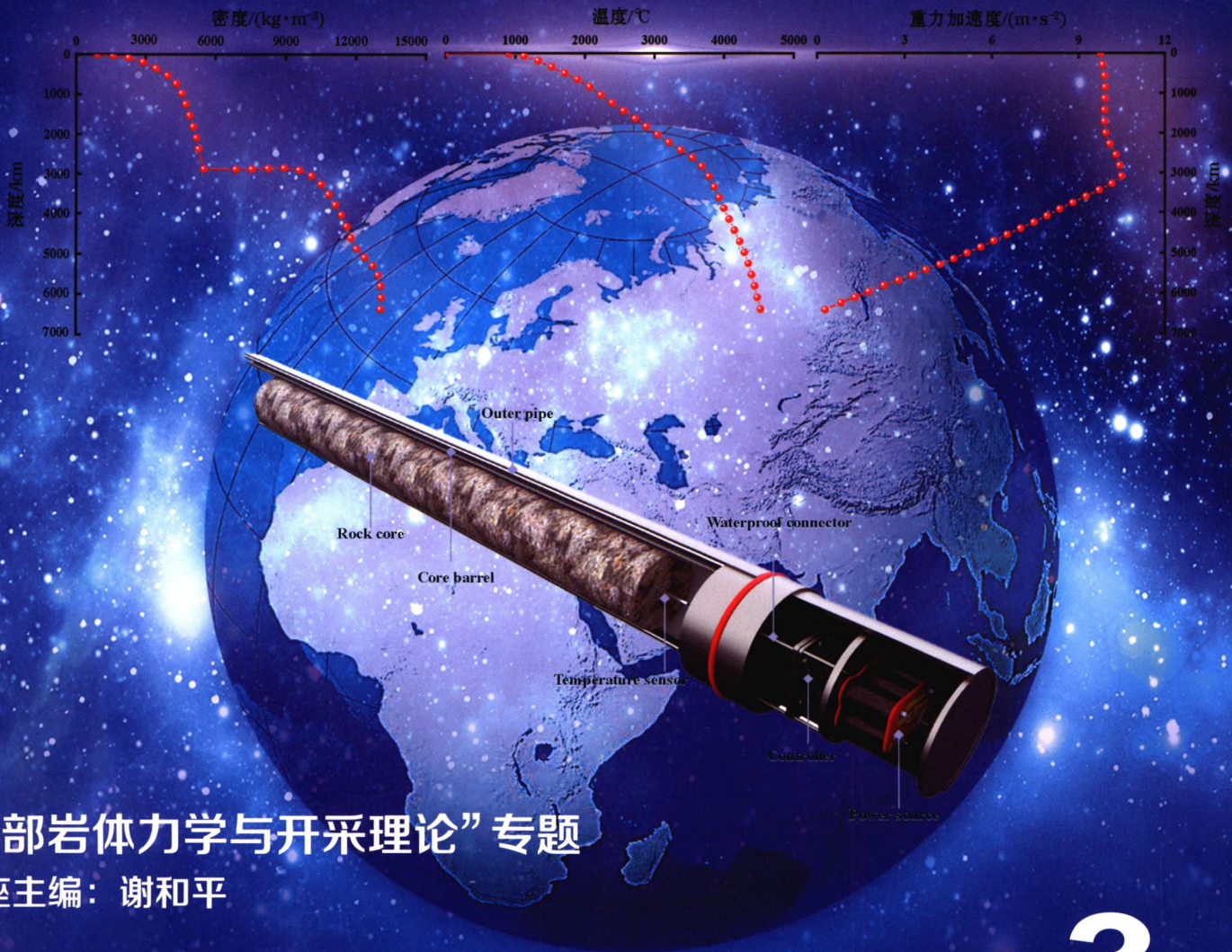


煤炭学报

啓功題

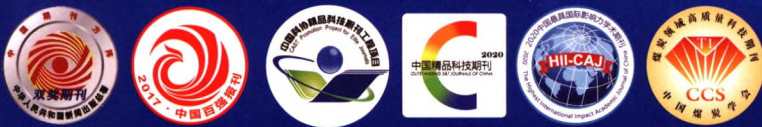
JOURNAL OF CHINA COAL SOCIETY



3

2021

第46卷 第3期
2021年3月出版



ISSN 0253-9993



中国科学技术协会 主管

中国煤炭学会 主办

“深部岩体力学与开采理论”专题

深部不同深度岩石脆延转化力学行为研究 谢和平,高明忠,付成行,等(701)

深部采动响应与灾害防控研究进展 袁亮(716)

深部建井力学研究进展 何满潮(726)

煤矿千米深井巷道松软煤体高压锚注-喷浆协同控制技术 康红普,姜鹏飞,杨建威,等(747)

深井厚煤层长工作面支护应力特性及分区协同控制技术 王国法,张金虎,徐亚军,等(763)

采煤机自主导航截割原理及关键技术 葛世荣,郝雪弟,田凯,等(774)

煤矿冲击地压发生理论公式 潘一山,代连朋(789)

大空间坚硬顶板地面压裂技术与应用 于斌,高瑞,夏彬伟,等(800)

煤尘微细观润湿特性及抑尘剂研发初探——以平顶山矿区为例 张建国,李红梅,刘依婷,等(812)

深部矿产资源开采矿井建设模式及其关键技术 刘志强,宋朝阳,纪洪广,等(826)

基于动静组合加载力学试验的深部开采岩石力学研究进展与展望 李夕兵,宫凤强(846)

深部煤体注水过程中渗流通道演化特征 周宏伟,刘泽霖,孙晓彤,等(867)

地面定向井+水力割缝卸压方法高效开发深部煤层气探讨 卢义玉,李瑞,鲜学福,等(876)

