

ISSN 1001-8360

CN 11-2104/U

CODEN TIXUF5

2022 - 04

# 铁道学报

JOURNAL OF THE CHINA RAILWAY SOCIETY

第44卷 第4期 Vol.44 No.4



中国铁道学会主办



# 铁道学报

TIEDAO XUEBAO

第 44 卷 第 4 期 2022 年 4 月

## 目次

### 铁道运输

- 高速铁路调度员应急处置能力评价体系构建及应用 ..... 郭峤枫, 刘君喜, 杜敏齐, 刘明峰, 赵永亮, 郭孜政(1)
- 重载铁路始端技术站列车组合策略优化研究 ..... 梁紫玥, 俞花珍, 邵国璇, 黄友能, 余立伟, 李凯(9)

### 铁道机车车辆、电气化

- 基于假设分布的重载货车关键结构剩余寿命预测方法 ... 朱涛, 尹敏轩, 王超, 肖守訥, 杨冰, 阳光武(19)
- 车轮尺寸对车轮磨耗的影响规律研究 ..... 曾元辰, 唐旭, 张卫华, 宋冬利, 胡军海(27)
- 扁疤-路桥过渡段不均匀沉降与刚度变异联合作用下车辆动力特性分析  
..... 李国芳, 王相平, 李星, 丁维红, 王红兵, 丁旺才(36)
- 考虑荷载相互作用的非线性时变疲劳可靠性分析 ..... 高凯, 刘纲, 蒋伟(46)

### 铁道通信信号、信息化

- 基于 PPP-GPS/IMU 紧组合的列车定位方法 ..... 姜维, 刘梦杨, 蔡伯根, 王剑, 刘丹(54)
- 基于 Copula 函数的列车定位惯性单元剩余寿命预测方法 ..... 上官伟, 巴明明, 孟月月(63)
- 基于模糊聚类算法的 S700K 型电动转辙机运行状态评估 ..... 魏文军, 李政, 武晓春, 高利民(74)

### 铁道工程、工程管理

- 高速道岔尖轨弹性波频散特性研究 ..... 陈嵘, 龚政, 胡辰阳, 徐井芒, 刘乐, 王平(82)
- 桥上钢弹簧浮置板的结构振动声辐射特性研究 ..... 张晓芸, 张小安, 王开云, 石广田, 黄志丹(89)
- 基于能量泛函变分原理的三层有砟轨道垂向振动带隙分析 ..... 冯青松, 廖宝亮, 郭文杰, 付景文, 陆建飞(96)
- 基于 YOLO-v5 的双块式轨枕裂缝智能识别 ..... 崔晓宁, 王起才, 李盛, 代金鹏, 梁柯鑫, 李隆甫(104)
- 地震作用下路基上列车脱轨响应的振动台试验研究 ..... 曹礼聪, 杨长卫, 张建经, 童心豪, 张志方, 曾鹏毅(112)
- 浸水对无砟轨道膨胀土路基力学行为与变形特征的影响 ..... 段君义, 杨果林, 刘洋, 阚京梁, 张立伟(119)
- 高速铁路路基粗粒土填料动静力力学特性试验研究 ..... 王天亮, 张飞, 宋宏芳, 卜建清, 尹赵爱(127)
- 城市高架轨道交通引发的箱梁振动特性分析 ..... 房建, 韦智敏, 郑稳稳, 雷晓燕, 练松良, 刘林芽(136)
- 变截面波形钢腹板组合箱梁剪力滞效应的比拟杆法求解 ..... 周聪, 汪建群, 李立峰(143)

# JOURNAL OF THE CHINA RAILWAY SOCIETY

(Monthly)

