

ISSN 1001-8360

CN 11-2104/U

CODEN TIXUF5

2022 - 07

铁道学报

JOURNAL OF THE CHINA RAILWAY SOCIETY

第 44 卷 第 7 期 Vol. 44 No. 7



中国铁道学会主办



铁 道 学 报

TIEDAO XUEBAO

第 44 卷 第 7 期 2022 年 7 月

目 次

铁道运输

- 面向票价票额综合优化的高速铁路客票分类定价策略 胡心磊,史 峰,秦 进(1)
- 基于价格-时空网络的高速铁路票价优化研究 夏 阳,王怀相,周 茵,安仲文,魏玉光(11)
- 高速铁路定期票产品定价优化研究 苗 蕾,王 煜(21)

铁道机车车辆、电气化

- 基于非线性理论的接触网找形方法研究 罗 群,梅桂明,赵 晨,王江文,邱江洋,韩宝峰(27)
- 模块化多电平铁路功率调节器复合控制策略研究 宋平岗,陈 怡,雷文琪,龙日起,杨长揽(36)
- 电气化铁路贯通同相供电 AT 牵引网故障辨识与自愈技术研究 李群湛,王 帅,易 东,陈民武(46)

铁道通信信号、信息化

- 列控车载设备现场测试案例执行距离估算方法研究 张亚东,袁榆淞,饶 畅,郭 进(55)
- 红外弱光环境下多尺度密集注意力铁路异物检测 陈 永,卢晨涛,王 镇(63)
- 基于少样本学习的钢轨表面缺陷检测方法 刘俊博,杜馨瑜,王胜春,顾子晨,王 凡,戴 鹏(72)
- 基于 IMU 误差补偿的磁力计增强型组合定位方法 上官伟,陈晶晶,谢朝曦,姜 维(80)

铁道工程、工程管理

- 高速铁路纵连板式无砟轨道植筋力学性能试验研究 赵 虎,孙 立,李秋义,朱 彬,张志远,刘 文(91)
- 基于能量泛函变分原理的无砟轨道垂向振动带隙分析 冯青松,廖宝亮,郭文杰,杨 舟,付景文,陆建飞(98)
- 基于大型动三轴试验和图形分析法的有砟道床劣化特性研究 常建梅,李晓慧,张伏光,梁世川,冯怀平(107)
- 基于 SST 的无砟轨道离缝缺陷识别方法研究 杨 勇,田秀淑,赵维刚,杨怀志(117)
- 钢轨轨顶弯钩形滚动接触疲劳裂纹空间扩展特性研究
..... 李骏鹏,周 宇,梁 旭,王 钇,卢哲超,程中宁(125)
- 基于 BP 神经网络的高速铁路无砟轨道砂浆层离缝损伤识别 高建敏,金忠凯(135)
- 重载铁路基床污染级配碎石临界动应力及动强度特性研究 杨志浩,岳祖润,叶朝良,胡田飞,介少龙(145)
- 德伊高铁地基土变异性分析与概率分布研究 刘先峰,阳 剑,张炎飞,袁胜洋,高泽飞,陈伟志(154)
- 基于移动荷载傅里叶谱的桥梁共振频域分析 李锦华,张焕涛,陈水生,刘全民(163)
- 耐候钢和高性能钢焊接接头腐蚀疲劳性能研究 张 宇,郑凯锋,衡俊霖,冯霄暘,王亚伟(171)

JOURNAL OF THE CHINA RAILWAY SOCIETY

(Monthly)

Vol. 44 No. 7 July 2022

CONTENTS

Pricing Strategy by Category for Joint Optimization of Pricing and Seat Allocation

Problem in High-speed Rail Networks HU Xinlei, SHI Feng, QIN Jin(1)

Optimization of Ticket Pricing for High-speed Railway Based on Price-space-time Network

..... XIA Yang, WANG Huaixiang, ZHOU Yin, AN Zhongwen, WEI Yuguang(11)

Research on Pricing Optimization of High-speed Railway Commutation Ticket Products

..... MIAO Lei , WANG Yu (21)

Research on Form-finding of Railway Overhead Based on Nonlinear Theory

..... LUO Qun, MEI Guiming, ZHAO Chen, WANG Jiangwen, QIU Jiangyang, HAN Baofeng(27)

Research on Compound Control Strategy of Modular Multilevel Converter-railway Static Power Conditioner

..... SONG Pinggang, CHEN Yi, LEI Wenqi, LONG Riqi, YANG Changlan(36)

Research on Fault Identification and Self-healing Technology of AT Traction Network with Co-phase

Power Supply for Electrified Railway LI Qunzhan, WANG Shuai, YI Dong, CHEN Minwu(46)

Study on Execution Distance Estimation for Field Test Cases of On-board Equipment

..... ZHANG Yadong, YUAN Yusong, RAO Chang, GUO Jin(55)

Detection of Railway Foreign Object Intrusion under Infrared Low Light Environment Based on

Multi-scale Dense Attention Network CHEN Yong, LU Chentao, WANG Zhen(63)

Rail Surface Defect Detection Method Based on Few-shot Learning

..... LIU Junbo, DU Xinyu, WANG Shengchun, GU Zichen, WANG Fan, DAI Peng(72)

