

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

3  
2021

RAILWAY ENGINEERING



ISSN 1003-1995



03>

9 771003 199114  
万方数据

中国铁道科学研究院集团有限公司 主办



TIEDAO JIANZHU

2021年3月 第61卷 第3期(总第565期)

目 次

## 桥梁与结构工程

- 超大跨度公铁两用钢箱梁悬索桥设计初探 ..... 皮福艳 雷俊卿 卢文良 等(1)  
超大跨度公铁两用悬索桥活载刚度研究 ..... 许磊平 霍学晋(5)  
大跨度连续梁桥弹塑性动力响应分析 ..... 吴芮 郑史雄 贾宏宇 等(9)  
大跨度简支拱形钢桁梁桥静动力性能试验研究 ..... 孟令强(14)  
新建变截面连续箱梁桥静动载试验与性能评价 ..... 王燕 张飞(19)  
芜湖长江大桥挠度预警阈值研究 ..... 赵大成 吴少雄 刘兴旺 等(24)  
黏滞阻尼作用下高墩大跨度连续刚构-拱组合桥减震效果分析 ..... 王晓鹏(28)  
徐盐高速铁路新洋港斜拉桥施工控制研究 ..... 李方柯 邹孔庆 王冰(32)  
重载铁路T形梁扭转横移施工技术 ..... 刘飞 刘晓峰 李吉亮 等(38)  
新型明桥面在重载铁路钢梁上的应用 ..... 李保龙 曾志斌 王冬立 等(42)

## 隧道与地下工程

- 基底空洞条件下重载铁路隧道铺底结构动力响应分析 ..... 卢小永 刘聪 雷明锋 等(46)  
超细水泥-水玻璃浆液在富水粉细砂地层暗挖隧道中的注浆止水效果研究 ..... 郑青(51)  
管片检漏和抗弯抗拔试验自控系统的优化设计及应用 ..... 李世林 姜会增 孔德顺(55)  
泥水盾构废弃砂土和尾水资源化综合利用技术 ..... 王建华(60)

## 路基与地基基础

- 有砟铁路路基病害在探地雷达图像上的时域特征 ..... 刘欢 李晋平 王伟(65)  
高速铁路路基沉降影响因素分析及模型预测方法研究 ..... 吕绿洲 程远水(69)

基于蒙特卡洛方法的降雨条件下非饱和土边坡稳定性研究	王东( 74 )
基覆型边坡挡土墙抗震加固时频域响应试验研究	李思丰 童心豪 李友平 等( 79 )
深基坑开挖对邻近铁路路基变形的影响	储成伍( 83 )

## 线路与养护维修

高速铁路智能基础设施发展关键技术研究	张雍华 王富章 蒋丽丽 等( 87 )
纵连式无砟轨道端刺区结构服役稳定特征分析	刘浩 江成 姜子清 等( 92 )
高承轨台框架板式无砟轨道力学性能分析	张光明 马骁 姚力 等( 98 )
无砟轨道荷载分配特征与影响因素研究	郭杰 赵坪锐(103)
高速铁路无砟轨道结构极限状态法配筋设计研究	尹银艳 赵云哲(107)
基于绳锯切割的高速铁路纵连板式无砟轨道支承层修复技术	张志远(113)
CRTS 双块式无砟轨道承轨台智能测量技术	高贵(116)
高速铁路钢轨廓形磨耗发展规律及打磨周期研究	吴宵 李应平 杨怀志 等(120)
基于维修经济性的重载铁路大机捣固最佳时机决策方法	徐菲 曲建军 秦怀兵(124)
基于加载车的普速铁路轨道刚度管理标准研究	潘振(128)
基于卷积神经网络的铁路曲线特征点检测算法	余宁 魏世斌 李颖 等(133)
基于 Fast-DTW 的空间域等间隔采样序列的相似性研究	郑祥爱 刘文波 蔡超 等(138)
铁路异构空间数据融合与展示	年秋慧 王英杰(143)
配砟整形车智能避障系统研究	徐济松 朱广平 李继龙 等(147)
便携式轴箱加速度检测系统研制与应用	张二永 张茂轩 吴奇永 等(151)

## 工程材料及其他

限界侵限检测方法研究与应用	赵鑫欣 孙淑杰 王凡 等(155)
一种整合发光单元的除冰样机设计与应用	李洪磊 邢挺 王志伟 等(159)

# RAILWAY ENGINEERING

March 2021      Vol.61      No.3 ( Series No.565 )

