

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



## 目次

### 特约稿

绿色铁路工程的内涵探析与研究展望.....孙永福,唐娟娟,王孟钧,牛丰,邱琦(1)

### 高速铁路技术与智慧交通

高速铁路免置平车载全站仪 CPIII自动照准测量方法研究

.....曹娟华,朱洪涛,朱嫣,吴维军,叶秋林,卢仕山(12)

高速磁浮单线隧道车体压力载荷特征.....张志超,杜健,赵汗冰,梅元贵(21)

故障及经济相关下动车组系统动态成组维护策略.....杨国军,王红,何勇,熊律,王宏宇(31)

基于预紧力工况下的原位螺栓超声检测研究.....王锋,李雄兵(38)

一种智轨列车的全景环视图像生成方法.....吕晓聪,罗意平(46)

基于改进 YOLOv3 的站口行人检测方法.....康庄,杨杰,李桂兰,南柄飞,曾璐(55)

### 轨道与基础

基于 DIC 混凝土轨枕和复合轨枕受弯特征分析.....井国庆,杜文博,尤瑞林,杜运昌(64)

考虑应力路径基坑变形计算及支护性能研究.....牛建东,李泽玮,肖剑,王克宏(71)

强降雨条件下非饱和粉土雨水渗透规律研究.....印长俊,龙勇齐(81)

混凝土排桩主动隔振研究.....刘晶磊,梅名彰,王洋,张冲冲(87)

聚丙烯纤维加筋水泥搅拌土拉压性能试验研究.....阮波,阮晨希,邓林飞,张向京(95)

玻璃纤维加筋水泥土耐久性试验研究.....许巍,刘军忠,张俊(104)

中英铁路路堑边坡设计方法对比研究.....赵晋乾(112)

## 桥梁隧道与结构

- 带高防护结构的边箱叠合梁斜拉桥涡振性能及抑振措施研究……………龙俊贤,周旭辉,李前名,韩艳,李春光(119)
- 拓扑优化设计方法与经验设计方法的 RC 开孔深梁对比试验研究……………张鹤志,徐文韬,戚菁菁,黄焱森(128)
- 基于方法论的综合管廊施工方案比选……………伍军,王孟钧(137)
- 自锚式悬索桥损伤吊索系统拉力重分布研究……………李文武,周洋,陈鹏飞,叶毅(145)
- 基于 Peck 公式的盾构隧道施工引起的地层三维沉降预测  
……………张运强,曹文贵,周苏华,周帅康,邢静康,黄郁东(153)
- 地面堆载作用下盾构隧道管片开裂行为分析……………谢家冲,王金昌,黄伟明(162)
- 滨海孤石地层盾构掘进的稳定性数值分析……………朱向阳,钱伟丰,朱和跃,黄明(172)
- 重载铁路隧道仰拱施工关键技术应用-以中条山隧道为例……………张献伟,洪开荣,陈鸿,常翔(184)
- 多因素影响下顶管施工引起土体变形计算研究……………焦义,梁禹,冯金勇,郑庆坂,蒋凯(192)
- 增湿条件下膨胀土隧道近距离下穿既有地铁车站施工力学分析……………施有志,林联泉,徐建宁,秦佳佳(200)

## 机车车辆与设备

- 基于改进的 Newmark- $\beta$  法重载列车车钩纵向力仿真研究……………武承龙,董昱(211)
- 城市轨道交通列车气动性能优化研究……………于淼,刘明杨,耿亚彬,苗秀娟(220)
- 基于两车模型的地铁隧道活塞风对屏蔽门影响研究……………袁誉钊,贺德强,陈彦君,苗剑,单晟,李凯(227)
- 中低速磁浮大位移轨道伸缩装置设计与创新……………龚俊虎,李伟强,谢海林,鄢巨平,周文,方永东,郑桂东(235)

## 运输·物流·工程管理

- 基于组合预测模型的铁路货运量预测研究……………徐玉萍,邓俊翔,蒋泽华(243)
- 川藏铁路工程物资供应保障策略的系统动力学仿真研究……………谢洪涛,卢睿,刘文荐,郑俊巍,张云华(250)
- 基于知识元表达的地铁隧道施工事故情景库设计……………陈赞,陈玉斌,李晶晶,张谨帆(259)
- 施工场景下基于 YOLOv3 的安全帽佩戴状态检测……………韩锬,李斯宇,肖友刚(268)

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\*276\*zh\*P\*¥50.00\*1500\*32\*2021-01

## CONTENTS

### Special Invited Paper

Connotation explore and research prospects for green railway engineering

.....SUN Yongfu, TANG Juanjuan, WANG Mengjun, NIU Feng, QIU Qi(1)

### High-speed Rail Technology and Intelligent Transportation

Research on the CPⅢ automatic aiming and measurement method of high speed railway based on vehicle ETS without leveling

.....CAO Juanhua, ZHU Hongtao, ZHU Yan ,WU Weijun, YE Quilin, LU Shishan(12)

Pressure load characteristics of high-speed maglev single-track tunnels

.....ZHANG Zhichao, DU Jian, ZHAO Hanbing, MEI Yuanguai(21)

