

湖北省精品期刊  
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

Q K 2 0 3 7 6 5 5

# 岩土力学

Rock and Soil Mechanics

Vol.41 No.6

2020

中国科学院武汉岩土力学研究所 主办

 科学出版社 出版

ISSN 1000-7598



9 771000759205

#### 基础理论与实验研究

- 饱和和天然状态下页岩滞后效应及阻尼特性研究.....蒋长宝, 魏 财, 段敏克, 等 (1799)
- 多尺度内聚颗粒模型破碎过程研究.....蔡改贫, 宣律伟, 张雪涛, 等 (1809)
- 不同荷载下矩形巷道围岩变形及声发射特性试验研究.....侯公羽, 荆浩勇, 梁金平, 等 (1818)
- 考虑抗拉强度的黏性填土挡土墙主动土压力计算.....陈建功, 杨 扬, 陈彦含, 等 (1829)
- 水平柔性拉筋式重力墙-坡体地震整体稳定性分析方法.....肖世国, 刘 航, 于昕左 (1836)
- 循环荷载下重塑弱膨胀土滞回曲线形态特征定量研究.....庄心善, 赵汉文, 王俊翔, 等 (1845)
- 砂土地基中受水流影响的竖向力-水平力联合受荷桩承载特性模型试验研究.....邹新军, 曹 雄, 周长林 (1855)
- 铁路路基粗粒土填料临界动应力试验研究.....王康宇, 庄 妍, 耿雪玉 (1865)
- 尾砂胶结含盐冻结充填体力学特性研究.....吴再海, 纪洪广, 姜海强, 等 (1874)
- 深埋砂层旁压特征参数的深度效应研究.....程永辉, 胡胜刚, 王汉武, 等 (1881)
- 巷道浅层破碎围岩锚注加固承载特性试验研究.....潘 锐, 程 桦, 王 雷, 等 (1887)
- 不同应力路径下  $K_0$  固结结构性黏土微观结构特征试验研究.....朱 楠, 刘春原, 赵献辉, 等 (1899)
- 断层破碎带突水突泥演化特征试验研究.....张庆艳, 陈卫忠, 袁敬强, 等 (1911)
- 粗颗粒土的静止土压力系数非线性分析与计算方法.....喻昭晟, 陈晓斌, 张家生, 等 (1923)
- 深部复合地层 TBM 开挖扰动模型试验研究.....史林肯, 周 辉, 宋 明, 等 (1933)
- 基于 Pitzer 离子模型的盐渍非饱和土孔隙相对湿度计算.....文 伟, 赖远明, 尤哲敏, 等 (1944)
- 塑性极限分析鱼雷锚锚尖贯入阻力.....瑜 璐, 杨 庆, 杨 钢, 等 (1953)
- 砂类土最大动剪切模量的新预测模型.....梁 珂, 陈国兴, 杭天柱, 等 (1963)
- 击实试验类型对 EPS 颗粒轻量土击实特性的影响规律.....杨凯旋, 侯天顺 (1971)
- 瑞利波在非均匀饱和地基中的传播特性.....王立安, 赵建昌, 余云燕 (1983)
- 基于 Green-Ampt 模型的饱和-非饱和黄土入渗改进模型及其参数研究.....温 馨, 胡志平, 张 励, 等 (1991)
- 花岗岩残积土动态冲击性能的 SHPB 试验研究.....刘新宇, 张先伟, 岳好真, 等 (2001)
- 基于正交设计的岩石相似材料配比研究及底摩擦物理模型试验应用.....宁奕冰, 唐辉明, 张勃成, 等 (2009)

受载煤岩组合体破坏前能量分布规律.....陈光波, 秦忠诚, 张国华, 等 (2021)

新型水玻璃-酯类注浆材料及其固沙体特性研究.....荣 驰, 陈卫忠, 袁敬强, 等 (2034)

煤体静载破坏微震、电磁辐射及裂纹扩展特征研究.....艾迪昊, 李成武, 赵越超, 等 (2043)

