

目次

· 路基工程智能测试技术专栏 ·

人工智能驱动下路基工程勘察技术进展及应用趋势

..... 刘路路,田宏亮,蔡国军,张军辉,郑俊杰,刘松玉,惠迎新(1)

利用伴行通信光缆实现高速公路近地表速度结构成像

..... 林 锴,张 丹,吴 岚,韩 新,刘孝情,朱保坤(23)

基于柔性压电传感的路基塌陷监测预警试验..... 王 军,张康帅,刘志明,符洪涛(34)

基于时-频深度学习的公路边坡传感器监测信号二阶段盲校准方法

..... 董 是,田书铭,龙志友,刘肖扬,汪海年(47)

基于位置信息矩阵的马尔可夫随机场地层模型智能学习与高效分区模拟方法

..... 曹子君,陈兴洲,刘 涛,蔡国军,王轩毫(62)

基于改进自相关函数随机场理论的新老路 CPTU 测试参数重建与空间变异性研究

..... 王才进,祝 帅,蔡国军,谢良甫,刘学军,李严君,刘松玉(77)

主动温控条件下路基土温度场演化与传热机理研究

..... 刘晓燕,蔡国军,刘松玉,耿雪玉,郑雅兰,项国圣,刘路路,魏嘉辰(90)

改良红黏土路基动力响应特性与相轨迹几何表征

..... 颜 瀚,吕立波,谢 治,滕继东,单 锋,关 伟,吴红刚(105)

长期循环荷载作用下珊瑚砂砾混合料变形与能量耗散特性研究

..... 吴 杨,林家杰,李维沈,林洛奕,吴毅航,温丽维,崔 杰(117)

黄土路基含水率与压实度波电联合检测试验 钱劲松,缙永涛,唐佳琦,蒋中楷(128)

· 智能电动汽车运行安全保障技术专栏 ·

融合预测轨迹的智能车辆类人换道轨迹规划方法 王 姝,李亚金,赵 轩,田 佳(140)

基于 ESO-INSFTSMC 的分布式电驱车辆直接横摆力矩控制 林 菜,孙嘉佐,林楷鸿,陆心悦(154)

基于随机森林路面识别的电控空气悬架自适应阻尼控制 郑国峰,杨思宇,李士盈,赵树恩,隗寒冰(165)

基于路面辨识的分布式电驱车辆驱动防滑复合控制

..... 夏 旭,任国全,王瑞萱,朱 岩,宋世露,李 君(180)

新能源车型碰撞后高压极速断电及放电策略研究 郭建保,方 斌,刘珍海,刘莉娅,曹立波(193)

· 桥梁工程 ·

三相导电 UHPC 的制备与性能研究 李传习,朱子健,邓 帅,曾振海,李海春(205)

公路装配式简支梁桥支座状态在线评估方法 战家旺,阳云明,许鑫祥,倪 祺,贾 影(217)

基于时频图表示和约束去噪扩散概率模型的桥梁振动响应重建方法

..... 舒江鹏,于泓川,李欣阳,夏 烨,章金勇,蒋 友,徐声亮(232)

钢-橡胶-混凝土接触特性对板式支座力学行为的影响

..... 邵长江,崔皓蒙,王春阳,姜芃旭,漆启明,庄卫林,龙均翊(251)

半连续 UHPC 桥面连接板压缩变形性能试验 黄福云,陈俊坤,郑杰圣,薛俊青,陈宝春,肖 琼(260)

· 隧道工程 ·

超大跨度扁平隧洞渐进性破坏模型试验 曹 凯,张 琦,雷中岱,王 凯,周子豪,闫治国(270)

浅埋隧道开挖管幕力学响应计算模型与工程应用 黄 明,陈骏宁,路德春,赖丰文,周 鑫,李洪江(284)

公路隧道视觉环境改善措施与景观美学优化研究

..... 刘 佳,叶 飞,彭文波,高 翔,韩兴博,黄 山,张 卓(295)

喷射超高性能混凝土-普通混凝土界面剪切性能试验及理论分析

..... 陈 涛,吴怀娜,文 嘉,喻 满,陈仁朋(309)