深部煤矿原位保压保瓦斯取芯原理与技术探索 高明忠,陈领,凡东,等(885)

温度-围压-瓦斯压力作用下煤岩力学性质及有限变形行为 高亚楠,高峰,谢晶,等(898)

深部裂隙煤岩体变形破坏机理及高压注浆改性强化试验研究 李文洲,康红普,姜志云,等(912)

碎软煤层韧性破坏-渗流耦合本构关系及其间接压裂工程验证 李浩,梁卫国,李国富,等(924)

基于实时CT扫描的岩石真三轴条件下三维破裂演化规律 李兆霖,王连国,姜崇扬,等(937)

交叉·前沿

基于井下生态保护的煤矿职业健康防护理论与技术体系 顾大钊,李全生(950)

安全科学与工程

- 预制钻孔煤样冲击倾向性及能量耗散规律 王爱文,高乾书,潘一山,等(959)
- 综掘工作面不同截割方式下的最佳风场调控规则 樊晓燕,韩 郑,薛 河,等(973)
- 基于 WOA-ELM 算法的矿井突水水源快速判别模型 董东林,陈昱吟,倪林根,等(984)

煤与煤系气地质与勘查

- 生物成气中离子和微量元素变化特征及健康风险评价 武 俐,王海坡,李 鹏,等(994)
- 考虑多因素的页岩气吸附模型——以川东南五峰组—龙马溪组页岩为例
..... 李爱芬,韩文成,孙 海,等(1003)
- 鄂西地区五峰组—龙马溪组岩石相与页岩气富集关系分析——以鄂红地 1 井为例
..... 何 伟,陈 杨,雷玉雪,等(1014)

煤炭加工与利用

- 高阳炼焦煤碳、氧结构研究与光谱学表征 葛 涛,WANG Meng,李 芬,等(1024)
- 内外二次风量比对逆喷旋流燃烧器特性的影响 贾 楠,牛 芳,王鹏涛,等(1032)
- 气流床气化炉辐射废锅内灰渣的力学性能实验研究 邵琳涛,刘崇国,江灿成,等(1039)