## 岩土工程研究

基于广义可靠指标相对安全率的地基承载力安全判据研究.....周 强, 黎康平, 段亚辉, 等 (2052)

地下洞室边墙爆破振动传播衰减规律研究.....李新平, 边 兴, 罗 忆, 等 (2063)

特定场地下土工构筑物的几何可靠性分析.....吴兴征, 王瑞凯, 辛军霞 (2070)

基于多元回归分析的连续压实监控技术.....吴龙梁, 江辉煌, 唐建伟, 等 (2081)

分段 Knothe 函数优化及其动态求参.....郭旭炜, 杨晓琴, 柴双武 (2091)

岩体结构面各向异性变异系数的尺寸效应研究.....洪陈杰, 黄 曼, 夏才初, 等 (2098)

## 数值分析

浅埋隧道冻结法施工地表冻胀沉降规律及冻结壁厚度优化研究.....郑立夫, 高永涛, 周 喻, 等 (2110)

劲芯水泥土桩承载路堤渐进式失稳破坏机制.....张 振, 张 朝, 叶观宝, 等 (2122)

## 测试技术

环境湿度可控的土体小应变刚度试验系统.....陶 帅, 董 毅, 韦昌富 (2132)

基于能量测量的声呐渗流矢量法及其应用.....胡盛斌, 杜国平, 徐国元, 等 (2143)

## 简 讯

征稿简则.....(封二)

《岩土力学》2019 年第 2 期被 EI 收录论文 (45 篇, 收录率 100%) .....(1854), (1864)

《岩土力学》2019 年第 3 期被 EI 收录论文 (45 篇, 收录率 100%) .....(2033), (2042)

期刊基本参数: CN42-1199/O3\*1979\*m\*A4\*356\*zh\*P\* ¥ 60.00\*2000\*36\*2020-06

---

本期责任编辑: 郭茜 排版: 蔡海燕

## CONTENTS

Hysteresis effect and damping characteristics of shale under saturated and natural state.....	JIANG Chang-bao, WEI Cai, DUAN Min-ke, et al (1799)
Investigation into the crushing process in multi-scale cohesive particle model.....	CAI Gai-pin, XUAN Lü-wei, ZHANG Xue-tao, et al (1809)
Experimental study on surrounding rock deformation and acoustic emission characteristics of rectangular roadway under different loads.....	HOU Gong-yu, JING Hao-yong, LIANG Jin-ping, et al (1818)
Calculation of active earth pressure of cohesive soil behind retaining wall considering soil tensile strength.....	CHEN Jian-gong, YANG Yang, CHEN Yan-han, et al (1829)
Analysis method of seismic overall stability of soil slopes retained by gravity walls anchored horizontally with flexible reinforcements.....	XIAO Shi-guo, LIU Hang, YU Xin-zuo (1836)
Quantitative research on morphological characteristics of hysteretic curves of remolded weak expansive soil under cyclic loading...	ZHUANG Xin-shan, ZHAO Han-wen, WANG Jun-xiang, et al (1845)
Model study on the bearing behavior of $V-H$ combined loaded pile in sand considering the current effects.....	ZOU Xin-jun, CAO Xiong, ZHOU Chang-lin (1855)
Experimental study on critical dynamic stress of coarse-grained soil in railway subgrade.....	WANG Kang-yu, ZHUANG Yan, GENG Xue-yu (1865)
Study of mechanical properties of frozen saline cemented tailings backfill.....	WU Zai-hai, JI Hong-guang, JIANG Hai-qiang, et al (1874)
Study on depth effect of pressuremeter feature parameters in deep buried sand.....	CHENG Yong-hui, HU Sheng-gang, WANG Han-wu, et al (1881)
Experimental study on bearing characteristics of bolt-grouting support in shallow fractured surrounding rock of roadway.....	PAN Rui, CHENG Hua, WANG Lei, et al (1887)
Micro-structure characteristics of structured clay under different stress paths in $K_0$ consolidated drained tests.....	ZHU Nan, LIU Chun-yuan, ZHAO Xian-hui, et al (1899)
Experimental study on evolution characteristics of water and mud inrush in fault fractured zone.....	ZHANG Qing-yan, CHEN Wei-zhong, YUAN Jing-qiang, et al (1911)
Analysis of the nonlinearity of coefficient of earth pressure at rest and its calculation method for coarse-grained soils.....	YU Zhao-sheng, CHEN Xiao-bin, ZHANG Jia-sheng, et al (1923)
Physical experimental study on excavation disturbance of TBM in deep composite strata.....	SHI Lin-ken, ZHOU Hui, SONG Ming, et al (1933)
Analysis of pore relative humidity of salinized unsaturated soil based on Pitzer model.....	WEN Wei, LAI Yuan-ming, YOU Zhe-min, et al (1944)
Analysis of the resistance of elliptical tip of torpedo anchor by plastic limit analysis.....	YU Lu, YANG Qing, YANG Gang, et al (1953)