Dynamic group maintenance strategy of EMU system under failure and economic dependence

.....YANG Guojun, WANG Hong, HE Yong, XIONG Lü, WANG Hongyu(31)

Study of ultrasonic testing method for in-situ bolts based on pre-tightening force.....WANG Feng, LI Xiongbing(38)

Panoramic surround-view image generation method for ART.....LÜ Xiaocong, LUO Yiping(46)

Pedestrian detection method for station based on improved YOLOv3

.....KANG Zhuang, YANG Jie, LI Guilan, NAN Bingfei, ZENG Lu(55)

### Track and Foundation

Analysis of bending characteristics of FFU composite sleeper and concrete sleeper based on digital image correlation

.....JING Guoqing, DU Wenbo, YOU Ruilin, DU Yunchang(64)

Deformation calculation and supporting performance of foundation pit considering stress path

.....NIU Jiandong, LI Zewei, XIAO Jian, WANG Kehong(71)

Study on the rainwater infiltration law of unsaturated silt under heavy rain.....YIN Changjun, LONG Yongqi(81)

Research on active vibration isolation of concrete rows

.....LIU Jinglei, MEI Mingzhang, WANG Yang, ZHANG Chongchong(87)

Experimental study on unconfined compressive strength and splitting tensile strength of polypropylene fiber reinforced

cement mixing soil.....RUAN Bo, RUAN Chenxi, DENG Linfei, ZHANG Xiangjing(95)

Experimental study on durability of glass fiber reinforced cemented soil.....XU Wei, LIU Junzhong, ZHANG Jun(104)

Comparison of stability analysis methods for railway cutting slopes between China and United Kingdom.....ZHAO Jinqian(112)

## Bridge, Tunnel and Structure

- Experimental study on vortex-induced vibration performance and aerodynamic countermeasures for a double-box composite beam cable stayed bridge with high protective structure  
.....LONG Junxian, ZHOU Xuhui, LI Qianming, HAN Yan, LI Chunguang(119)
- Comparative experimental study of RC deep beam with openings between topology optimization and empirical design method  
.....ZHANG Huzhi, XU Wentao, QI Jingjing, HUANG Yaosen(128)
- Comparative selection of construction methods for integrated pipeline network based on the theory of methodologies  
.....WU Jun, WANG Mengjun(137)
- Study of internal force redistribution of damaged hanger system of self-anchored suspension bridge  
.....LI Wenwu, ZHOU Yang, CHEN Pengfei, YE Yi(145)
- Prediction of three-dimensional subface and subsurface settlement caused by shield tunnelling based on Peck formula  
.....ZHANG Yunqiang, CAO Wengui, ZHOU Suhua, ZHOU Shuaikang, XING Jingkang, HUANG Yudong(153)
- Nonlinear structural analysis on cracking behavior of shield tunnel segment under surface loading  
.....XIE Jiachong, WANG Jinchang, HUANG Weiming(162)
- Numerical analysis of the stability of shield tunneling in the coastal isolated rock stratum  
.....ZHU Xiangyang, QIAN Weifeng, ZHU Heyue, HUANG Ming(172)
- Application of key technologies in invert construction of heavy haul railway tunnel-taking Zhongtiaoshan tunnel as an example  
.....ZHANG Xianwei, HONG Kairong, CHEN Hong, CHANG Xiang(184)
- Study on soil deformation caused by pipe jacking construction with multi-factor  
.....JIAO Yi, LIANG Yu, FENG Jinyong, ZHENG Qingban, JIANG Kai(192)
- Analysis of construction mechanics of expansive soil tunnel passing through existing subway station in short distance under humidification condition.....SHI Youzhi, LIN Lianquan, XU Jianning, QING Jiajia(200)

## Vehicles and Equipment

- Simulation research on the longitudinal force of heavy haul train coupler based on the improved Newmark- $\beta$  method  
.....WU Chenglong, DONG Yu(211)
- A study of aerodynamic optimization of city rail train.....YU Miao, LIU Mingyang, GENG Yabin, MIAO Xiujuan(220)
- Study on the influence of piston wind on platform screen door in subway tunnel based on two-train model  
.....YUAN Yuzhao, HE Deqiang, CHEN Yanjun, MIAO Jian, SHAN Sheng, LI Kai(227)
- Design and innovation of the large displacement track expansion device for medium and low speed maglev transit  
.....GONG Junhu, LI Weiqiang, XIE Hailin, YAN Juping, ZHOU Wen, FANG Yongdong, ZHENG Guidong(235)

## Transportation · Logistics · Engineering Management

- Railway freight volume forecasting based on a combined model.....XU Yuping, DENG Junxiang, JIANG Zehua(243)
- System dynamic simulation of material supply support strategy of Sichuan-Tibet railway project  
.....XIE Hongtao, LU Rui, LIU Wenjian, ZHENG Junwei, ZHANG Yunhua(250)
- Design of subway tunnel construction accident scene database based on knowledge element expression  
.....CHEN Yun, CHEN Yubin, LI Jingjing, ZHANG Jinfan(259)
- Detection of wearing state of safety helmet based on YOLOv3 in construction scene  
.....HAN Kun, LI Siyu, XIAO Yougang(268)