

# 地震工程学报

DIZHEN GONGCHENG XUEBAO

第40卷 第4期 2018年8月

## 目次

### 地震工程

- 不同厚度饱和砂土中群桩结构动力响应试验研究 ..... 李雨润, 强东峰, 邹 泽, 刘荟达, 王 海 (625)
- 基于场地效应的悬索桥随机地震响应分析 ..... 张 彬, 张宏民, 宫照伟 (631)
- 强震下高层建筑横向晃动反应过程模拟分析 ..... 王 扬 (637)
- 新型扇形盘式消能器减震性能参数分析 ..... 杨 琼, 郭阳照, 吴 体, 杨 成 (643)
- 建筑物偏心结构对其抗震性能的影响 ..... 陈小兵, 欧阳志勇, 李亚东 (652)
- 钢结构建筑钢板外部震动下承载力有限元分析 ..... 徐松芝 (658)
- 地震环境下钢筋混凝土箱梁复合受力特性分析 ..... 刘 觅, 高 亮 (665)
- 剪力墙转换结构分析下建筑抗震性能研究 ..... 饶 力 (671)
- 高强度地震下带钢避难建筑抗震设计 ..... 靳晓燕 (678)
- 隐伏地裂缝扩展引起分缝式隧道衬砌结构力学性状研究 ..... 余芳涛, 李瑶璞, 李 婷, 王松鹤 (684)
- 建筑在强震下横拉承压力钢筋负荷测量 ..... 任燕娟 (692)
- 基于 IDA 的多龄期钢排架结构地震易损性分析 .....  
..... 郑山锁, 左 英, 张晓辉, 石 磊, 黄威曾, 郑 捷 (698)
- 基于不同结构损伤模型的 RC 框架地震易损性研究 ..... 叶晨莹, 赵 鹏, 相 敏 (705)
- 竖向刚度不同的混合结构连续倒塌机制分析 ..... 林健康, 杨文伟, 包 超 (713)
- 桩土作用对隔震梁桥地震易损性及震后通行能力影响 ..... 唐永久, 方圣恩 (721)
- 基于线性流变模型的基础隔震系统的动力特性研究 ..... 盛朝晖, 曹 野, 张童心 (728)

### 土力学与土动力学

- 气候变暖下青藏高原冻土路基地温场演化规律研究 .....  
..... 杨凯飞, 穆彦虎, 马 巍, 毕贵权, 李国玉, 毛云程 (734)
- 珠江三角洲海相沉积软土压缩和剪切变形特性试验研究 ..... 张 岩, 耿济世, 毛 磊, 刘芙蓉 (745)
- 黄土液化微细观特性试验研究 ..... 安 亮, 邓 津, 王兰民 (752)
- 广州市轨道交通二十一条工程路基抗震性测试研究 ..... 李同安 (759)

### 地震科学研究

- 对 2017 年九寨沟  $M_s 7.0$  地震的预测分析 ..... 郭广猛, 姜永涛, 杨 杰, 张子月, 张 森 (765)
- 四川九寨沟 7.0 级地震强震动记录及特征分析 ..... 徐 钦, 古云鹤, 孙艳萍 (769)
- GPS 测定的四川九寨沟  $M_w 6.6$  地震同震形变 .....  
..... 王东振, 赵 斌, 李 琦, 余建胜, 祁玉杰, 鲁小飞, 谭 凯 (778)

西藏日喀则拉堆—乃东与毕定—甲舍拉断裂的活动性分析研究	雷生学, 李振海, 张文朋, 陈宇坤, 郭 巍, 谢静博, 高 也, 高锦瑞 (785)
武都—康县断裂新活动性的滑动速率	贾 伟, 刘洪春, 柳 煜, 袁道阳, 邵延秀, 刘兴旺, 张 波 (794)
甘东南重力、 <i>b</i> 值异常与岷县—漳县 M6.6 地震关系探讨	冯建林, 李德庆, 檀玉娟, 秦建增, 谢汝一, 刘冬阳 (802)
阿拉善左旗 5.8 级地震前地脉动信号特征分析	梁沙沙, 高立新, 薛 丁, 戴 勇, 格 根 (808)
鄂尔多斯西南缘 P 波三维 Q 值层析成像	师海阔, 张元生, 马禾青, 马小军 (815)

