

# 地震工程学报

DIZHEN GONGCHENG XUEBAO

第 42 卷 第 2 期 2020 年 3 月

## 目次

### 结构抗震

- 地震作用下核电站环行吊车动力响应的模型实验研究..... 李守巨, 杜洪泽, 屈福政, 付佳星, 王荣成 (283)
- 主余震作用下山地掉层框架结构的易损性分析..... 杨佑发, 肖淳, 谭曦 (290)
- 单层连方型球面网壳与下部支承结构协同工作的强震失效研究..... 翟永梅, 刘瑶, 陈贻辉, 符徐霞 (299)
- 多维地震激励下曲线梁桥简化模型及最不利输入方向研究..... 李喜梅, 杜永峰, 母渤海 (304)
- 地震作用下高烈度区连续刚构桥参数敏感性分析..... 张玥, 薛磊, 陈帅, 周救 (311)
- 某核电厂应急通道桥梁地震响应分析..... 周扬, 邹德高, 隋翊, 龚涛, 刘鑫 (318)
- 高层钢结构建筑横向支撑地震动力响应分析..... 文俊, 蒋友宝 (326)
- 高层高强钢组合偏心支撑框架抗震性能简化分析..... 洪敏, 秦瑞, 王凤, 高永国, 高中南, 李少华 (332)
- 强震下混凝土剪力墙受弯模拟及测试实验研究..... 戴勤友, 张正瑞 (337)
- 建筑变形后幕墙结构屈曲破坏临界荷载研究..... 史瑞英, 刘历波, 张磊 (345)
- 多维地震激励下考虑构件滞回性能的输电塔倒塌分析..... 盖霞, 田利 (352)

### 地震科学与监测技术

- 2017 年西藏米林 6.9 级地震前的热红外异常分析..... 张丽峰, 王培玲, 张朋涛, 孙奎皓 (360)
- 2018 年精河 5.4 级地震前地磁日变化畸变异常分析..... 艾萨·伊斯马伊力, 毛志强, 冯丽丽 (368)
- 临潭—宕昌主干断裂南东段晚第四纪活动的地质地貌证据..... 李光涛, 程理, 吴昊, 苏刚 (376)
- 利用 InSAR 技术研究 2018 年西藏谢通门  $M_w$ 5.6 地震发震构造..... 王金烁, 赵宁远 (384)
- 临夏台分量钻孔应变观测与岷县—漳县 6.6 级地震的相关性分析..... 史小平, 张磊, 姜振海 (391)
- 基于 STFT 方法对沿海宽频带倾斜仪的噪声分析..... 蔡佩蕊, 陈伟, 林立峰, 陈珊桦, 沈健健, 杨婕, 吴劲柏, 李毅伟 (396)
- 形变速率累加法在山西定点水准观测分析及映震的研究..... 荆红亮, 张瑞芳, 张聪聪, 郭国祥, 杨静, 韩磊 (403)
- 基于 DBSCAN 的地震电离层扰动异常数据检测方法..... 陈利军, 王畅 (410)
- 提高智能网络中地震数据集成与共享性能的研究..... 王刚, 俞春强 (416)
- 地电场观测可靠性分析——基于瓜州台的解析研究..... 李通, 叶青, 闫勋, 赵月梅, 张俏丽, 肖淑娟, 曹喜, 程鹏 (422)
- 四川及邻区地磁日变化异常特征研究..... 何畅, 芮雪莲, 廖晓峰, 邱桂兰 (431)
- 地电场电极故障判定及机理分析..... 李瑞卿, 郭学增, 张蕾, 信世民, 尹宏伟 (438)
- 金属大棚对周口台地电阻率干扰定量分析..... 杨龙翔, 刘学谦, 孙召华 (447)

基于 GEI 方法对苏皖地区地电活动指数的可靠性研究 ..... 孙君嵩, 叶青, 王丽, 章鑫, 尹欣欣 (453)

基于表层岩土渗透对三峡井网井水位降雨影响的精准分析 ..... 周洋, 吴艳霞, 罗棋, 李查玮 (460)

### 岩石土力学抗震

青岛岩质地基地铁 3 号线与上海软土地基地铁 10 号线振动实测对比分析 ..... 高盟, 高运昌, 徐晓, 石传志, 田抒平, 陈青生 (468)

初始滑面正应力假定对一般三维边坡稳定性影响 ..... 刘华丽, 朱大勇 (475)

地震作用下相邻地下结构与土相互作用特性研究 ..... 于仲洋, 张鸿儒, 邱滢佳, 李昊 (481)

交通荷载及其对紧邻基坑支护结构影响的现场实测分析 ..... 张兴周, 陈江, 万励, 罗文俊, 徐长节 (490)

基于反分析赋权方法的岩爆预测云模型研究 ..... 高岭, 李建朋, 曹正波 (498)