矿山环境保护

- 长期不同施肥复垦土壤大团聚体中各有机碳组分的变化特征 曹寒冰,谢钧宇,洪坚平(1046)
- 蛇纹石负载羟基磷灰石对矿区地下水中氟、铁和锰的动态吸附性能 李喜林,于晓婉,李 磊,等(1056)

CONTENTS

Mechanical behavior of brittle-ductile transition in rocks at different depths
 XIE Heping, GAO Mingzhong, FU Chenghang, et al (701)

Research progress of mining response and disaster prevention and control in deep coal mines
 YUAN Liang (716)

Research progress of deep shaft construction mechanics HE Manchao (726)

Roadway soft coal control technology by means of grouting bolts with high pressure-shotcreting in synergy in
 more than 1 000 m deep coal mines KANG Hongpu, JIANG Pengfei, YANG Jianwei, et al (747)

Supporting stress characteristics and zonal cooperative control technology of long working face in deep
 thick coal seam WANG Guofa, ZHANG Jinhu, XU Yajun, et al (763)

Principle and key technology of autonomous navigation cutting for deep coal seam
 GE Shirong, HAO Xuedi, TIAN Kai, et al (774)

Theoretical formula of rock burst in coal mines PAN Yishan, DAI Lianpeng (789)

Ground fracturing technology and application of hard roof in large space
 YU Bin, GAO Rui, XIA Binwei, et al (800)

Micro-wetting characteristics of coal dust and preliminary study on the development of dust suppressant in
 Pingdingshan mining area ZHANG Jianguo, LI Hongmei, LIU Yiting, et al (812)

Construction mode and key technology of mining shaft engineering for deep mineral resources
 LIU Zhiqiang, SONG Zhaoyang, JI Hongguang, et al (826)

Research progress and prospect of deep mining rock mechanics based on coupled static-dynamic loading testing
 LI Xibing, GONG Fengqiang (846)

Evolution characteristics of seepage channel during water infusion in deep coal samples
 ZHOU Hongwei, LIU Zelin, SUN Xiaotong, et al (867)

Discussion on the efficient exploitation method of deep coalbed methane with pressure relief by ground
 directional well+hydraulic slotting LU Yiyu, LI Rui, XIAN Xuefu, et al (876)

Principle and technology of coring with in-situ pressure and gas maintaining in deep coal mine
 GAO Mingzhong, CHEN Ling, FAN Dong, et al (885)

Mechanical properties and finite deformation behavior of coal under temperature, confining pressure and
 gas pressure GAO Yanan, GAO Feng, XIE Jing, et al (898)

