

中文核心期刊 RCCSE中国核心学术期刊

ISSN 1003-1995  
CN 11-2027/U

# 铁道建筑

## 8 2020

RAILWAY ENGINEERING



ISSN 1003-1995



中国铁道科学研究院集团有限公司 主办

# 铁道建筑

TIEDAO JIANZHU

2020年8月 第60卷 第8期(总第558期)

## 目次

### 桥梁与结构工程

- 川藏铁路大跨度钢桁拱桥近断层地震响应与减隔震措施 .....苏朋飞 刘晓光 郭辉 等(1)
- 曲线波形钢腹板箱梁竖向弯曲自振特性 .....乔朋 王宗义 赵丹晨(6)
- 铁路大跨度钢管混凝土拱桥弹性稳定性分析 .....张继权 季日臣(12)
- 大跨度上承式钢管混凝土拱桥整体稳定性研究 .....陈佳 胡文军(16)
- 重载铁路简支梁桥静动载试验分析 .....朱占龙 王永东(20)
- 支点高差对多跨钢桁梁落梁施工应力影响分析 .....王金良 陈士通 陈树礼 等(23)
- 高速列车作用下季节性冻土区桥墩及周围场地的动力响应 .....郑海忠 严武建 石玉成 等(27)
- 京杭大运河新开挖航道对高速铁路桥墩的影响 .....李士中(33)
- 基于WBS-RBS的超大型沉井基础施工风险评估 .....施洲 刘东东 纪锋 等(37)
- 缓黏结预应力技术在铁路桥梁中应用可行性研究 .....刘吉元 杨全亮(43)
- 外端板加强式钢管混凝土柱梁焊接节点受力性能分析 .....卜永红 何闯 刘挺(48)
- 冲击回波法检测混凝土管道灌浆质量的影响因素分析 .....李星渔 柴文浩 杨雅勋(53)

### 隧道与地下工程

- 管片拼装机抓取和拼装智能化研究 .....刘飞香(58)
- 下穿河流盾构隧道的风险评价体系研究 .....梁孝 漆泰岳 陈鹏涛 等(64)
- 临近新建隧道边墙的桥梁桩基加固方案 .....许越(69)
- 砂卵石地层物理力学特性对盾构隧道管片内力的影响 .....曹伟(73)
- 饱和粉细砂地层中泥水平衡盾构施工泥浆配制室内试验研究 .....赵洪洲 张明俭(77)
- 轮胎式高速铁路隧道检测车车辆稳定性分析 .....王鹏 高春雷 徐济松 等(82)

隧道平行穿越滑坡体的变形特征及控制技术 .....李家龙 罗骋华 周文皎( 85 )  
运营列车作用下地铁车站与临近立交桥的振动响应特性 .....郭治岳 陈行 林国进 等( 90 )

## 路基与地基基础

湿陷性黄土路基的渗流效应 .....李世龙( 95 )  
高速铁路路基结构性粉质黏土的工程处理措施 .....章敏( 99 )  
顺层路堑岩体结构面剪切试验研究和边坡设计优化 .....孔宪斌(102)  
基于自助抽样法与少量试验数据的边坡可靠性分析 .....王栋(106)

## 线路与养护维修

基于GBDT的轨道不平顺状态评价模型研究 .....张煜 杨飞 尤明熙 等(111)  
列车动力荷载下聚氨酯固化道床设计参数分析 .....王启好 蔡小培 郟录朝 等(115)  
道岔区聚氨酯固化道床浇注设备的研究 .....张锐(119)  
便携式无砟轨道板测温靶标研制及应用 .....王琰(122)  
高速铁路钢轨服役状态及病害整治研究 .....李闯 张银花 田常海 等(126)  
摩擦因数对地铁小半径曲线轮轨接触特性的影响 .....温静 于浩 陈嵘(130)  
南京大胜关长江大桥轻轨列车走行性研究 .....马舜 李小珍 张弘 等(135)  
拌和水用量对CRTSⅢ型先张法轨道板用封锚砂浆性能的影响 .....吴韶亮 张琪 刘子科 等(139)  
CRTSⅢ型板式无砟轨道自密实混凝土施工质量控制 .....张婧颖 刘心成 王域辰(143)  
西十高速铁路穿越秦岭山区空间地质综合选线对策 .....胡永占(148)

## 其他

浙江省都市圈城际铁路建设探讨 .....钟国钢(152)  
高速铁路轮轨滚动噪声预测计算模型研究 .....步青松(156)  
智能建造技术在京雄城际铁路的应用 .....解亚龙 王万齐 杨斌(161)

# RAILWAY ENGINEERING

August 2020 Vol.60 No.8 ( Series No.558 )