高地应力 V 级围岩相似材料研制及岩体开挖卸载模型试验分析 ..... 方智淳, 朱正国, 王仁远, 刘柳 (505)

基于 Logistic 回归模型的黄土斜坡地震稳定性快速评判方法 ..... 杨顺, 常晁瑜, 李孝波, 韩昕 (512)

采石场周边民房爆破振动效应评价及衰减关系 ..... 江蕾 (517)

兰州新区黄土微观参数与剪切强度  $C$ 、 $\varphi$  关联拟合分析 ..... 粟华忠, 和法国, 邓津, 吕燃 (521)

基于振动台试验的纯黄土边坡动力响应研究 ..... 陈金昌, 王兰民, 王平, 蒲小武, 柴少峰 (529)

### 震灾防御及综合

地裂缝场地结构抗震设防避让距离研究 ..... 黄华, 钱海增, 吴国超 (536)

基于 Python 的地震时大数据拥堵实时传输系统设计 ..... 王坤, 张娅莉 (546)

遥感信息中地震灾情危险等级在线应急评定方法研究 ..... 韩召华 (552)

震后恢复重建民用建筑考虑碳排放的研究与监测 ..... 王捷 (558)

结合变差纹理特征的极化 SAR 建筑物震害信息提取 ..... 肖修来, 翟玮, 郭晓, 张皓然 (568)

# CHINA EARTHQUAKE ENGINEERING JOURNAL

Vol.42 No.2 March, 2020

## CONTENTS

- Scaled Model Tests on the Dynamic Response of Polar Cranes in Nuclear Power Plants under Seismic Action .....  
..... *LI Shouju, DU Hongze, QU Fuzheng, FU Jiaxing, WANG Rongcheng* (283)
- Fragility Analysis of Step-terrace Frame Structures on the Slope under Mainshock and Aftershocks .....  
..... *YANG Youfa, XIAO Chun, TAN Xi* (290)
- Failure Modes of Single-layer Lamellar Spherical Reticulated Shells under Cooperative Work with Lower Supporting Structures and Severe Earthquakes .....  
..... *ZHAI Yongmei, LIU Yao, CHEN Yihui, FU Xuxia* (299)
- A Simplified Model of, and Critical Angles for Curved Bridges under Multi-dimensional Earthquake Excitation .....  
..... *LI Ximei, DU Yongfeng, MU Bohai* (304)
- Parameter Sensitivity Analysis of Continuous Rigid-frame Bridges in High Seismic Intensity Regions under Seismic Action .....  
..... *ZHANG Yue, XUE Lei, CHEN Shuai, ZHOU Mi* (311)
- Seismic Response Analysis of the Emergency Bridge of a Nuclear Power Plant .....  
..... *ZHOU Yang, ZOU Degao, SUI Yi, GONG Tao, LIU Xin* (318)
- Seismic Response of High-rise Steel Structure Buildings with Transverse Bracing .....  
..... *WEN Jun, JIANG Youbao* (326)
- A Simplified Analysis Model for Evaluating the Seismic Performance of High-Rise High-Strength Steel Composite Eccentrically Braced Frames .....  
..... *HONG Min, QIN Rui, WANG Feng, GAO Yongguo, GAO Zhongnan, LI Shaohua* (332)
- Experimental Study on Flexural Capacity of Concrete Shear Walls under Strong Earthquake .....  
..... *DAI Qinyou, ZHANG Zhengrui* (337)
- Critical Load for Buckling Failure of Curtain Wall Structures after Deformation of the Building .....  
..... *SHI Ruiying, LIU Libo, ZHANG Lei* (345)
- Collapse Analysis of Transmission Towers under Multi-dimensional Seismic Excitation Considering Hysteretic Behavior of Components .....  
..... *GAI Xia, TIAN Li* (352)
- Thermal Infrared Anomalies before Milin  $M_s6.9$  Earthquake in 2017 .....  
..... *ZHANG Lifeng, WANG Peiling, ZHANG Pengtao, SUN Xihao* (360)
- Distortion Anomalies in Geomagnetic Diurnal Variation before the Jinghe  $M5.4$  Earthquake in 2018 .....  
..... *Aisa Yisimayili, MAO Zhiqiang, FENG Lili* (368)
- Geological and Geomorphological Evidence of Late Quaternary Activity along the Southeastern Segment of the Lintan—Tanchang Major Fault, China .....  
..... *LI Guangtao, CHENG Li, WU Hao, SU Gang* (376)
- Seismogenic Structure of 2018 Xietongmen, Tibet  $M_w5.6$  Earthquake Inferred from InSAR Data .....  
..... *WANG Jinshuo, ZHAO Ningyuan* (384)
- Correlation between Component Borehole Strain Observation at Linxia Seismic Station and the Minxian—Zhangxian  $M6.6$  Earthquake .....  
..... *SHI Xiaoping, ZHANG Lei, JIANG Zhenhai* (391)
- Noise Analysis of Coastal Broadband Tiltmeter Based on STFT Method .....  
..... *CAI Peirui, CHEN Wei, LIN Lifeng, CHEN Shanhua, SHEN Jianjian, YANG jie, WU Jinbai, LI Yirwei* (396)
- Application of Deformation Rate Accumulation Method to the Fixed-point Leveling Observation in Shanxi .....  
..... *JING Hongliang, ZHANG Ruifang, ZHANG Congcong, GUO Guoxiang, YANG Jing, HAN Lei* (403)
- Detection Method for Seismic Ionospheric Disturbance Anomaly Data Based on DBSCAN .....  
..... *CHEN Lijun, WANG Chang* (410)