- Deformation failure mechanism of fractured deep coal-rock mass and high-pressure grouting modification strengthening testing *LI Wenzhou, KANG Hongpu, JIANG Zhiyun, et al* (912)
- Ductile failure-seepage coupling constitutive equations of broken soft coal and its verification in indirect fracturing engineering *LI Hao, LIANG Weiguo, LI Guofu, et al* (924)
- Three-dimensional fracture evolution patterns of rocks under true triaxial conditions based on real-time CT scanning *LI Zhaolin, WANG Lianguo, JIANG Chongyang, et al* (937)
- Theoretical framework and key technologies of underground ecological protection based on coal mine occupational health prevention *GU Dazhao, LI Quansheng* (950)
- Bursting liability and energy dissipation laws of prefabricated borehole coal samples *WANG Aiwen, GAO Qianshu, PAN Yishan, et al* (959)
- Optimal wind field regulation rules under different cutting methods in fully mechanized face *GONG Xiaoyan, HAN Zheng, XUE He, et al* (973)
- Fast discriminant model of mine water inrush source based on WOA-ELM algorithm *DONG Donglin, CHEN Yuyin, NI Lingen, et al* (984)
- Variation characteristics of typical ions and trace elements and health risk assessment in the process of coal gasification by microorganism *WU Li, WANG Haipo, LI Peng, et al* (994)
- An adsorption model with multiple factors for shale gas: Taking the Wufeng Formation-Longmaxi Formation shale in southeast Sichuan as an example *LI Aifen, HAN Wencheng, SUN Hai, et al* (1003)
- Analyses of the relationship between lithology and shale gas accumulation for the Wufeng Formation to Longmaxi Formation in the west of Hubei Province: A case study of the Erhongdi 1 well *HE Wei, CHEN Yang, LEI Yuxue, et al* (1014)
- Study and spectroscopy characterization of carbon & oxygen structures of Gaoyang coking coal *GE Tao, WANG Meng, LI Fen, et al* (1024)
- Effect of inner/outer secondary air mass flow ratio on the characteristics of the reverse-swirl burner *JIA Nan, NIU Fang, WANG Pengtao, et al* (1032)
- Mechanical properties of slag in a radiant syngas cooler of entrained flow gasifier *SHAO Lintao, LIU Chongguo, JIANG Cancheng, et al* (1039)
- Variation characteristics of organic carbon fractions within macroaggregates under long-term different fertilization regimes in the reclaimed soil *CAO Hanbing, XIE Junyu, HONG Jianping* (1046)
- Dynamic adsorption of fluoride, iron and manganese in underground water of mining area by Srp/HAP *LI Xilin, YU Xiaowan, LI Lei, et al* (1056)



煤炭学报



煤传媒



中国煤炭行业
知识服务平台

中国“百强报刊”
百种中国杰出学术期刊
中国精品科技期刊
中国最具国际影响力学术期刊
中国科技期刊卓越行动计划入选期刊
Ei Compendex、Scopus、CSCD 收录期刊
中文核心期刊
中国科技核心期刊



煤炭学报

Journal of China Coal Society

MEITAN XUEBAO

月刊 (1964 年创刊)

第 46 卷第 3 期(总第 318 期) 2021 年 3 月

Monthly (Started in 1964)

Vol. 46 No. 3(Series No. 318) Mar. 2021

主 管 中国科学技术协会
主 办 中国煤炭学会
出 版 《煤炭学报》编辑部
(北京和平里, 邮政编码: 100013)
主 编 刘 峰
副 主 编 朱拴成
执行主编 朱拴成
副 主 任 常 琛
(主持工作)
副 主 任 常明然
责任编辑 韩晋平 常 琛 常明然
郭晓炜 钱小静 黄小雨
数字编辑 郭晓炜 宫在芹
技术编辑 郑红瑞
印 刷 北京联合互通彩色印刷有限公司
国内发行 《煤炭学报》编辑部
国外发行 中国国际图书贸易总公司
(北京 399 信箱)
国外代号 M 190

Responsible Institution China Association for Science and Technology
Sponsor China Coal Society
Publisher Editorial Office of Journal of China Coal Society
(Hepingli, Beijing, China, 100013)
Editor in Chief LIU Feng
Associate Chief Editor ZHU Shuancheng
Exec. Chief Editor ZHU Shuancheng
Associate Director(Chair) CHANG Chen
Associate Director CHANG Mingran
Responsible Editor HAN Jinping CHANG Chen
CHANG Mingran GUO Xiaowei
QIAN Xiaojing HUANG Xiaoyu
Digital Editor GUO Xiaowei GONG Zaiqin
Technical Editor ZHENG Hongrui
Domestic Distributor Editorial Office of Journal of China Coal Society
Overseas Distributor China International Book Trading Corporation
(P. O. Box 399, Beijing, China)
Code Number M 190

中国标准连续出版物号: ISSN 0253-9993
CN 11-2190/TD

国内定价: 78.00 元

万方数据

Tel: (010)87986411

E-mail: mtxb@vip.163.com

http://www.mtxb.com.cn