

# 铁道科学与工程学报

2018年3月

第15卷第3期

总第96期

## 目 次

### 高速铁路技术

- 高速动车组头罩端盖用 GFRP 碰撞特性研究.....赵凯, 姚曙光, 姜成, 邢艺(543)  
基于定序优化的高速铁路网络列车运行图优化.....周文梁, 屈林影, 史峰, 邓连波(551)  
基于复杂网络的高速铁路列车服务网络特征.....张琦, 马艳(559)  
高速铁路无砟轨道陡坡路基桩板墙侧向位移的影响分析.....吴江, 张良, 周成, 罗强, 谢涛(567)  
高铁竞争下高速公路客运选择行为与发展策略.....李晓伟, 王炜(574)

### 轨道与基础

- 重载列车作用下 CRTSIII型板式轨道结构力学特性试验研究.....曾志平, 何贤丰, 余志武, 魏炜(581)  
超重载轨道过渡段力学性能分析.....王新明(589)  
全长黏结式注浆锚杆侧摩阻力分布实用简便计算.....熊辉, 皮乐(597)  
基于 ANP 和扩展 TOPSIS 法的青藏铁路冻土路基安全性分析.....郑雨茜, 鲍学英(605)  
水热耦合作用下沥青-集料界面黏附性研究.....崔宇超, 马翔, 孙孝语(614)  
铁路侧向导沙沙障流场演化规律研究.....辛林桂, 程建军, 张志平, 智凌岩, 王连, 蒋富强(621)  
填方边坡变截面桩板墙桩身内力及变形数值分析.....孙晋超, 金亮星, 欧阳成泓(629)  
基于 CarSim 仿真的超高过渡起点位置对比研究.....潘兵宏, 周海宇, 刘斌, 霍永富(637)  
试验分析掺砂量对水泥砂浆桩 Duncan-Chang 模型参数影响.....李昉(645)

### 桥梁隧道与结构

- 槽形主梁非对称式独塔斜拉桥车桥耦合分析.....杨著, 郭向荣, 唐俊锋, 朱志辉(651)

- GFRP-钢混合配筋混凝土结构使用寿命预测方法研究………李星，蔺鹏臻，孙理想，杨子江(660)  
基于声振法的钢混组合桥面板脱空识别研究………邹祺祺，晏班夫(668)  
城市轻轨槽型梁温度效应及裂缝分析………梁岩，毛瑞敏，张文格，袁会丽，陈淮(677)  
设置 AMD 的铁路钢桥鲁棒控制研究………刘嘉，沈正松，周长超(685)  
以附加挠度为广义位移的双室箱梁剪力滞效应研究………张学西，郭发蔚，张玉元，师彬，杨娟(693)  
T 字形钢箱梁异形块设计及空间受力特性研究………刘建威，于鹏，李德建(700)  
考虑浆液稠度变化的盾构壁后注浆扩散模型………周佳媚，刘欢，张迁，戴龙钦，曹国栋(710)  
大型深基坑开挖对旁边地铁盾构隧道影响的实测分析………魏纲，厉京，宣海力，董力政，徐咏咏，张世民(718)  
下台阶含仰拱一次开挖工法特性研究………蔡闽金，刘大刚，邓涛，赵思光，何伟(727)

## 机车车辆与设备

- 城际列车气动阻力组成分析及减阻研究………左雄，罗意平，刘冬雪(734)  
铁路大修列车液压行走驱动系统牵引性能研究………赵存，王丽娟，胡军科，杨武继，方立志(741)  
基于 Sobol' 法的轨道车辆平稳性的全局灵敏度分析………邵永生，李成，成明(748)  
一种标准化的复合绝缘子憎水性检测系统研究………杜亚江，李贺，李宗刚(755)  
铁路钢轨异物距离检测方法研究………黄尊地，常宁，郑声佳，梁明辉，吴泽钦，梁乘玮，李特特(763)

## 运输·物流·工程管理

- 零散货物快运列车开行方案优选方法………苟敏，李夏苗，张平升(770)  
基于粗糙集与熵的铁路货物周转量预测………杨丽蓉，吕红霞(778)  
基于安全合流概率的加速车道长度计算模型………李霞，朱志强，崔洪军，李霖(785)  
随机和模糊环境下绿色供应链网络优化设计………贾旭，刘诚(792)  
基于实物期权的物流园区规模与建设时机研究………张得志，詹庆雯，倪楠(802)  
零售商主导的竞争供应链物流外包决策与协调………戴双双，张荣，刘斌(809)

---

责任编辑：蒋学东 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\*278\*zh\*P\*¥20.00\*1500\*35\*2018-03

# Journal of Railway Science and Engineering

Volume 15 Number 3

(Sum 96)

March 2018

## CONTENTS

### High-speed Rail Technology

- Impact experimental study on fiberglass composite materials applied in the vehicle hood of high speed multiple units  
.....ZHAO Kai, YAO Shuguang, JIANG Cheng, XING Yi(543)
- Train scheduling on high-speed rail network based on fixed order optimization  
.....ZHOU Wenliang, QU Linying, SHI Feng, DENG Lianbo(551)
- High-speed train service network features based on complex network.....ZHANG Qi, MA Yan(559)
- Influence analysis of lateral displacement of sheet-pile wall ballastless track in high-speed railway on steep slope subgrade  
.....WU Jiang, ZHANG Liang, ZHOU Cheng, LUO Qiang, XIE Tao(567)
- Choice behavior of highway passenger transport and its improvement strategy under the competition of high-speed rail  
.....LI Xiaowei, WANG Wei(574)