Vol.44 No.4 April 2022

## CONTENTS

- Construction and Application of Evaluation System for Emergency Response Ability of High-speed Railway Dispatchers  
..... GUO Qiaofeng, LIU Junxi, DU Minqi, LIU Mingfeng, ZHAO Yongliang, GUO Zizheng( 1 )
- Research on Optimization of Train Combination Strategy of Heavy-haul Railway Technical Station  
..... LIANG Ziyue, YU Huazhen, TAI Guoxuan, HUANG Youneng, YU Liwei, LI Kai( 9 )
- Residual Life Prediction Method for Key Structures of Heavy Haul Freight Cars Based on Hypothetical Distribution  
..... ZHU Tao, YIN Minxuan, WANG Chao, XIAO Shoune, YANG Bing, YANG Guangwu(19)
- Study on Influence of Wheel Size on Wheel Wear  
..... ZENG Yuanchen, TANG Xu, ZHANG Weihua, SONG Dongli, HU Junhai(27)
- Analysis of Vehicle Dynamic Characteristics under Combined Action of Uneven Settlement and Stiffness Variation in Flat and Road-bridge Transition Section  
..... LI Guofang, WANG Xiangping, LI Xing, DING Weihong, WANG Hongbing, DING Wangcai(36)
- Analysis of Nonlinear Time-varying Fatigue Reliability Considering Load Interaction  
..... GAO Kai, LIU Gang, JIANG Wei(46)
- Accurate Train Positioning Method Using Tightly-coupled PPP-GPS/IMU Strategy  
..... JIANG Wei, LIU Mengyang, CAI Baigen, WANG Jian, LIU Dan(54)
- Remaining Life Prediction Method for Inertial Unit of Train Positioning System Based on Copula Function ..... SHANGGUAN Wei, BA Mingming, MENG Yueyue (63)
- Running State Assessment of S700K Switch Machine Based on Fuzzy Clustering Algorithm  
..... WEI Wenjun, LI Zheng, WU Xiaochun, GAO Limin(74)
- Investigation on Dispersion Characteristics of Elastic Wave in High-speed Railway Turnout Switch Rail ... CHEN Rong, GONG Zheng, HU Chenyang, LIU Le, XU Jingmang, WANG Ping(82)
- Structural Vibration Acoustic Radiation Characteristics of Steel Spring Floating-slab Track on Bridge ..... ZHANG Xiaoyun, ZHANG Xiaoan, WANG Kaiyun, SHI Guangtian, HUANG Zhidan(89)
- Band-gap Analysis of Vertical Vibration of Three-layer Ballast Track Structure Based on Energy Functional Variational Principle  
..... FENG Qingsong, LIAO Baoliang, GUO Wenjie, FU Jingwen, LU Jianfei(96)
- Intelligent Recognition of Cracks in Double Block Sleeper Based on YOLO-v5  
..... CUI Xiaoning, WANG Qicai, LI Sheng, DAI Jinpeng, LIANG Kexin, LI Longfu(104)
- Shaking Table Test on Derailment Features of Train on Subgrade under Earthquake  
..... CAO Licong, YANG Changwei, ZHANG Jianjing, TONG Xinhao, ZHANG Zhifang, ZENG Pengyi(112)
- Influence of Water Immersion on Mechanical and Deformation Behaviors of Expansive Soil Subgrade for Ballastless Track ..... DUAN Junyi, YANG Guolin, LIU Yang, KAN Jingliang, ZHANG Liwei(119)
- Experimental Study on Dynamic and Static Mechanical Properties of Coarse-grained Soil Filled in High-speed Railway Subgrade  
..... WANG Tianliang, ZHANG Fei, SONG Hongfang, BU Jianqing, YIN Zhaoai(127)
- Study on Vibration Characteristics of Elevated Box Girders Induced by Track Irregularities  
..... FANG Jian, WEI Zhimin, ZHENG Wenwen, LEI Xiaoyan, LIAN Songliang, LIU Linya(136)
- Bar Simulation Method for Shear Lag Analysis of Non-prismatic Composite Box Girders with Corrugated Steel Webs ..... ZHOU Cong, WANG Jianqun, LI Lifeng(143)