### 震灾防御技术及其他

考虑视觉传达效果的震后区域三维图像虚拟重建	刘 旭 (826)
高强度地震下建筑施工场点危险性建模分析	吴 俊, 廖 炜, 王 涛 (833)
震后建筑进度 BIM 估计模型改进	武 炜, 崔邯龙, 张丽丽 (841)
基于改进遗传算法的地震后重建工程造价模型改进设计	胡丹萍, 陶学明 (848)
考虑时间约束的地震救灾数学模型设计与实现	王前锋 (852)
三维地震神经网络反演在探明煤层富水灾害层的应用	范二平, 薛明喜, 赵欢欢 (859)
基于有限元法的土石坝除险加固渗流问题分析	赵 鑫, 周 阳 (867)

# CHINA EARTHQUAKE ENGINEERING JOURNAL

Vol.40 No.4 August, 2018

## CONTENTS

Experimental Study on the Dynamic Response of Pile-group Structure in Saturated Sand with Different Thicknesses .....	LI Yurun, QIANG Dongfeng, ZOU Ze, LIU Huida, WANG Hai (625)
Random Seismic Response of a Suspension Bridge Considering Site Effect .....	ZHANG Bin, ZHANG Hongmin, GONG Zhaowei (631)
Simulation Analysis of Transverse Vibration Response of High-Rise Buildings under Strong Earthquakes .....	WANG Yang (637)
Seismic Performance and Parameters Analysis of a Novel Fan-shaped Disc Energy Dissipation Device .....	YANG Qiong, GUO Yangzhao, WU Ti, YANG Cheng (643)
Effect of Eccentric Structures on the Seismic Performance of Buildings .....	CHEN Xiaobing, OUYANG Zhiyong, LI Yadong (652)
Finite Element Analysis of the Bearing Capacity of Steel Plates in Steel - structure Buildings under External Vibration .....	XU Songzhi (658)
Composite Mechanical Characteristics of Reinforced Concrete Box Girders in Earthquake Environments .....	LIU Mi, GAO Liang (665)
Analyzing the Seismic Performance of Buildings by Considering Shear-wall Transfer Structures .....	RAO Li (671)
Seismic Design of Steel-strip Refuge Buildings under High-intensity Earthquakes .....	JIN Xiaoyan (678)
Mechanical Properties of Split-Tunnel-Lining Structures Caused by Buried Ground Fissure Propagation .....	SHE Fangtao, LI Yaopu, LI Ting, WANG Songhe (684)
Load Measurement of Building Steel Bars Subjected to Lateral Pressure and Strong Earthquakes .....	REN Yanjuan (692)
Seismic Vulnerability Analysis of Multi-age Steel Bent Frame Structures Based on IDA Method .....	ZHENG Shansuo, ZUO Ying, ZHANG Xiaohui, SHI Lei, HUANG Weizeng, ZHENG Jie (698)
Seismic Vulnerability Analysis of RC Frame Structures through Different Structural Damage Models .....	YE Chenying, ZHAO Peng, XIANG Min (705)
Progressive Collapse Mechanism of Hybrid Structures with Different Vertical Stiffness .....	LIN Jiankang, YANG Wenwei, BAO Chao (713)
Influence of Pile-Soil Interaction on the Seismic Fragility and Post-earthquake Traffic Capacity of an Isolated Bridge .....	TANG Yongjiu, FANG Sheng'en (217)
Dynamic Characteristics of the Base Isolation System Based on the Linear Rheological Model .....	SHENG Zhaohui, CAO Ye, ZHANG Tongxin (728)
The Evolution Law of Ground Temperature Field in Permafrost Roadbed of the Qinghai — Tibet Plateau under Climate Warming .....	YANG Kaifei, MU Yanhu, MA Wei, BI Guiquan, LI Guoyu, MAO Yuncheng (734)
Compression and Shear Deformation Properties of Marine Soft Soil Deposits in the Pearl River Delta .....	ZHANG Yan, GENG Jishi, MAO Lei, LIU Furong (745)
Experimental Investigation of Micro-mesoscopic Features of Loess Liquefaction .....	AN Liang, DENG Jin, WANG Lanmin (752)
Seismic Test of the Subgrade of Guangzhou Rail Transit Line 21 .....	LI Tongan (759)