· 交通工程 ·

基于混合专家网络的定制公交选择机理解析 董文韬,俞诚成,李 曦,袁 泉,杨 超(324)

基于深度强化学习的多目标出租车调度 陈 静,宗昌明,袁长伟,马宁远,张 洁,张铭慧,方歆杰(336)

· 汽车与机械工程 ·

基于交替方向乘子法与 iLQR 的无人车高效轨迹优化方法 贺 宜,胡宏斌,张 鸣(352)

考虑域偏移与类别偏移的公路装备通用无源域自适应故障诊断方法

..... 张 航,刘英伟,赵 轲,叶 敏(363)

CONTENTS

• Special Column on Intelligent Testing Technologies for Subgrade Engineering •

- Advances and Application Trends of Subgrade Engineering Survey Technology Driven by Artificial Intelligence
..... LIU Lu-lu, TIAN Hong-liang, CAI Guo-jun, ZHANG Jun-hui, ZHENG Jun-jie, LIU Song-yu, HUI Ying-xin(1)
- Near-surface Velocity Structure Imaging of Expressways Using Coexisting Telecommunication Fiber Optic Cables
..... LIN Kai, ZHANG Dan, WU Lan, HAN Xin, LIU Xiao-qing, ZHU Bao-kun(23)
- Experimental Study on Subgrade Collapses Monitoring and Early Warning Based on Flexible Piezoelectric Sensors
..... WANG Jun, ZHANG Kang-shuai, LIU Zhi-ming, FU Hong-tao(34)
- A Two-stage Blind Calibration Method for Highway Slope Sensor Monitoring Signals Based on Time-frequency Deep Learning
..... DONG Shi, TIAN Shu-ming, LONG Zhi-you, LIU Xiao-yang, WANG Hai-nian(47)
- An Intelligent Learning and Group-wise Strategy for Markov Random Field Geological Model Based on the Location Information Matrix
..... CAO Zi-jun, CHEN Xing-zhou, LIU Tao, CAI Guo-jun, WANG Xuan-hao(62)
- Reconstruction and Spatial Variability of CPTU Test Parameters for New and Old Subgrades Based on the Improved Autocorrelation Function Random Field Theory
..... WANG Cai-jin, ZHU Shuai, CAI Guo-jun, XIE Liang-fu, LIU Xue-jun, LI Yan-jun, LIU Song-yu(77)
- Temperature Field Evolution and Heat Transfer Mechanisms of Subgrade Soil Under Active Temperature Control
..... LIU Xiao-yan, CAI Guo-jun, LIU Song-yu, GENG Xue-yu, ZHENG Ya-lan, XIANG Guo-sheng, LIU Lu-lu, WEI Jia-chen(90)
- Dynamic Response Characteristics and Phase Trajectory Geometry of Cement-treated Red Clay Subgrades
..... YAN Han, LÜ Li-bo, XIE Zhi, TENG Ji-dong, SHAN Feng, GUAN Wei, WU Hong-gang(105)
- Deformation and Energy Dissipation Characteristics of Coral Sand-gravel Mixtures Under Long-term Cyclic Loading
..... WU Yang, LIN Jia-jie, LI Wei-shen, LIN Luo-yi, WU Yi-hang, WEN Li-wei, CUI Jie(117)
- Experimental Study on Wave-electric Joint Detection of Water Content and Compaction Degree of Loess Subgrade
..... QIAN Jin-song, GOU Yong-tao, TANG Jia-qi, JIANG Zhong-kai(128)

• Special Column on Operation Safety Assurance Technologies for Intelligent Electric Vehicles •