Improvement of Integration and Sharing Performance of Seismic Data in Intelligent Network .....	WANG Gang , YU Chunqiang (416)
Reliability Analysis of a Geoelectric Field Observation;A Case Study of Guazhou Station .....	LI Tong , YE Qing , YAN Xun , ZHAO Yuemei , ZHANG Qiaoli , XIAO Shujuan , CAO Xi , CHENG Peng (422)
Anomaly Characteristics of Geomagnetic Diurnal Variations in Sichuan and Adjacent Areas .....	HE Chang , RUI Xuelian , LIAO Xiaofeng , QIU Guilan (431)
Fault Determination and Mechanism Analysis for Electrodes in the Geoelectric Field .....	LI Ruiqing , GUO Xuezheng , ZHANG Lei , XIN Shimin , YIN Hongwei (438)
Quantitative Analysis of the Disturbance to Earth Resistivity Caused by a Metal Greenhouse at Zhoukou Station .....	YANG Longxiang , LIU Xueqian , SUN Zhaohua (447)
Reliability of Geoelectric Activity Indexes in Jiangsu and Anhui Provinces Based on GEI Method .....	SUN Junsong , YE Qing , WANG Li , ZHANG Xin , YIN Xinxin (453)
Accurate Analysis of the Effect of Rainfall on Water Level of the Three Gorges Well Network Based on Surface Soil Infiltration .....	ZHOU Yang , WU Yanxia , LUO Qi , LI Chawei (460)
Comparative Analysis of Vibration Measurement Between Qingdao Metro Line 3 on Rock Foundation and Shanghai Metro Line 10 on Soft Foundation .....	GAO Meng , GAO Yunchang , XU Xiao , SHI Chuanzhi , TIAN Shuping , CHEN Qingsheng (468)
Influence of Initial Normal Stress of Slip on the Stability of Common Three-dimensional Slopes .....	LIU Huali , ZHU Dayong (475)
Neighboring Underground Structure-Soil Interaction Characteristics under Seismic Action .....	YU Zhongyang , ZHANG Hongru , QIU Yanjia , LI Hao (481)
Field Test and Analysis of Vehicle Load and Its Influence on the Retaining Structure of Adjacent Foundation Pits .....	ZHANG Xingzhou , CHEN Jiang , WAN Li , LUO Wenjun , XU Changjie (490)
A Cloud Model for Rock Burst Prediction Based on the Back Analysis Weighting Approach .....	GAO Ling , LI Jianpeng , CAO Zhengbo (498)
Development of Similar Materials and Model Test Analysis of Rock Excavation and Unloading for the Surrounding Grade-V Rock under High Geostress .....	FANG Zhichun , ZHU Zhengguo , WANG Renyuan , LIU Liu (505)
Quick Assessment of the Seismic Stability of Loess Slopes Based on a Logistic Regression Model .....	YANG Shun , CHANG Chaoyu , LI Xiaobo , HAN Xin (512)
Evaluation of Blasting Vibration Effect of Residential Houses around Quarry and Attenuation Relationship .....	JIANG Lei (517)
Relationship Between Microscopic Parameters and Shear Strength $C$ , $\varphi$ of Loess in Lanzhou New District .....	SU Huazhong , HE Faguo , DENG Jin , LÜ Ran (521)
Dynamic Response of Loess Slopes Based on the Shake Table Test .....	CHEN Jinchang , WANG Lanmin , WANG Ping , PU Xiaowu , CHAI Shaofeng (529)
Setback Distance for Seismic Fortification and Avoidance of Structures in Ground Fissure Sites .....	HUANG Hua , QIAN Haizeng , WU Guochao (536)
Design of a Real-time Transmission System for Big Data Congestion during Earthquake Based on Python .....	WANG Kun , ZHANG Yali (546)
An On-line Emergency Assessment Method for Seismic Risk Level of Remote Sensing Information .....	HAN Zhaohua (552)
Research and Monitoring of Carbon Emission in Civil Building Reconstruction after Earthquake .....	WANG Jie (558)
Extraction of Building Seismic Damage Information from Polarimetric SAR Images Based on Variogram Texture Features .....	XIAO Xiulai , ZHAI Wei , GUO Xiao , ZHANG Haoran (568)