# 铁道科学与工程学报

Journal of Railway Science and Engineering

April 2017 Volume 14 Number 4



中南大学主力

# 铁道科学与工程学报

2017年4月 第14卷第4期 总第85期

### 目 次

### 高速铁路技术

## 轨道与基础

边坡稳定分析中岩土参数置信水平取值探讨…… 张文生,罗强,蒋良潍,骆飞,赵晶,李昂(697) 聚丙烯纤维加筋红黏土抗剪强度特性试验研究…… 阮波,彭学先,米娟娟,韩钊,周堃野(705) 沥青路面流固耦合作用对面层畸变能的影响…… 刘富强,滕旭秋,王起才(711) 基于 BIM 的三维铁路道岔建模方法研究…… 康峰,韩峰(716) 干湿循环条件下复合固化砂土抗压强度试验研究…… 王天,翁兴中,张俊,姜乐,刘鹏程,张师(721) 端承桩水平振动响应能量变分分析方法…… 张慧,李小娟,屈青山(730) 基于 Verhulst 动态新陈代谢的邻近铁路基坑变形预测 李昂,王旭,蒋代军(739) 止水帷幕侧向约束条件下黄土地基非饱和入渗 "庄德华,屈耀辉,李奋,房建宏(745) 空沟减隔振对路基本体影响效果的试验研究…… 张立群,侯恩品,刘晶磊,宋绪国,崔宏环(752) 桩间土为非饱和土的刚性桩复合地基复合模量计算 "冯君,孟少伟(762)

# 桥梁隧道与结构

短线节段预制拼装桥梁几何线形三维控制方法刘海东,侯文崎,罗锦(769)
基于板壳有限元理论的薄壁箱梁剪力滞效应
基于 ANSYS 的桥式盾构受力及变形特征研究
无砂浆配筋砌体剪力墙抗震试验的滑移研究
隧道风对隧道火灾烟气扩散的影响研究吴世先,杨会,朱辉(801)
隧道综合超前地质预报技术应用研究罗浚,徐剑波,陈建平(811)

### 机车车辆与设备

不同高度声屏障对磁浮列车气动效应影响研究李颢豪,	杨明智,孔学舟	针(819)
基于改进的 Goodman 曲线的车轮疲劳强度评估方法研究······	·王悦东,张佳等	学(827)
基于奇异值分解的轨头损伤快速检测方法研究般华,	朱洪涛,王志勇	勇(833)
时速 160 km/h 城际动车组列车司机室昼间眩光分析李仕栋,方卫宁,李东波,	王红瑀,谷绪均	也(839)
2种磁轨关系的磁浮车桥相互作用比较分析	梁鑫,马卫 <sup>1</sup>	生(845)

# 运输•物流•工程管理

山区高速公路桥隧密集路段交通流特性研究	2)
农村道路条件安全分析与评价研究单媛,李朔,雷定猷(86)	2)
城市结点高快路网络承载能力分析模型涂圣文,段力,赵振华,姚常伟(87	2)
基于遗传算法的蓄冷式冷品多温共配成本优化李宇慧,郑国华,曹靖(87	9)

