



Q K 2 3 0 0 7 8 3



中国精品科技期刊
中文核心期刊 EI 收录期刊
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梯队期刊

ISSN 1000-7598
CN 42-1199/O3

岩土力学

Rock and Soil Mechanics

2023 年 5 月

Vol.44 No.5

中国科学院武汉岩土力学研究所 主办
《岩土力学》编辑部 出版

ISSN 1000-7598



05>

9 771000 759236

目 次

基础理论与实验研究

- 水泥基 3D 打印材料基础配合比试验与质量评价.....江 权, 吴 思, 刘 强, 等 (1245)
循环热冲击后裂隙砂岩力学特性试验研究.....李 满, 刘先珊, 潘玉华, 等 (1260)
基于硬化参量的盐岩蠕变疲劳本构模型.....范金洋, 唐璐宣, 陈 结, 等 (1271)
基于透明相似模型试验的主控裂隙边坡变形破坏演化机制研究.....冷先伦, 王 川, 盛 谦, 等 (1283)
考虑横向性能的盾构隧道纵向非线性等效抗弯刚度计算模型.....王祖贤, 施成华, 龚琛杰, 等 (1295)
填土应力路径下珊瑚砂幂律应力-应变模型的适用性研究.....张季如, 郑颜军, 彭伟珂等 (1309)
富水粉细砂层盾尾同步注浆浆液渗透-压密扩散机制研究.....宋 洋, 王宏帅, 李 昂, 等 (1319)
基于不同后处理方法的砂型 3D 打印类岩石试样力学性能研究.....田 威, 王肖辉, 云 伟, 等 (1330)
Si/Ca 复合体系改性分散土的崩解特性及作用机制研究.....刘翼飞, 布泽凡, 蔡东廷, 等 (1341)
循环荷载下楔形劲芯水泥土复合桩工作特性试验研究.....何 杰, 郭端伟, 宋德新, 等 (1353)
三峡库区降雨型滑坡入渗特征及变形机制——基于一维和二维模型试验研究.....王 力, 南芳芸, 王世梅, 等 (1363)
砂土地基中桩顶竖向-水平加载路径下柔性单桩水平承载力分析.....江 杰, 付臣志, 柴文成, 等 (1375)
侧限条件下密实砂土蠕变的颗粒运动特征.....高 燕, 余骏远, 陈 庆, 等 (1385)
盾构气压开舱条件下的泥膜闭气失效理论研究.....蔡博文, 金大龙, 李兴高, 等 (1395)
桥梁桩基穿越溶洞的荷载传递机制试验研究.....陈慧芸, 冯忠居, 白少奋, 等 (1405)
不同胶结剂人工结构性黄土的力学特性差异研究.....李宏儒, 梁恒楠 (1416)
粉质黏土基坑卸荷隆起变形的简化计算方法.....崔瑜瑜, 吴立鹏, 沈兴华, 等 (1425)
模块式加筋土挡墙模型试验及静动力学性能研究.....王家全, 仲文涛, 黄世斌, 等 (1435)
考虑黏性的液化土中水平振动桩基桩顶阻抗研究.....黄 娟, 胡钟伟, 余 俊, 等 (1445)
二次加载盐岩损伤自愈合与应变硬化试验研究.....赵 瑞, 杨圳华, 王超林, 等 (1457)
考虑不均匀冻胀土体-衬砌隧道在寒区的振动响应.....张硕成, 陈文化 (1467)
冻结砂不同应力路径三轴试验强度和变形分析.....张鸿朋, 马芹永, 黄 坤, 等 (1477)

岩土工程研究

- 陡倾结构金属矿山采空区围岩破坏机制研究.....王田龙, 陈从新, 夏开宗, 等 (1487)
土的次非线性对桩基核岛结构三维地震反应的影响.....朱升冬, 陈国兴, 陈炜昀, 等 (1501)

数值分析

- 隧道底板渐进破裂碎胀大变形: 一种新的底鼓机制研究.....邓鹏海, 刘泉声, 黄 兴 (1512)
考虑雨水感热的降雨对多年冻土水热变化影响模型研究.....张明礼, 雷兵兵, 周志雄, 等 (1530)
基于随机有限元法的波致海床响应概率分析.....朱 彬, 裴华富, 杨 庆, 等 (1545)

简 讯

- 《岩土力学》2022 年第 11 期被 EI 收录论文 (27 篇, 收录率 100%) (1456), (1544)
《岩土力学》征稿简则 (封二)