## CONTENTS

### Bridge and Structural Engineering

Preliminary Study on Design of Super Long Span Rail-cum-Road Steel Box	
Girder Suspension Bridge .....	PI Fuyan, et al( 1 )
Study on Stiffness of Super-long Span Rail-cum-Road Suspension Bridge Under Live Load .....	XU Leiping, et al( 5 )
Analysis on Elastic-Plastic Dynamic Response of Long Span Continuous Girder Bridge .....	WU Rui, et al( 9 )
Experimental Research on Static and Dynamic Performances of	
Long Span Simply Supported Arch Steel Truss Bridge .....	MENG Lingqiang(14)
Static and Dynamic Tests and Performance Evaluation of Newly-built Variable	
Section Continuous Box Girder Bridge .....	WANG Yan, et al(19)
Research on Deflection Early-warning Threshold of Wuhu Yantze River Bridge.....	ZHAO Dacheng, et al(24)
Analysis of Seismic Reduction Effect of Long Span Continuous Rigid Frame	
Arch Composite Bridge with High Piers Under Viscous Damping .....	WANG Xiaopeng(28)
Research on Construction Control for Xinyanggang Cable-stayed Bridge on	
Xuzhou-Yancheng High Speed Railway .....	LI Fangke, et al(32)
Construction Technology of T-girder Torsion and Transverse Movement of	
Heavy Haul Railway .....	LIU Fei, et al(38)
Application of New Type Open Deck on Steel Girder of Heavy Haul Railway .....	LI Baolong, et al(42)

### Tunnel and Underground Works

Dynamic Response Analysis of Heavy Haul Railway Tunnel Bedding Structure Under	
the Condition of Base Cavity .....	LU Xiaoyong, et al(46)
Study on Water-stop Effects of Ultrafine Cement-Water Glass Slurry Used in	
Underground Excavation Tunnel with Water-rich Silty Fine Sand Stratum .....	ZHENG Qing(51)
Optimal Design and Application of Automatic Control System for	
Segment Leak Detection, Bending and Pull-out Tests .....	LI Shilin, et al(55)
Comprehensive Utilization Technology on Treated Waste Sand and	
Tail Water Resources for Slurry Shield .....	WANG Jianhua(60)

### Subgrade·Foundation

Time Domain Characteristics of Ballast Railway Subgrade Defects in GPR Images .....	LIU Huan, et al(65)
Study on Influencing Factors and Model Prediction Method of Subgrade Settlement of	
High Speed Railway .....	LYU Lyuzhou, et al(69)

Study on Stability of Unsaturated Soil Slope Under Rainfall Condition Based on Monte Carlo Method .....	WANG Dong( 74 )
Experimental Study on Time-Frequency Domains Response of Seismic Reinforcement of Retaining Wall of Bedrock and Overburden Layer Slope .....	LI Sifeng ,et al( 79 )
Influence of Deep Foundation Pit Excavation on Adjacent Railway Subgrade Deformation .....	CHU Chengwu( 83 )

## Track and Its Maintenance

Research on Key Technologies in Development of Intelligent High Speed Railway Infrastructure .....	ZHANG Yonghua ,et al( 87 )
Analysis on Stability Characteristics of Structure in Back End Zone of Longitudinally Connected Ballastless Track in Service .....	LIU Hao ,et al( 92 )
Analysis on Mechanical Properties of Frame-Slab Ballastless Track with High-Bearing Platform .....	ZHANG Guangming ,et al( 98 )
Study on Load Distribution Characteristics and Influencing Factors of Ballastless Track .....	GUO Jie ,et al( 103 )
Research for Reinforcement Design of High Speed Railway Ballastless Track Structure Based on Limit State Method .....	YIN Yinyan ,et al( 107 )
Research on Repair Technology of Supporting Layer of Longitudinal Slab Ballastless Track of High Speed Railway Based on Wire Saw Cutting .....	ZHANG Zhiyuan( 113 )
Intelligent Measurement Technology of CRTS Double-block Ballastless Track Bearing Platform .....	GAO Gui( 116 )
Research on the Development Law and Grinding Period of Rail Profile Wear in High Speed Railway .....	WU Xiao ,et al( 120 )
Decision-Making Method of Optimal Tamping Time for Heavy Haul Railway Based on Maintenance Economy .....	XU Fei ,et al( 124 )
Research on Track Stiffness Management Standards of Ordinary Speed Railway Based on Track Loading Vehicle .....	PAN Zhen( 128 )
Detection Algorithm of Railway Curve Feature Point Based on Convolutional Neural Network .....	YU Ning ,et al( 133 )
Research on Similarity of Equal-spaced Sampling Sequence in Spatial Domain Based on Fast-DTW .....	ZHENG Xiang'ai ,et al( 138 )
Railway Heterogeneous Spatial Data Fusion and Display .....	NIAN Qiuwei ,et al( 143 )
Study on Intelligent Obstacle Avoidance System of Ballast Regulator Vehicle .....	XU Jisong ,et al( 147 )
Development and Application of Portable Axle Box Acceleration Detection System .....	ZHANG Eryong ,et al( 151 )

## Engineering Material and Others

Research and Application of Detection Method of Boundary Intrusion .....	ZHAO Xinxin ,et al( 155 )
Design and Application of Deicing Prototype with Integrated Light-emitting Units .....	LI Honglei ,et al( 159 )