A new prediction model of small-strain shear modulus of sandy soils.....	.....LIANG Ke, CHEN Guo-xing, HANG Tian-zhu, et al (1963)
Influence of compaction test types on compaction characteristics of EPS particles light weight soil.....	.....YANG Kai-xuan, HOU Tian-shun (1971)
Propagation characteristics of Rayleigh wave in non-homogeneous saturated foundation.....	.....WANG Li-an, ZHAO Jian-chang, YU Yun-yan (1983)
Modified infiltration model for saturated-unsaturated loess based on Green-Ampt model and its parametric study.....	.....WEN Xin, HU Zhi-ping, ZHANG Xun, et al (1991)
SHPB tests on dynamic impact behavior of granite residual soil.....	.....LIU Xin-yu, ZHANG Xian-wei, YUE Hao-zhen, et al (2001)
Investigation of the rock similar material proportion based on orthogonal design and its application in base friction physical model tests.....	.....NING Yi-bing, TANG Hui-ming, ZHANG Bo-cheng, et al (2009)
Law of energy distribution before failure of a loaded coal-rock combined body.....	.....CHEN Guang-bo, QIN Zhong-cheng, ZHAN Guo-hua, et al (2021)
Study on new sodium silicate-ester grouting material and its properties of grouted-sand.....	.....RONG Chi, CHEN Wei-zhong, YUAN Jing-qiang, et al (2034)
Investigation on micro-seismic, electromagnetic radiation and crack propagation characteristics of coal under static loading.....	.....AI Di-hao, LI Cheng-wu, ZHAO Yue-chao, et al (2043)
Safety criteria for bearing capacity of foundation based on the generalized reliability ratio of safety margin.....	.....ZHOU Qiang, LI Kang-ping, DUAN Ya-hui, et al (2052)
Study on attenuation law of blasting vibration propagation of side wall of underground cavern.....	.....LI Xin-ping, BIAN Xing, LUO Yi, et al (2063)
Geometric reliability analysis of geotechnical structures at a specific site.....	.....WU Xing-zheng, WANG Rui-kai, XIN Jun-xia (2070)
Continuous compaction monitoring technology based on multiple regression analysis.....	.....WU Long-liang, JIANG Hui-huang, TANG Jian-wei, et al (2081)
Optimization of the segmented Knothe function and its dynamic parameter calculation.....	.....GUO Xu-wei, YANG Xiao-qin, CHAI Shuang-wu (2091)
Study of size effect on the anisotropic variation coefficient of rock joints.....	.....HONG Chen-jie, HUANG Man, XIA Cai-chu, et al (2098)
Research on surface frost heave and thaw settlement law and optimization of frozen wall thickness in shallow tunnel using freezing method.....	.....ZHENG Li-fu, GAO Yong-tao, ZHOU Yu, et al (2110)
Progressive failure mechanism of stiffened deep mixed column-supported embankment.....	.....ZHANG Zhen, ZHANG Zhao, YE Guan-bao, et al (2122)
Small-strain stiffness test system of soil under controllable environmental humidity.....	.....TAO Shuai, DONG Yi, WEI Chang-fu (2132)
Sonar seepage vector method based on energy measurement and its application.....	.....HU Sheng-bin, DU Guo-ping, XU Guo-yuan, et al (2143)