期刊基本参数: CN42-1199/O3*1979*m*A4*312*zh*P* ¥ 60.00*2000*27*2023-05

CONTENTS

Basic mix ratio test and corresponding quality evaluation for cement-based 3D printing materials.....	JIANG Quan, WU Si, LIU Qiang, et al (1245)
Mechanical properties of fractured sandstone after cyclic thermal shock.....	LI Man, LIU Xian-shan, PAN Yu-hua, et al (1260)
Creep fatigue constitutive model of salt rock based on a hardening parameter.....	FAN Jin-yang, TANG Lu-xuan, CHEN Jie, et al (1271)
Evolution mechanism of deformation and failure of rock slope with controlling fissure through transparent physical model experiments.....	LENG Xian-lun, WANG Chuan, SHENG Qian, et al (1283)
Calculation model of longitudinal nonlinear equivalent bending stiffness of shield tunnel considering its transverse performance.....	WANG Zu-xian, SHI Cheng-hua, GONG Chen-jie, et al (1295)
Applicability of power-law stress-strain model for coral sand under earth fill stress path.....	ZHANG Ji-ru, ZHENG Yan-jun, PENG Wei-ke, et al (1309)
Permeation-compaction diffusion mechanism of shield tail synchronous grouting slurry in water-rich fine sand layer.....	SONG Yang, WANG Hong-shuai, LI Ang, et al (1319)
Mechanical properties of sand 3D printed rock-like samples based on different post-processing methods.....	TIAN Wei, WANG Xiao-hui, YUN Wei, et al (1330)
Disintegration characteristics and mechanism of dispersive soil modified by Si/Ca compound system.....	LIU Yi-fei, BU Ze-fan, CAI Dong-ting, et al (1341)
Dynamic response and characteristics of tapered rigid core composite cement-soil piles under cyclic loading.....	HE Jie, GUO Duan-wei, SONG De-xin, et al (1353)
Infiltration characteristics and deformation mechanism of rainfall-induced landslides in Three Gorges Reservoir Area based on 1D and 2D model tests.....	WANG Li, NAN Fang-yun, WANG Shi-mei, et al (1363)
Analysis of lateral bearing capacity of flexible single pile under vertical-horizontal loading path in sand foundation.....	JIANG Jie, FU Chen-zhi, CHAI Wen-cheng, et al (1375)
Particle motion characteristics of dense sand during creep under lateral confinement.....	GAO Yan, YU Jun-yuan, CHEN Qing, et al (1385)
Theory of failure of filter cake airtightness during chamber opening in a pressurized shield.....	CAI Bo-wen, JIN Da-long, LI Xing-gao, et al (1395)
Experimental study on load transfer mechanism of bridge pile foundation passing through karst cave.....	CHEN Hui-yun, FENG Zhong-ju, BAI Shao-fen, et al (1405)
Study on the difference of mechanical properties of artificial structured loess with different binders.....	LI Hong-ru, LIANG Heng-nan (1416)
A simplified calculation method for upheaval deformation induced by unloading of silty clay foundation pit.....	CUI Yu-yu, WU Li-peng, SHEN Xing-hua, et al (1425)
Experimental study on static and dynamic performances of modular reinforced earth retaining wall.....	WANG Jia-quan, ZHONG Wen-tao, HUANG Shi-bin, et al (1435)
Analytical solution to lateral dynamic impedance of piles in viscous liquefied soil.....	HUANG Juan, HU Zhong-wei, YU Jun, et al (1445)
Experimental study on damage self-healing and strain hardening of salt rock under secondary loading.....	ZHAO Yu, YANG Zhen-hua, WANG Chao-lin, et al (1457)
Dynamic response of a lined tunnel in cold regions considering anisotropic frost heave.....	ZHANG Shuo-cheng, CHEN Wen-hua (1467)
Strength and deformation analysis of frozen sand under different stress paths using triaxial test.....	ZHANG Hong-peng, MA Qin-yong, HUANG Kun, et al (1477)
Failure mechanism of goaf surrounding rock with steeply dipping discontinuities in metal mine.....	WANG Tian-long, CHEN Cong-xin, XIA Kai-zong, et al (1487)
Influence of soil secondary nonlinearity on 3D seismic responses of a pile-founded nuclear island structure.....	ZHU Sheng-dong, CHEN Guo-xing, CHEN Wei-yun, et al (1501)
Progressive fracture and swelling deformation of tunnel floor: a new floor heave mechanism.....	DENG Peng-hai, LIU Quan-sheng, HUANG Xing (1512)
Model study on rainfall effect on hydrothermal dynamics of permafrost considering rainwater sensible heat.....	ZHANG Ming-li, LEI Bing-bing, ZHOU Zhi-xiong, et al (1530)
Probabilistic analysis of wave-induced seabed response based on stochastic finite element method.....	ZHU Bin, PEI Hua-fu, YANG Qing, et al (1545)