## CONTENTS

### Bridge and Structural Engineering

- Study on Near-fault Seismic Response and Seismic Isolation Measures of  
a Long-span Steel Truss Arch Bridge in Sichuan–Tibet Railway .....*SU Pengfei, et al*( 1 )
- Vertical Bending Natural Vibration Characteristics of Curved Box Girder with  
Corrugated Steel Webs .....*QIAO Peng, et al*( 6 )
- Elastic Stability Analysis of Railway Long Span CFST Arch Bridge.....*ZHANG Jiquan, et al*(12)
- Study on Overall Stability of Long-span Deck Concrete-filled Steel Tubular Arch Bridge .....*CHEN Jia, et al*(16)
- Static and Dynamic Load Test Analysis of Simply Supported Girder Bridge on  
Heavy Haul Railway .....*ZHU Zhanlong, et al*(20)
- Analysis of Influence of Fulcrum Height Difference on Construction Stress of  
Multi-span Steel Truss Girder .....*WANG Jinliang, et al*(23)
- Dynamic Response of Railway Piers and Different Sites in Seasonal Frozen Soil  
Region Under High Speed Train Load .....*ZHENG Haizhong, et al*(27)
- Influence of Beijing–Hangzhou Grand Canal’s Newly Excavated Waterway on  
Bridge Pier of High Speed Railway .....*LI Shizhong*(33)
- Assessment of Construction Risk for Super-large Open Caisson Foundation Based on  
WBS-RBS .....*SHI Zhou, et al*(37)
- Feasibility Study on the Application of Retard-bonded Prestressing Technique for  
Railway Bridge .....*LIU Jiyuan, et al*(43)
- Analysis on Mechanical Behavior of Welded Joint Reinforced by Outer Endplate of  
Concrete-filled Steel Tube Column and Steel Beam .....*BU Yonghong, et al*(48)
- Analysis on Influential Factors of Grouting Quality in Concrete Pipe Based on  
Impact-echo Method .....*LI Xingyu, et al*(53)

### Tunnel and Underground Works

- Study on Intelligent Grab and Assemble of Tunnel Segment Erecting Robot.....*LIU Feixiang*(58)
- Study on Risk Assessment System of Shield Tunnel Undercrossing River .....*LIANG Xiao, et al*(64)
- Reinforcement Scheme of Bridge Pile Foundation near the Side Wall of New Tunnel .....*XU Yue*(69)
- Influence of Physical and Mechanical Properties of Sandy Pebble Stratum on  
Internal Force of Shield Tunnel Segment .....*CAO Wei*(73)
- Experimental Study on Slurry Preparation for Construction of Slurry Balance  
Shield in Saturated Silty Fine Sand Stratum .....*ZHAO Hongzhou, et al*(77)
- Stability Analysis of Tire-type High Speed Railway Tunnel Inspection Vehicle .....*WANG Peng, et al*(82)

Deformation Characteristics and Control Technology of Tunnels Passing Through Landslide in Parallel .....	<i>LI Jialong, et al</i> ( 85 )
Vibration Response Characteristics of Metro Station and Nearby Overpass Under the Action of Operating Train .....	<i>GUO Zhiyue, et al</i> ( 90 )

### **Subgrade·Foundation**

Seepage Effect of Collapsible Loess Subgrade .....	<i>LI Shilong</i> ( 95 )
Engineering Treatment Measures of Structural Silty Clay of High Speed Railway Subgrade .....	<i>ZHANG Min</i> ( 99 )
Shear Test Study on Structural Plane and Slope Optimization Design of Bedding Cutting Rock Mass .....	<i>KONG Xianbin</i> (102)
Reliability Analysis for Slope with Bootstrap and limited Data .....	<i>WANG Dong</i> (106)

### **Track and Its Maintenance**

Research on Evaluation Model of Track Irregularity Based on Gradient Boosting Decision Tree .....	<i>ZHANG Yu, et al</i> (111)
Analysis of Design Parameters of Polyurethane-ballast Bed Under Dynamic Train Load .....	<i>WANG Qihao, et al</i> (115)
Research on Pouring Equipment of Polyurethane-ballast Bed in Turnout Area .....	<i>ZHANG Rui</i> (119)
Development and Application of Portable Temperature Measurement Target for Ballastless Track Slab .....	<i>WANG Yan</i> (122)
Study on Rail Service Status and Disease Treatment of Rail for High Speed Railway .....	<i>LI Chuang, et al</i> (126)
Influence of Friction Coefficient on Wheel-Rail Contact Characteristics of Small Radius Curve in Metro .....	<i>WEN Jing, et al</i> (130)
Research on the Light Rail Transit Ride Quality of Nanjing Dashengguan Yangtze River Bridge .....	<i>MA Shun, et al</i> (135)
Effect of Mixing Water Amount on Performance of Covering Anchorage Mortar for CRTS III Pre-tensioned Track Slab .....	<i>WU Shaoliang, et al</i> (139)
Construction Quality Control of Self-compacting Concrete in CRTS III Ballastless Track .....	<i>ZHANG Jingying, et al</i> (143)
Spatial Geological Comprehensive Route Selection Strategies for Xi'an-Shiyan High Speed Railway Crossing Qinling Mountain Area .....	<i>HU Yongzhan</i> (148)

### **Others**

Discussion on Intercity Railway Construction in Zhejiang Metropolitan Area .....	<i>ZHONG Guogang</i> (152)
Study on Prediction Calculation Model of Wheel-Rail Rolling Noise for High Speed Railway .....	<i>BU Qingsong</i> (156)
Application of Intelligent Construction Technology in Beijing-Xiong'an Intercity Railway .....	<i>XIE Yalong, et al</i> (161)