- Human-like Lane-changing Trajectory Planning Method for Intelligent Vehicle Integrating Predicted Trajectories WANG Shu, LI Ya-jin, ZHAO Xuan, TIAN Jia(140)
- Direct Yaw Moment Control of Distributed-driven Electric Vehicles Based on Extended State Observer and Improved Non-singular Fast Terminal Sliding Mode Control
..... LIN Fen, SUN Jia-zuo, LIN Kai-hong, LU Xin-yue(154)
- Adaptive Damping Control of Electronically Controlled Air Suspension Based on Random Forest Road Surface Recognition
..... ZHENG Guo-feng, YANG Si-yu, LI Shi-ying, ZHAO Shu-en, WEI Han-bing(165)
- Distributed Electric Drive Vehicle Anti-slip Composite Control Based on Road Surface Identification
..... XIA Xu, REN Guo-quan, WANG Rui-xuan, ZHU Yan, SONG Shi-lu, LI Jun(180)
- Research on High Voltage Ultra-fast Shutdown and Discharge Strategies for New Energy Vehicles After Crash
..... GUO Jian-bao, FANG Bin, LIU Zhen-hai, LIU Li-ya, CAO Li-bo(193)

• Bridge Engineering •

- Fabrication and Characterization of Three-phase Electrically Conductive UHPC LI Chuan-xi, ZHU Zi-jian, DENG Shuai, ZENG Zhen-hai, LI Hai-chun(205)
- Online Assessment Method for Working Condition of Bearings in Highway Prefabricated Simply-supported Girder Bridges
..... ZHAN Jia-wang, YANG Yun-ming, XU Xin-xiang, NI Zhen, JIA Ying(217)
- A Bridge Vibration Response Reconstruction Method Based on Constrained Denoising Diffusion Probabilistic Model with Time-frequency Representations
..... SHU Jiang-peng, YU Hong-chuan, LI Xin-yang, XIA Ye, ZHANG Jin-yong, JIANG You, XU Sheng-liang(232)
- Influence of Steel-rubber-concrete Contact Characteristics on Mechanical Behavior of Laminated-rubber Bearings
..... SHAO Chang-jiang, CUI Hao-meng, WANG Chun-yang, JIANG Peng-xu, QI Qi-ming, ZHUANG Wei-lin, LONG Jun-yi(251)
- Experimental Study on Deformational Behavior of Semi-continuous UHPC Link Slab Under Compression
..... HUANG Fu-yun, CHEN Jun-kun, ZHENG Jie-sheng, XUE Jun-qing, CHEN Bao-chun, XIAO Qiong(260)

• Tunnel Engineering •

- Research on Progressive Failure Model Tests of Super-large-span Flat Cavern CAO Kai, ZHANG Qi, LEI Zhong-dai, WANG Kai, ZHOU Zi-hao, YAN Zhi-guo(270)
- Determination of Mechanical Response of Pipe Roofs in Shallowly-buried Tunnel Excavation and Its Engineering Application
..... HUANG Ming, CHEN Jun-ning, LU De-chun, LAI Feng-wen, ZHOU Xin, LI Hong-jiang(284)
- Research on Visual Environment Improvement Measures and Landscape Aesthetics Optimization for Highway Tunnel
..... LIU Jia, YE Fei, PENG Wen-bo, GAO Xiang, HAN Xing-bo, HUANG Shan, ZHANG Zhuo(295)
- Experimental and Theoretical Analysis of Interfacial Shear Performance Between Sprayed Ultra-high Performance Concrete and Normal Concrete
..... CHEN Tao, WU Huai-na, WEN Jia, YU Man, CHEN Ren-peng(309)

• Traffic Engineering •

- Customized Bus Choice Behavior Mechanism Analysis Based on Mixture-of-expert Network
..... DONG Wen-tao, YU Cheng-cheng, LI Xi, YUAN Quan, YANG Chao(324)
- Multi-objective Taxi Dispatching Based on Deep Reinforcement Learning
..... CHEN Jing, ZONG Chang-ming, YUAN Chang-wei, MA Ning-yuan, ZHANG Jie, ZHANG Ming-hui, FANG Xin-jie(336)

• Automotive and Mechanical Engineering •

- An Efficient Trajectory Optimization Method for Autonomous Vehicles Based on ADMM and iLQR HE Yi, HU Hong-bin, ZHANG Ming(352)
- A Universal Source-free Domain Adaptive Fault Diagnosis Method for Highway Equipment Considering Domain Shift and Category Shift
..... ZHANG Hang, LIU Ying-wei, ZHAO Ke, YE Min(363)