《岩土力学》第九届编委会和编辑部组成人员名单

主编	孔令伟						
顾问编委	王思敬	白世伟	陈正汉	郑颖人	葛修润		
委员	马巍	王浩	王川婴	王水林	王立忠	王明年	王建华
	韦昌富	介玉新	邓建辉	孔令伟	尹光志	卢应发	白冰
	冯守中	朱长歧	任伟中	刘建	刘汉龙	刘传正	刘忠玉
	邬爱清	年廷凯	孙德安	杨光华	杨启贵	杨典森	杨春和
	李小春	李术才	李邵军	李典庆	李建林	李建春	李海波
	李新平	何满潮	邹维列	汪稳	张嘎	张友良	李银平
	张建海	张勇慧	张家发	张强勇	陈健	陈卫忠	张传庆
	陈晓平	陈善雄	邵生俊	周平	周伟	周辉	陈仁朋
	周顺华	郑刚	郑宏	郑俊杰	金衍	孟庆山	周正明
	侯公羽	施斌	姚仰平	姚海林	徐长节	高玉峰	周创兵
	梅国雄	黄宏伟	黄茂松	曹文贵	盛谦	梁冰	赵明华
	温彦峰	蒋明镜	焦玉勇	蔡袁强	廖红建	薛强	唐辉明
编辑部成员	周平	杨为民	郭茜	丁晓			韩煊

Editorial Board of Rock and Soil Mechanics (2017 – 2021)

Editor-in-chief	Lingwei Kong						
Advisors	Sijing Wang	Shiwei Bai	Zhenghan Chen	Yingren Zheng	Xiurun Ge		
Editorial Board Members	Wei Ma	Hao Wang	Chuanying Wang	Shulin Wang	Lizhong Wang	Mingnian Wang	Jianhua Wang
	Changfu Wei	Yuxin Jie	Jianhui Deng	Lingwei Kong	Guangzhi Yin	Yingfa Lu	Bing Bai
	Shouzhong Feng	Changqi Zhu	Weizhong Ren	Jian Liu	Hanlong Liu	Chuanzheng Liu	Zhongyu Liu
	Aiqing Wu	Tingkai Nian	Dean Sun	Guanghua Yang	Qigui Yang	Diansen Yang	Chunhe Yang
	Xiaochun Li	Shucui Li	Shaojun Li	Dianqing Li	Jianlin Li	Jianchun Li	Haibo Li
	Xinping Li	Manchao He	Weilie Zou	Ren Wang	Ga Zhang	Youliang Zhang	Yujun Zhang
	Jianhai Zhang	Yonghui Zhang	Jiafa Zhang	Qiangyong Zhang	Jian Chen	Weizhong Chen	Renpeng Chen
	Xiaoping Chen	Shanxiong Chen	Shengjun Shao	Ping Zhou	Wei Zhou	Hui Zhou	Zhengming Zhou
	Shunhua Zhou	Gang Zheng	Hong Zheng	Junjie Zheng	Yan Jin	Qingshan Meng	Chuangbing Zhou
	Gongyu Hou	Bin Shi	Yangping Yao	Hailin Yao	Changjie Xu	Yufeng Gao	Chunan Tang
	Guoxiong Mei	Hongwei Huang	Maosong Huang	Wengui Cao	Qian Sheng	Bing Liang	Weiimin Zhang
	Yanfeng Wen	Mingjing Jiang	Yuyong Jiao	Yuanqiang Cai	Hongjian Liao	Qiang Xue	Xuan Han
Editorial Staff	Ping Zhou	Weimin Yang	Qian Guo	Xiao Ding			

岩 土 力 学

Yantu Lixue

(1979 年创刊 月刊 每月 10 日出版)

2023 年 5 月 第 44 卷 第 5 期 (总 355)

Rock and Soil Mechanics

(Monthly, Started in 1979)

Vol.44 No.5 (Total 355) May 2023

主管单位	中国科学院
主办单位	中国科学院武汉岩土力学研究所
编辑出版	《岩土力学》编辑部
主 编	孔令伟
地 址	武汉市武昌小洪山 中国科学院武汉岩土力学研究所 430071
印 刷	武汉市宏达盛印务有限公司
国内发行	湖北省邮政报刊发行局 (武汉市江汉经济开发区江旺路 22 号)
国外发行	中国国际图书贸易总公司(中国国际书店) 北京 399 信箱
电话: (027) 87198484 87199252 (传真)	
E-mail: ytlx@whrsm.ac.cn	

Competent Authority by: Chinese Academy of Sciences

Sponsored by: Institute of Rock and Soil Mechanics,
Chinese Academy of Sciences

Edited and Published by:

Editorial Office of Rock and Soil Mechanics

Editor-in-Chief: Lingwei Kong

Address: Institute of Rock and Soil Mechanics,
Chinese Academy of Sciences, Wuhan 430071, China

Printed by: Wuhan Hongdasheng Print Co., Ltd.

Distributed by: Hubei Bureau for Distribution of Newspapers and
Journals

Distributed Abroad by: China International Book Trading
Corporation (GUOJI SHUDIAN) P. O. Box 399, Beijing, China

Tel.: (027)87198484 87199252 (Fax)

http://ytlx.whrsm.ac.cn/, ytlx.chinajournal.net.cn/

ISSN 1000-7598 广告经营许可证号: 4200003300074 邮发代号: 38-383 国外代号: Q4097 RMB: ¥60
CN 42-1199/O3 Advertising License Number: Postal Distributing Code: 38-383 (China), Q4097 (Overseas) USD: \$60