### Track and Foundation

- Experimental study on the mechanical characteristics of CRTSIII slab ballastless track under heavy-haul train  
.....ZENG Zhiping, HE Xianfeng, YU Zhiwu, WEI Wei(581)
- The research on characteristics of transition section in overloaded railway.....WANG Xinning(589)
- Practical and convenient calculation of frictional resistance distribution of full-length bonded grouting.....XIONG Hui, PI Le(597)
- The safety analysis of the Qinghai-Tibet railway permafrost subgrade based on ANP and the extension of TOPSIS method  
.....ZHENG Yuxi, BAO Xueying(605)
- Effects of hydro-thermal coupling on adhesion between asphalt and aggregate.....CUI Yuchao, MA Xiang, SUN Xiaoyu(614)
- Study on the characteristics of the flow field evolution of the lateral guide rail  
.....XIN Lingui, CHENG Jianjun, ZHANG Zhiping, ZHI Lingyan, WANG Lian, JIANG Fuqiang(621)
- Numerical analysis of internal force and deformation of the variable cross-section pile-plank wall on fill slope  
.....SUN Jinchao, JIN Liangxing, OUYANG Chenghong(629)
- Comparative study of superelevation starting position based on CarSim simulation model  
.....PAN Binghong, ZHOU Haiyu, LIU Bin, HUO Yongfu(637)
- Experimental analysis of the influence of sand content on the Duncan-Chang model parameters of cement mortar pile.....LI Fang(645)

### Bridge, Tunnel and Structure

- Vehicle-bridge coupled analysis of a dissymmetrical single pylon cable-stayed bridge which using channel beam as main girder  
.....YANG Zhu, GUO Xiangrong, TANG Junfeng, ZHU Zhihui(651)

- Research on the service life prediction method of concrete structure with hybrid reinforcement of GFRP bars and steel bars  
.....LI Xing, LIN Pengzhen, SUN Lixiang, YANG Zijiang(660)
- Impact acoustic-based identification method for detecting interfacial debonding of steel-concrete composite slab  
.....ZOU Qiqi, YAN Banfu(668)
- The groove beam of urban light rail temperature effect and fracture analysis  
.....LIANG Yan, MAO Ruimin, ZHANG Wenge, YUAN Huili, CHEN Huai(677)
- Research on robust control for steel railway bridges with AMD.....LIU Jia, SHEN Zhengsong, ZHOU Changchao(685)
- Study on shear-lag effect of twin-cell box girder with additional deflection as generalized displacement  
.....ZHANG Xuexi, GUO Fawei, ZHANG Yuyuan, SHI Bin, YANG Juan(693)
- Design and mechanical analysis of special T-shaped block of steel box girder.....LIU Jianwei, YU Peng, LI Dejian(700)
- Backfilled grouting diffusion model of shield tunnel considering variation of slurry consistency  
.....ZHOU Jiamei, LIU Huan, ZHANG Qian, DAI Longqin, CAO Guodong(710)
- Monitoring data analysis on the influence of large deep foundation pit excavation on nearby metro shield tunnel  
.....WEI Gang, LI Jing, XUAN Haili, DONG Lizheng, XU Yongyong, ZHANG Shimin(718)
- A study on characteristics of simultaneous excavation method of lower bench and inverted arch  
.....CAI Minjin, LIU Dagang, DENG Tao, ZHAO Siguang, HE Wei(727)

### **Vehicles and Equipment**

- The research of aerodynamic drag constitution analysis and its reduction of intercity trains  
.....ZUO Xiong, LUO Yiping, LIU Dongxue(734)
- Research on traction performance of hydraulic driving system for track renewal train  
.....ZHAO Cun, WANG Lijuan, HU Junke, YANG Wuji, FANG Lizhi(741)
- Global sensitivity analysis on ride quality of railway vehicle based on the Sobol' method  
.....SHAO Yongsheng, LI Cheng, CHENG Ming(748)
- A kind of standardized research on detecting system of composite insulator hydrophobic  
.....DU Yajiang, LI He, LI Zonggang(755)
- Research on obstacle distance detection method of railway rail  
.....HUANG Zundi, CHANG Ning, ZHENG Shengjia, LIANG Minghui, WU Zeqin, LIANG Chengwei, LI Tete(763)

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

- Preferred method of fragmented cargo express freight train operation plan.....GOU Min, LI Xiamiao, ZHANG Pingsheng(770)
- Forecasting railway freight turnover based on rough set and entropy.....YANG Lirong, LÜ Hongxia(778)
- Calculation model for the length of acceleration lane based on security merging probability  
.....LI Xia, ZHU Zhiqiang, CUI Hongjun, LI Lin(785)
- Optimal design of green supply chain network under stochastic and fuzzy environment.....JIA Xu, LIU Cheng(792)
- Research on the investment timing and size of logistics park based on a real option.....ZHANG Dezhi, ZHAN Qingwen, NI Nan(802)
- Logistics outsourcing decisions and coordination of the competing supply chain under a dominate retailer  
.....DAI Shuangshuang, ZHANG Rong, LIU Bin(809)