

目次

· 特别策划 ·

中国汽车工程学术研究综述·2023 ..... 《中国公路学报》编辑部(1)

· 重大隧道工程建设关键科学问题及技术突破专栏 ·

穿越活动断层隧道抗震韧性设计理念与关键问题 ..... 朱合华,禹海涛,韩富强,卫一博,袁勇(193)

基于机器学习的隧道支护体系智能化设计与评价方法 ..... 何川,陈子全,周子寒,马伟斌,汪波,张金龙(205)

软岩隧道锁脚锚管应变现场测试及对拱脚的约束作用研究 ..... 陈建勋,陈丽俊,罗彦斌,刘立明,王传武,赵鹏宇(218)

基于多目标调控技术的超大直径盾构管环动态自主纠偏研究 ..... 张稳军,杨洋,张弛,张高乐,何历超,吕计瑞(231)

考虑接触热阻的钢壳沉管隧道结构火灾温度场研究 ..... 吴梦军,吴庆良,金文良,胡学兵,曹鹏(244)

错台对盾构管片纵缝压弯力学性态的影响 ..... 丁文其,吴昱东,张晓东,乔亚飞(256)

无中墙连拱隧道爆破振动响应特性及安全控制措施 ..... 王亚琼,杨御博,高启栋,江伟,周海孝,杨瑞鹏(266)

管幕箱涵一体化隧道结构抗剪性能试验与理论研究 ..... 谢雄耀,邹佳,周彪,戴清,韩建军,曾英俊(278)

基于三维超像素分割的隧道围岩结构面智能识别方法 ..... 傅金阳,梁向荣,王宇,王浩宇,阳军生(289)

局部失效盾构隧道管片承载特性及破坏机理 ..... 高晓静,李鹏飞,张明聚,王海峰,贾子琦,冯武(302)

强降雨下岩溶隧道衬砌结构受力特征分析 ..... 万飞,李开军,王华牢,张翱(312)

高压富水岩溶隧道底鼓变形演化机制及防控对策研究 ..... 欧雪峰,欧阳淋旭,张学民,张永杰,田娇(323)

明挖隧道固化土的重塑及重金属浸出特性研究 ..... 陈龙,陈永辉,李德晟,陈庚,闵凡路(335)

考虑流-固耦合效应的异形盾构开挖面稳定性极限分析 ..... 张成平,尚祎凡,李巍,涂诗琴,马萌硕(345)

主-余震序列作用下隧道结构增量损伤研究 ..... 禹海涛,李心熙,任辉辉(358)

半定向T形地下互通立交风网稳定性分析及应用 ..... 曾艳华,赵东旭,陶亮亮,杨桂畅,刘振撼(367)

针对隧道景观带视觉突变问题的渐变措施研究 ..... 叶飞,温小宝,张兴冰,苏恩杰,刘佳,朱文豪(375)

· 桥梁工程 ·

近爆作用下双层方钢管混凝土墩柱的抗爆性能试验 ..... 李明鸿,夏梦涛,宗周红,刘晏辰(386)

基于统计矩理论的梁式桥模态振型识别新方法 ..... 阳洋,谭小琨,王欢,王瑞琼,田堃(395)

跨海桥梁圆柱墩局部冲刷动态演变试验 ..... 吴继熠,郭健,翁博文(407)

深水桥梁矩形围堰水流荷载的分流板抑制方法 ..... 牛艳伟, YOUNIS Bassam A, 侯兵(419)

流线型闭口箱梁大攻角颤振性能及演变机理研究 ..... 刘继久,刘圣源,方根深,程樾,徐胜乙,赵林,葛耀君(432)

· 交通工程 ·

基于ETC数据的山区高速公路客货车行驶速度特征研究 ..... 张驰,翟艺阳,王韩,张敏,袁华智,赵霄(441)

长时驾驶任务中脑力负荷多维特征变化趋势研究 ..... 陶达,黄玉勇,吴玉卓,张奇良,冉家琪,张婷茹,曲行达(456)

基于特征相关度分析的路面凝冰短时预测方法 ..... 刘照仑,闫茂德,左磊,杨盼盼(465)

CONTENTS

• Special Planning •

Review on China's Automotive Engineering Research Progress: 2023 ..... Editorial Department of *China Journal of Highway and Transport*(1)

• Special Column on Key Scientific Problems and Technological Breakthroughs in Mega Tunnel Engineering Construction •

Seismic Resilience Design Principles and Key Issues for Tunnels Crossing Active Faults ..... ZHU He-hua, YU Hai-tao, HAN Fu-qiang, WEI Yi-bo, YUAN Yong(193)

Intelligent Design and Evaluation Method of Tunnel Support System Based on Machine Learning ..... HE Chuan, CHEN Zi-quan, ZHOU Zi-han, MA Wei-bin, WANG Bo, ZHANG Jin-long(205)

On-site Testing of Strain of Feet-lock Pipe and Its Restraining Effect on Tunnel Feet in Soft Rock ..... CHEN Jian-xun, CHEN Li-jun, LUO Yan-bin, LIU Li-ming, WANG Chuan-wu, ZHAO Peng-yu(218)