责任编辑: 阳丽霞 英文编审: 杨小礼 封面设计: 刘谊

期刊基本参数: CN43-1423/U\*2004\*m\*A4\*216\*zh\*P\*\( 20.00\*1500\*29\*2017-04

# Journal of Railway Science and Engineering

Volume 14 Number 4 (Sum 85) April 2017

### **CONTENTS**

### **High-speed Rail Technology**

The embedded CRTS II slab ballastless track in interaction with bridges under seismic action		
LIU Shi, YAN Bin, ZHANG Pengfei, LIN Zhijun(669)		
Study on the flap action between slab and CA mortar		
XIE Lu, ZHAO Chunguang, SU Qiankun, LIU Xueyi, YANG Rongshan(675)		
Chaos studies of geomagnetic storms affecting autotransformer of high-speed railway		
Experimental study on expansive deformation of expansive soil in high speed railway		
XUE Yanjin, WANG Qicai, ZHANG Rongling, MA Lina, WANG Chong, WANG Bingzhong(690)		
Track and Foundation		
Value of confidence level for geotechnical parameters in slope stability analysis		
ZHANG Wensheng, LUO Qiang, JIANG Liangwei, LUO Fei, ZHAO Jing, LI Ang(697)		
Experimental study on shear strength of polypropylene fiber reinforced red clay		
RUAN Bo, PENG Xuexian, MI Juanjuan, HAN Zhao, ZHOU Kunye(705)		
Influence of asphalt pavement under fluid-solid coupling on surface distortion energy		
LIU Fuqiang, TENG Xuqiu, WANG Qicai(711)		
The research on method of three dimensional modeling with BIM technology in railway switch		
**************************************		
Strength characteristics of fiber-reinforced solidified sand under dry-wet cycles		
WANG Tian, WENG Xingzhong, ZHANG Jun, JIANG Le, LIU Pengcheng, ZHANG Shi(721)		
Variation solution for horizontal dynamic response of an end-bearing pileZHANG Hui, LI Xiaojuan, QU Qingshan(730)		
Prediction of foundation pit deformation near by the railway based on Verhulst dynamic metabolism		
LI Ang, WANG Xu, JIANG Daijun(739)		
Infiltration in unsaturated loess foundation under the condition of lateral constraint of waterproof		
ZHUANG Dehua, QU Yaohui, LI Fen, FANG Jianhong(745)		
Research on the test of the effect of vibration isolation measures of empty groove on the subgrade body		
ZHANG Liqun, HOU Enpin, LIU Jinglei, SONG Xuguo, CUI Honghuan(752)		

Composite modulus calculation for rigid pile composite foundation with the unsaturated soil between piles
FENG Jun, MENG Shaowei(762)
Bridge, Tunnel and Structure
Three-dimensional geometric alignment control method for short-line matching segmental precast girder assembling bridge
LIU Haidong, HOU Wenqi, LUO Jin(769
Shear lag effect of thin-walled box girder based on shell finite element theory
CAI Heng, LU Hailin, TANG Zheng(779)
Research on characteristics of stress and deformation of bridge shield based on ANSYSZHOU Lijin(787
Study on slide phenomenon of motarless reinforced masonry shear walls seismic experiment
HUANG Liang, WANG Lu(794)
Research on impacts of tunnel wind on fire smoke spreading in an urban road tunnel
Application and research of comprehensive advanced geological prediction technology in tunnel
LUO Jun, XU Jianbo, CHEN Jianping(811)
Vehicles and Equipment
Influence of the height of sound barrier on aerodynamic effects of maglev train
LI Haohao, YANG Mingzhi, KONG Xuezhou(819
Assessment method for fatigue strength of wheel based on improved Goodman curve
WANG Yuedong, ZHANG Jiayu(827)
The study on the rapid detection method of rail head damage based on singular value decomposition
YIN Hua, ZHU Hongtao, WANG Zhiyong(833
Analysis on the daylight glare evaluation for the cab of the speed of 160 km/h intercity EMU Train
LI Shidong, FANG Weining, LI Dongbo, WANG Hongyu, GU Xudi(839)
Comparative analysis of two kinds of magnet-track relationship of maglev vehicle and guideway interaction
LIANG Xin, MA Weihua(845)
Transportation • Logistics • Engineering Management
Research on traffic flow characteristics of bridge and tunnel intensive section in mountainous expressway
Safety analysis and evaluation of rural road conditions SHAN Yuan, LI Shuo, LEI Dingyou(862)
Analysis model on the loading capacity of freeways and expressways network in city area
TU Shengwen, DUAN Li, ZHAO Zhenhua, YAO Changwei(872
Optimization of multi-temperature joint distribution of storage-type cold-chain mode based on genetic algorithm
LI Yuhui, ZHENG Guohua, CAO Jing(879)