAN Shao-jie,HAO Fu-chang,et al(22)  
Technology of Water Rejection for Preventing Dust in High-temperature and Deep Shaft ..... CHEN Jin-yu(25)  
Practice of Comprehensive Preventing Dust in Excavation Face of Roadway ..... WANG Tao,CHENG Zi-hua,CUI Shi-lei(28)  
The Prevention of Spontaneous Combustion in Residual Coal Mining Complex Seam of Gob in Xipang Coal Mine ..... MA Wei,MI Chu-ming,WANG Xiang(31)  
The Application on Building Closed Wall by Pumping Filling ..... HUANG Yu-cheng,JIU Jian-shun,GENG Xiang-hui,et al(34)  
Study on the Index System of Mark Gases for Spontaneous Combustion of Daxing Coalmine in China ..... SONG Shuang-lin,WU Yong,ZHANG Wei-hang(36)  
Measure and Numerical Simulation about the Spontaneous Ignition "Three Bands" in Face 2304 of Wang-tai Mine ..... WANG Jia-xue,PAN Rong-kun,YU Ming-gao(39)  
The Research and Application of the Coal Spontaneous Combustion Prevention Techniques of The Easy Spontaneous Combustion Thick Seam under the Low Speed Advancement Condition in the Fully Mechanized Caving face ..... ZHAI Xiao-wei,DUAN You-min,YANG Lian-jing,et al(43)  
Research the Law of Coal Caving and Technology of Drawing Coal in Top-Coal Caving of Extremely Thick Coal Seam ..... LI Cheng-xi,ZHANG Lei,WANG Yi-ping,et al(46)  
Research on the Characteristics of Interval Fracture and Control of Soft Roadway ..... WANG Yi-pn,WANG Lei,ZHANG Jun,et al(49)  
The Impact of Risk Prediction Based on Sound Monitoring Technology ..... WANG Yuan-jie,QI Qing-xin,MAO De-hing,et al(52)  
The Practice of High Preload Bolting Technology along Gob ..... WU Hai(55)  
Application of Mining Technology Along Gob in High Press and Deep Coal Seams ..... JIANG Shi-jie(58)

- The Design to Large Span Cut Anchor and Mesh of Compound Roof in Wind Oxidation Zone ..... LI Xiao-bin(61)  
The Rapid Excavation Technology of Large Section Compound Support Roadway in Pressure Bump Mine ..... BIE Xiao-fei,ZHANG Shuai(64)  
The Rapid Repairing Technology of Complete Sets of Equipment in High-Gas-Coal and easy-Reignition Caving Face ..... ZHOU Hai-zhou,MA Xian-bin,GAO Yu-tao(67)  
The Technology of Mine Safety and efficient Mining Geology Assurance under Complicated Geological Conditions ..... ZHANG Shi-kuo,CAO Si-hua(70)  
Design of Underground Humidity Sensor ..... WANG Zhi-Da,HUA Gang,ZHANG Jin-Jin,et al(73)  
The Safety Study of Roll Crusher Dedicated in Mine Explosives Production ..... WANG Zhang-sheng,CHEN Zhi-lin(78)  
A Kind of Device of Monitoring and Succoring of "Point-To-Line" Pattern in The Coal Mine ..... CHENG De-long,YUAN Xiao-dong,ZHOU Zhong-wei,et al(81)  
Research of Mine Draining Intelligent Control Method ..... SHI Li-ping,JIU Zhi-yuan,LIANG Jing-wan,et al(83)  
Design and Application of Mine Wireless Communication System Based on Wi-Fi Technology ..... SUN Wei(87)  
Application of Hilbert Demodulation to Supersonic Vortex Sensor ..... XIE Fang,WANG Su-fang(90)  
Application of PCCS-II Centralized Control System in Coal Preparation Plant ..... YANG Hui-li(93)  
Analysis for The Test of Hot Set About Insulation of XLPE Cables Used in Mines ..... YANG Chun-li,ZU Guo-lin,FU Bao-can(96)