Dynamic Autonomous Deviation Correction of Super-large Diameter Shield Tunnel Rings Based on Multi-objective Control Techniques ..... ZHANG Wen-jun, YANG Yang, ZHANG Chi, ZHANG Gao-le, HE Li-chao, LYU Ji-rui(231)

Fire Temperature Field of Steel Shell Immersed Tunnel Structure Considering Contact Thermal Resistance ..... WU Meng-jun, WU Qing-liang, JIN Wen-liang, HU Xue-bing, CAO Peng(244)

Effect of Dislocation on Flexural Behavior of Longitudinal Segmental Joint for Shield Tunnel ..... DING Wen-qi, WU Yu-dong, ZHANG Xiao-dong, QIAO Ya-fei(256)

Study on Blast Vibration Characteristics and Safety Control Measures in the Excavation of Multi-arch Tunnel Without a Middle Wall ..... WANG Ya-qiong, YANG Yu-bo, GAO Qi-dong, JIANG Wei, ZHOU Hai-xiao, YANG Rui-peng(266)

Experimental and Theoretical Studies on Shear Behavior of the Pipe Roof-Box Culvert Integration Tunnel Structure ..... XIE Xiong-yao, ZOU Jia, ZHOU Biao, DAI Qing, HAN Jian-jun, ZENG Ying-jun(278)

Intelligent Identification of Discontinuity in Surrounding Rock of Tunnels Based on Three-dimensional Superpixel Segmentation ..... FU Jin-yang, LIANG Xiang-rong, WANG Yu, WANG Hao-yu, YANG Jun-sheng(289)

Bearing Characteristics and Failure Mechanism of Partially Failed Segments in Shield Tunnels ..... GAO Xiao-jing, LI Peng-fei, ZHANG Ming-ju, WANG Hai-feng, JIA Zi-qi, FENG Wu(302)

Analysis of Mechanical Characteristics of Karst Tunnel Lining Structure Under Heavy Rainfall ..... WAN Fei, LI Kai-jun, WANG Hua-lao, ZHANG Xuan(312)

Floor Heave Mechanism and Prevention Countermeasures for High-pressure Water-rich Karst Tunnels ..... OU Xue-feng, OUYANG Lin-xu, ZHANG Xue-min, ZHANG Yong-jie, TIAN Jiao(323)

Remolding and Heavy Metal Leaching Properties of Solidified Soil in Open-cut Tunnel Construction ..... CHEN Long, CHEN Yong-hui, LI De-sheng, CHEN Geng, MIN Fan-lu(335)

Limit Analysis of Face Stability of Special-shaped Shield Tunnels Considering Solid-fluid Coupling Effect ..... ZHANG Cheng-ping, SHANG Yi-fan, LI Wei, TU Shi-qin, MA Meng-shuo(345)

Research on Incremental Damages of Tunnel Structures Subjected to Seismic Loadings with Mainshock-aftershock Sequences ..... YU Hai-tao, LI Xin-xi, REN Hui-hui(358)

Stability Analysis and Application of Semi-directional T-type Underground Interchange Wind Network ..... ZENG Yan-hua, ZHAO Dong-xu, TAO Liang-liang, YANG Gui-chang, LIU Zhen-han(367)

The Contribution of Gradual Change Design in Mitigating Visual Mutation Problem of Tunnel Landscape Belt ..... YE Fei, WEN Xiao-bao, ZHANG Xing-bing, SU En-jie, LIU Jia, ZHU Wen-hao(375)

• Bridge Engineering •

Experimental Study on Blast Resistant Performance of Square CFDST Columns Under Close-range Explosions ..... LI Ming-hong, XIA Meng-tao, ZONG Zhou-hong, LIU Yan-chen(386)

Research on a New Method of Beam Bridge Mode-shape Identification Based on the Statistical Moment Theory ..... YANG Yang, TAN Xiao-kun, WANG Huan, WANG Rui-qiong, TIAN Kun(395)

Experimental Investigation on Local Scouring Dynamic Evolution of Cylindrical Piers of Sea-crossing Bridges ..... WU Ji-yi, GUO Jian, WENG Bo-wen(407)

Restraining Method of Current Loads on Rectangular Steel Caissons of Deep-water Bridges Using Splitter Plates ..... NIU Yan-wei, YOUNIS Bassam A, HOU Bing(419)

Flutter Performance and Evolution Mechanism Analysis of a Streamlined Closed-box Girder at Large Angles of Attack ..... LIU Ji-jiu, LIU Sheng-yuan, FANG Gen-shen, CHENG Yue, XU Sheng-yi, ZHAO Lin, GE Yao-jun(432)

• Traffic Engineering

Research on Driving Speed Characteristics of Passenger and Freight Vehicles on Mountainous Highways Based on ETC Data ..... ZHANG Chi, ZHAI Yi-yang, WANG Han, ZHANG Min, YUAN Hua-zhi, ZHAO Xiao(441)

Changing Mechanism of Mental Workload Multidimensional Characteristics During Long-term Driving Tasks ..... TAO Da, HUANG Yu-yong, WU Yu-zhuo, ZHANG Qi-liang, RAN Jia-qi, ZHANG Ting-ru, QU Xing-da(456)

Short-term Prediction Method for Road Icing Based on Feature Correlation Analyses ..... LIU Zhao-lun, YAN Mao-de, ZUO Lei, YANG Pan-pan(465)