Prediction and Analysis of the 2017 Jiuzhaigou $M_s7.0$ Earthquake .....	.....
.....	..... <i>GUO Guangmeng, JIANG Yongtao, YANG Jie, ZHANG Ziyue, ZHANG Miao</i> (765)
Strong Ground Motion Records and Its Characteristics in Jiuzhaigou $M_s7.0$ Earthquake on August 8, 2017 .....	.....
.....	..... <i>XU Qin, GU Yunhe, SUN Yanpin</i> (769)
Co-seismic Deformation Associated with the Jiuzhaigou, Sichuan $M_w6.6$ Earthquake by GPS Data .....	.....
.....	..... <i>WANG Dongzheng, ZHAO Bin, LI Qi, YU Jiansheng, QI Yujie, LU Xiaofei, TAN Kai</i> (778)
Activity Analysis of the Ladui—Naidong and Biding—Jiashela Faults in Xigaze, Tibet .....	.....
.....	..... <i>LEI Shengxue, LI Zhenhai, ZHANG Wenpeng, CHEN Yukun, GUO Wei, XIE Jingbo, GAO Ye, GAO Jinrui</i> (785)
New Activity and Slip Rate of Wudu—Kangxian Fault .....	.....
.....	..... <i>JIA Wei, LIU Hongchun, LIU Yu, YUAN Daoyang, SHAO Yanxiu</i> (794)
Relationship Between the Gravity and $b$ -value Anomalies in Southeast Gansu and the Minxian—Zhangxian $M 6 . 6$ Earthquake .....	.....
.....	..... <i>FENG Jianlin, LI Deqing, TAN Yujuan, QIN Jianzeng, XIE Ruyi, LIU Dongyang</i> (802)
Characteristics of Ground Pulse Signals before the 2015 Alxa Left Banner $M5.8$ Earthquake .....	.....
.....	..... <i>LIANG Shasha, GAO Lixin, XUE Ding, DAI Yong, GE gen</i> (808)
Three-dimensional $Q$ Tomography of P-wave Data in the Southwestern Ordos Margin .....	.....
.....	..... <i>SHI Haikuo, ZHANG Yuansheng, MA Heqing, MA Xiaojun</i> (815)
3D Reconstruction of Post-earthquake Area Images Considering Visual Communication Effect .....	.....
.....	..... <i>LIU Xu</i> (826)
Risk Modeling Analysis of Construction Sites under High-intensity Earthquakes .....	.....
.....	..... <i>WU Jun, LIAO Wei, WANG Tao</i> (833)
Improvement of the BIM Estimation Model for Post-earthquake Construction Schedule .....	.....
.....	..... <i>WU Wei, CUI Hanlong, Zhang Lili</i> (841)
Improved Construction Cost Model for Post-earthquake Reconstruction Based on Improved Genetic Algorithm .....	.....
.....	..... <i>HU Danping, TAO Xueming</i> (848)
Design and Implementation of a Mathematical Model for Earthquake Disaster Rescue Considering Time Constraint .....	.....
.....	..... <i>WANG Qianfeng</i> (853)
Application of Three Dimensional Neural Network Inversion in the Prediction of Water Abundance in Coal Seam Roof .....	.....
.....	..... <i>FAN Erping, XUE Mingxi, ZHAO Huanhuan</i> (859)
Seepage Problem in the Reinforcement of Earth-Rockfill Dam Based on Finite Element Method .....	.....
.....	..... <i>ZHAO Xin, ZHOU Yang</i> (867)