## 《岩土力学》第九届编委会和编辑部组成人员名单

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

### 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 Shuilin Wang Lizhong Wang Mingnian Wang Jianhua Wang Hongxin Wang							
	Changfu Wei	Yuxin Jie	Jianhui Deng	Lingwei Kong	Guangzhi Yin	Yingfa Lu	Bing Bai	Xiating Feng
	Shouzhong Feng	Changqi Zhu	Weizhong Ren	Jian Liu	Hanlong Liu	Chuanzheng Liu	Zhongyu Liu	Quansheng Liu
	Aiqing Wu	Tingkai Nian	Dean Sun	Guanghua Yang	Qigui Yang	Diansen Yang	Chunhe Yang	Qi Li
	Xiaochun Li	Shucai Li	Shaojun Li	Dianqing Li	Jianlin Li	Jianchun Li	Haibo Li	Yinping Li
	Xinping Li	Manchao He	Weilie Zou	Ren Wang	Ga Zhang	Youliang Zhang	Yujun Zhang	Chuanqing Zhang
	Jianhai Zhang	Yonghui Zhang	Jiafa Zhang	Qiangyong Zhang	Jian Chen	Weizhong Chen	Renpeng Chen	Congxin Chen
	Xiaoping Chen	Shanxiang Chen	Shengjun Shao	Ping Zhou	Wei Zhou	Hui Zhou	Zhengming Zhou	Chuangbing Zhou
	Shunhua Zhou	Gang Zheng	Hong Zheng	Junjie Zheng	Yan Jin	Qingshan Meng	Dawei Hu	Minghua Zhao
	Gongyu Hou	Bin Shi	Yangping Yao	Hailin Yao	Changjie Xu	Yufeng Gao	Chunan Tang	Huiming Tang
	Guoxiong Mei	Hongwei Huang	Maosong Huang	Wengui Cao	Qian Sheng	Bing Liang	Weimin Zhang	Xuan Han
	Yanfeng Wen	Mingjing Jiang	Yuyong Jiao	Yuanqiang Cai	Hongjian Liao	Qiang Xue		
Editorial Staff	Ping Zhou	Weimin Yang	Qian Guo	Xiao Ding				

### 岩 土 力 学

(1979 年创刊 月刊 每月 10 日出版)

2020 年 6 月 第 41 卷 第 6 期 (总 316)

### Rock and Soil Mechanics

(Monthly, Started in 1979)

Vol.41 No.6 (Total 316) Jun. 2020

主管单位	中国科学院	Competent Authority by: Chinese Academy of Sciences
主办单位	中国科学院武汉岩土力学研究所	Sponsored by: Institute of Rock and Soil Mechanics, Chinese Academy of Sciences
编辑出版	科学出版社	Edited and Published by: Science Press
主 编	孔令伟	Editor-in-Chief: Lingwei Kong
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	Address: Institute of Rock and Soil Mechanics, Chinese Academy of Sciences, Wuhan 430071, China
印 刷	武汉中科兴业印务有限公司	Printed by: Wuhan Zhongkexingye Print Co., Ltd.
国内发行	湖北省邮政报刊发行局	Distributed by: Hubei Bureau for Distribution of Newspapers and Journals
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	Distributed Abroad by: China International Book Trading Corporation (GUOJI SHUDIAN) P. O. Box 399, Beijing, China
电 话:	(027) 87198484 87199252 (传真)	Tel.: (027) 87198484 87199252 (Fax)
E-mail:	ytlx@whrsm.ac.cn	<a href="http://ytlx.whrsm.ac.cn/">http://ytlx.whrsm.ac.cn/</a> , <a href="http://ytlx.chinajournal.net.cn/">http://ytlx.chinajournal.net.cn/</a>