

中国科技期刊卓越行动计划入选期刊



# 铁道科学与工程学报

Journal of Railway Science and Engineering



# 铁道科学与工程学报

2020 年 10 月

第 17 卷第 10 期

总第 127 期

## 目 次

### 高速铁路技术与智慧交通

- 高速铁路飞砟防治探讨.....井国庆, 杜文博, 付琪璋(2445)  
基于影像数据的桥梁全息动位移测量方法研究.....杜鹏, 邵帅, 周志祥, 邓国军, 简传熠(2450)  
基于模型补偿的高速列车状态反馈预测控制.....杨辉, 童英赫, 付雅婷, 李中奇(2460)  
黄金比例 NSGA-II 算法在动车组列车多目标优化中的应用.....汤旻安, 王茜茜, 蔚璠(2469)  
深度学习目标检测算法在货运列车车钩识别中的应用.....郭忠峰, 张渊博, 王赫莹, 任仲伟(2479)

### 轨道与基础

- 冰川区铁路选线要点——以中巴经济走廊为例.....韩笑, 姚令侃, 魏永幸, 黄艺丹, Sarfraz Ali(2485)  
磨耗钢轨经济性打磨型面研究.....林凤涛, 胡伟豪(2493)  
重载铁路道砟旋转压实特性及参数优化试验研究.....王萌, 肖源杰, 卢小永, 畅振兴, 陈晓斌, 古牧, 叶新宇(2503)  
基于监测数据的铁路高边坡力学参数反演及长期稳定性预测.....燕彦君, 程爱平, 李健, 董福松, 戴顺意(2516)  
斜向水泥土桩加固土质路堤的模型试验及机理研究.....晏军, 黄启友(2526)  
基于 Graf 加法定律的竖向受荷双桩动力响应解析研究.....王敏, 刘齐建, 刘欢, 王剑波(2532)  
低温养护条件下水泥改良风积沙无侧限抗压强度试验研究.....阮波, 郑世龙, 丁苗, 聂如松, 阮晨希, 陈栋(2540)  
玄武岩/聚丙烯腈混杂纤维混凝土力学性能及最优纤维掺量研究.....曾振海, 李传习, 柯璐, 聂洁(2549)

### 桥梁隧道与结构

- 桥梁动态称重系统在自锚式独塔悬索桥轻型组合桥面中的试验研究.....房啸, 赵华, 张斌, 廖万成, 张钰菲(2558)

- 叠合时间对钢-混组合结构梁桥受力及经济影响研究.....李立峰,胡梦蝶,冯威,刘新华(2568)
- 基于频率法的短吊杆索力测试.....燕启清,刘世忠,朱占龙,李登科(2577)
- 铁路正交异性钢桥面板弧形切口型式的对比研究.....刘靖宜,祝志文(2586)
- 基于 DM-LEFM 理论的混凝土桥梁受力主筋疲劳全寿命分析.....王剑,文国华(2597)
- 桩基挤土过程对地铁隧道影响的多因素分析.....靳军伟,李新潮,付魁,李明宇,史鹏飞,李咏梅(2603)
- 斜井掌子面形状与倾角对隧道开挖面稳定性影响.....安永林,李佳豪,赵丹,岳健(2612)
- 基于云模型的山岭隧道衬砌服役状况评价方法研究.....任志华,张博,丁祖德,计霞飞(2618)
- 基于带肋角钢的装配混凝土柱-钢梁连接节点抗震性能试验研究.....舒兴平,张晗,张再华(2626)
- 空间框架式客运车站振动舒适度分析.....许暮迪,张辉,花雨萌,谢伟平(2635)

## 机车车辆与设备

- 轨道车辆蛇行运动 GA-LQR 主动控制研究.....晏永,曾京,瞿玉江,张庆(2642)
- 基于 EKF 的轨道探伤小车组合定位技术研究.....刘长军,王黛月,余天乐,郭建志,李锦(2649)
- 滚珠丝杠式电涡流阻尼减振器端部连接结构的受力分析.....陈文韬,陈政清,封周权,沈龙江,樊友权(2656)
- 声强测量在高铁声屏障检测中的应用研究.....马爱英,汪臻(2666)

## 运输·物流·工程管理

- 城市轨道交通工程关键接口识别方法研究.....琚倩茜,姜红丙(2672)
- 基于地铁乘员站立姿态头部碰撞损伤仿真分析研究.....赖森华,许拓,许平,田洪雷,于洋洋(2680)
- 基于累积前景理论的铁路 EPC 项目监理模式决策方法研究.....武子越,张飞涟,范臻辉(2688)
- 最小客流量保证下轨道交通 PPP 项目资本补偿决策模型研究.....吕俊娜,刘润芳,邢青松,周文(2696)
- 山岭隧道施工期静态与动态风险评估方法及应用.....张延杰,杨小兵,任孟德,张家伟,刘涛,张红刚(2703)

---

责任编辑：阳丽霞 英文编审：肖源杰 封面设计：刘谊

期刊基本参数：CN43-1423/U\*2004\*m\*A4\*266\*zh\*P\*¥50.00\*1500\*32\*2020-10

# Journal of Railway Science and Engineering

Volume 17 Number 10

(Sum 127)