Magnetometer-enhanced Combination Positioning Method Based on IMU Error Compensation

..... SHANGGUAN Wei, CHEN Jingjing, XIE Chaoxi, JIANG Wei(80)

Experimental Study on Mechanical Properties of Bonded Rebars in Continuous Slab Ballastless Track of

High-speed Railway ZHAO Hu , SUN Li , LI Qiuyi , ZHU Bin , ZHANG Zhiyuan , LIU Wen (91)

Band-gap Analysis of Vertical Vibration of Ballastless Track Based on Energy Functional Variational Principle

..... FENG Qingsong, LIAO Baoliang, GUO Wenjie, ZHOU Yang, FU Jingwen, LU Jianfei(98)

Degradation Mechanism of Railway Ballast by Large-scale Cyclic Triaxial Test and Image Analysis Method

..... CHANG Jianmei, LI Xiaohui, ZHANG Fuguang, LIANG Shichuan, FENG Huaiping(107)

Analysis on Identification of Seam Separation Defect of Ballastless Track Based on SST

..... YANG Yong, TIAN Xiushu, ZHAO Weigang, YANG Huaizhi(117)

Research on Propagation Characteristics in 3D Space of Hook-type Rolling Contact Fatigue Crack in

Top of Rail LI Junpeng, ZHOU Yu, LIANG Xu, WANG Zheng, LU Zhechao, CHENG Zhongning(125)

Identification of Mortar Gap Damage of Slab Ballastless Track of High-speed Railway Based on

BP Neural Network GAO Jianmin, JIN Zhongkai(135)

Study on Critical Dynamic Stress and Dynamic Strength Properties of Fouled Graded Macadam in Heavy

Haul Railway Subgrade Bed YANG Zhihao, YUE Zurun, YE Chaoliang, HU Tianfei, JIE Shaolong(145)

Study on Variability Analysis and Probability Distribution of Foundation Soil of Tehran—Isfahan High-speed

Railway LIU Xianfeng, YANG Jian, ZHANG Yanfei, YUAN Shengyang, GAO Zefei, CHEN Weizhi(154)

Frequency-domain Analysis of Bridge Resonance Based on Moving Load Fourier Spectrum

..... LI Jinhua, ZHANG Huantao, CHEN Shuisheng, LIU Quanmin(163)

Study on Corrosion Fatigue Performance of Welded Joints of Weathering Steel and High Performance Steel

..... ZHANG Yu, ZHENG Kaifeng, HENG Junlin, FENG Xiaoyang, WANG Yawei(171)

铁 道 学 报(TIEDAO XUEBAO)
月刊,1979 年创刊
第 44 卷 第 7 期(总第 297 期)

JOURNAL OF THE CHINA RAILWAY SOCIETY
Monthly, Started in 1979
Vol. 44 No. 7(Series No. 297) July 2022

百种中国杰出学术期刊	美国《工程索引》(Ei Compendex)收录期刊	中国科技论文与引文数据库(STPCD)
中国精品科技期刊	俄罗斯文摘杂志(AJ)收录期刊	中国学术期刊文摘收录期刊(CSAC)
中国最具国际影响力的中文期刊	美国《剑桥科学文摘》(CSA)收录期刊	CNKI 中国学术期刊网络出版总库
中国科学引文数据库核心源刊	美国《化学文摘》(CA)收录期刊	万方数据-数字化期刊群收录期刊
《中文核心期刊要目总览》核心期刊	荷兰 Scopus 数据库收录期刊	中文电子期刊服务数据库(CEPS)
中国科技核心期刊	德国国际建筑文献数据库(ICONDA)	VIP 中文科技期刊数据库收录期刊

主 管 中国科学技术协会
主 办 中国铁道学会
编 辑 出 版 《铁道学报》编辑部
主 编 赵国堂
执 行 主 编 周兴华
常 务 副 主 编 贾红梅
副 主 编 闫洪霞
编辑部地址 北京复兴路 10 号(邮编:100844)
http://tdxb.cbpt.cnki.net
E-mail:tdxb@vip.163.com
电 话 010-51848021,51847501
印 刷 北京博海升彩色印刷有限公司
订购、发行 全国各地邮局(邮发代号:2-308)
《铁道学报》编辑部(010-51845661)
各省、自治区、直辖市铁道学会
国外总发行 中国国际图书贸易集团有限公司
国外代号:MO287

Competent Authority:
China Association for Science and Technology
Sponsor: China Railway Society
Edited and Published by: Department of Journal of
the China Railway Society
Editor-in-Chief: ZHAO Guotang
Executive Editor-in-Chief: ZHOU Xinghua
Executive Deputy Editor-in-Chief: JIA Hongmei
ADD: No. 10 Fuxing Road, Beijing 100844, China
http://tdxb.cbpt.cnki.net
E-mail: tdxb@vip.163.com
Tel: 0086-10-51848021,51847501
Overseas Distributor:
China International Book Trading Group Co., Ltd.
(P. O. Box 399, Beijing 100044, China)
Subscription Code:
MO287(Overseases), 2-308(Domestic)

ISSN 1001-8360
CN 11-2104/U

定价: 20.00 元 2022 年 7 月 15 日出版