## Issue Discussion

- Impact of the Indicators of Initial Velocity of Gas Emission from Boreholes Analysis ..... QIU Hai-sheng,CAO Yao-lin,DU Feng,et al(99)  
Research on Approaches to Measure the Effective Ranges for Methane Releasing of Borehole within Coal-seam ..... SONG Dong-feng,ZHANG Rui-lin(102)  
The Analysis of convection Heat Transfer Coefficient Produced by Methane Explosion Flame in Laneway ..... DUAN Yu-long,ZHOU Xin-quan,WANG Hai-xin,et al(105)  
Analysis on Control Factors of Gas Content of No.K-1 Coal Bed in Longtan Mine ..... WANG Yong-zhou,CUI Hong-qing,ZHANG Zi-min(109)  
The Development of Auger Drilling Technology in Soft Outbursting Coalbeds ..... MA Shen-q, WANG Li,Li Qiao-qiao(112)  
The Influence of Coal Moisture on the Methane Adsorption ..... CHEN Yang,CHEN Da-li,LUO Hai-zhu(117)  
The Analysis and Thought of A Coal and Gas Dynamic Phenomena ..... SHI De-zhong(120)  
Analysis on Support and Monitoring of High Stress Soft Rock Repairing Roadway ..... XI Hai-peng,CHENG Chao,WANG Bo,et al(123)  
Study of Surface Subsidence Forecasting about Inclined Stratification in Inclined Thick Coal Seam ..... QI Jun-de(126)  
The Numerical Simulation of Mining Subsidence in Steep Coal Seam ..... XIN Xiao-dong(129)  
The Modification of 35 kV Class Switch Cabinet and Power into the Line in Nantun Coal Mine ..... WANG Guang-sheng,LIU Shi-gang,HAN Hong-jin,et al(133)  
Analysis of Several Common Default Causes and treatment Mea-sure of Belt Conveyor ..... LI Kai, SU Chuan-jun,ZHANG Qiang,et al(136)  
Analysis of Mine Wireless Signal Propagation Characteristic ..... CHEN Peng,ZENG Wei,GUO Hua(138)

## Safety Supervision and Management

- The Discussion and Countermeasures of The Safety Management in Resources-Intergrated Mine Shaft ..... MIAO Run-tian,ZHOU Song-jiang(142)  
The Establishment of Safety Psychological Analysis Model of Mine Violation ..... WU Cai-hong,LI Zhu-weizh,ZHOU Xin-quan,et al(145)  
Analysis of Reciprocal Safety Culture in Coal Mining Enterprises ..... DONG Xiao-bo,ZHANG Tong-jian,TAN Zhang-lu(148)  
The Discussion of Establishing Intrinsic Safety Management Evaluation Index System Based 4M in Coal Mine ..... WU Jin-gang,YU Hong(151)  
Carrying Out Gas Control to Ensure Safety in Coal Mines ..... LI Jun-wen(154)  
The Implementation of Refinement Process Management to Promote the Development of Mine Safety ..... SUN Hong-feng(157)  
The Formation of Safe Production System in Coal Industry of Japan ..... ZHANG Li-ming(159)

## SAFETY

## in COAL MINES

Monthly(Started in 1970)

April 2010

Vol.41, No.4(Total 426)

## Competent Authority

Shenyang Branch of CCRI

## Sponsor

Shenyang Branch of CCRI  
China Coal Industry Institute of Labour-Protection Science and Technology

### Chief Editor

LUO Hai-zhu

### Deputy Chief Editor

LIANG Shao-quan

JIN Li-hua

### Executive Editor

WANG Fu-hou

### Advertisement Manager

JIN Li-hua

### Distribution Manager

LIU Ming-zhi

### Editor and Publisher

Editorial Office of  
《SAFETY in COAL MINES》

### Address

No.9 Northern Section of  
Shunda Street,Fushun Economic  
Developing-area,Liaoning,China

### Post code

113122

### Tel

86-413-6616988 6616981

### Fax

86-413-6616987 6616981

### E-Mail

mkaq@163.com (manuscript )  
mkaqgg@163.com (advertisement )

### Website

mkaq.chinajournal.net.cn

### Issuer

Domestically Distributed

### Subscribe(to)

Editorial Office of  
《SAFETY in COAL MINES》  
or Local Post Offices

### Postal Distribution Code

8-293

### Printed by

Offset Printing Factory of  
Shenyang Branch of CCRI

### Periodical Registration No.

ISSN 1003-496X  
CN 21-1232/TD

### Advertisement Licence

No.2104004000017

### Trademark Registered

### Certificate

No.1144537

### Publishing Date

the 10th day of each  
month

### Price

15 yuan

### Advertisement Agency

BeijingJiacheng

Heli Advertisemeng CO.,Ltd.

### Tel

86-10-51638371