October 2020

## CONTENTS

### High-speed Rail Technology and Intelligent Transportation

- Ballast flight prevention measures of high-speed railway.....JING Guoqing, DU Wenbo, FU Qizhang(2445)  
Research on bridge holographic dynamic displacement measurement method based on image data  
.....DU Peng, SHAO Shuai, ZHOU Zhixiang, DENG Guojun, JIAN Chuanyi(2450)  
State feedback predictive control of high-speed train based on model compensation  
.....YANG Hui, TONG Yinghe, FU Yating, LI Zhongqi(2460)  
Application of golden ratio NSGA-II algorithm in multi-objective optimization of EMU trains  
.....TANG Minan, WANG Qianqian, YU Fan(2469)  
Application of deep learning target detection algorithm in freight train coupler recognition  
.....GUO Zhongfeng, ZHANG Yuanbo, WANG Heying, REN Zhongwei(2479)

### Track and Foundation

- Railway location strategies in glacial areas: A case study of China-Pakistan Economic Corridor  
.....HAN Xiao, YAO Lingkan, WEI Yongxing, HUANG Yidan, Sarfraz Ali(2485)  
Study on the economical grinding surface of wear rail.....LIN Fengtao, HU Weihao(2493)  
Laboratory investigation of gyratory compaction characteristics and optimal parameters for heavy haul railroad ballasts  
.....WANG Meng, XIAO Yuanjie, LU Xiaoyong, CHANG Zhenxing, CHEN Xiaobin, GU Mu, YE Xinyu(2503)  
Mechanical parameter inversion and long-term stability prediction of railway high slope based on monitoring data  
.....YAN Yanjun, CHENG Aiping, LI Jian, DONG Fusong, DAI Shunyi(2516)  
Model test and mechanism study of inclined soil-cement pile to reinforce soil embankment.....YAN Jun, HUANG Qiyou(2526)  
Dynamic response of two vertically loaded piles based on the Graf's addition theorem  
.....WANG Min, LIU Qijian, LIU Huan, WANG Jianbo(2532)  
Experimental study on unconfined compressive strength of cement-stabilized aeolian sand cured at low temperature  
.....RUAN Bo, ZHENG Shilong, DING Hui, NIE Rusong, RUAN Chenxi, CHEN Dong(2540)  
Study on mechanical properties and optimum fiber content for basalt/polyacrylonitrile hybrid fiber reinforced concrete  
.....ZENG Zhenhai, LI Chuanxi, KE Lu, NIE Jie(2549)

### Bridge, Tunnel and Structure

- Experimental study of bridge weigh-in-motion system in lightweight composite deck of self-anchored single tower suspension  
.....FANG Xiao, ZHAO Hua, ZHANG Bin, LIAO Wancheng, ZHANG Yufei(2558)

- Research on the influence of the composite time of the steel-concrete composite girder bridge on structural stress and economic benefit.....LI Lifeng, HU Mengdie, FENG Wei, LIU Xinhua(2568)
- Determining short suspender tension based on frequency method.....YAN Qiqing, LIU Shizhong, ZHU Zhanlong, LI Dengke(2577)
- Comparative study on cutout geometry applied on railway orthotropic steel bridge deck.....LIU Jingyi, ZHU Zhiwen(2586)
- Life-cycle fatigue analysis of main reinforcements of the concrete bridge based on the DM-LEFM theory  
.....WANG Jian, WEN Guohua(2597)
- Multi-factor analysis of influence of displacement pile on subway tunnel  
.....JIN Junwei, LI Xinchao, FU kui, LI Mingyu, SHI Pengfei, LI Yongmei(2603)
- Analysis of the influence of the tunnel face shape and the inclination of the inclined shaft on the tunnel face stability  
.....AN Yonglin, LI Jiahao, ZHAO Dan, YUE Jian(2612)
- A service performance evaluation method for mountain tunnel linings based on cloud model  
.....REN Zhihua, ZHANG Bo, DING Zude, JI Xiafei(2618)
- Experimental study on seismic behavior of assembled concrete column-steel beam joint based on angle steel with ribs  
.....SHU Xingping, ZHANG Han, ZHANG Zaihua(2626)
- Vibration serviceability analysis of space frame passenger station.....XU Mudi, ZHANG Hui, HUA Yumeng, XIE Weiping(2635)

## **Vehicles and Equipment**

- Active control analysis of railway vehicle hunting motion based on LQR and genetic algorithm  
.....YAN Yong, ZENG Jing, ZHAI Yujiang, ZHANG Qing(2642)
- Research on combined location method of dual rail inspection vehicle based on extended Kalman filter  
.....LIU Changjun, WANG Daiyue, YU Tianle, GUO Jianzhi, LI Jing(2649)
- Structural analysis of the end connection of ball screw type eddy current damper  
.....CHEN Wentao, CHEN Zhengqing, FENG Zhouquan, SHEN Longjiang, FAN Youquan(2656)
- Application of sound intensity measurement in the detection of high-speed railway sound barriers  
.....MA Aiying, WANG Zhen(2666)

## **Transportation · Logistics · Engineering Management**

- Research on key interface points identification for metro projects.....JU Qianqian, JIANG Hongbing(2672)
- Numerical simulation research on head injuries of standing subway passengers based on standing posture  
.....LAI Senhua, XU Tuo, XU Ping, TIAN Honglei, YU Yangyang(2680)
- Research on the supervision mode selection method of railway EPC project based on cumulative prospect theory  
.....WU Ziyue, ZHANG Feilian, FAN Zhenhui(2688)
- Research on capital compensation decision model of rail transit PPP project under minimum passenger flow guarantee  
.....LÜ Junna, LIU Runfang, XING Qingsong, ZHOU Wen(2696)
- Static and dynamic risk assessment method of mountain tunnel during construction period and its application  
.....ZHANG Yanjie, YANG Xiaobing, REN Mengde, ZHANG Jiawei, LIU Tao, ZHANG Honggang(2703)