

目 次

• 道路工程 •

不同来源橡胶粉对橡胶沥青性能影响..... 张晓亮, 陈华鑫, 张 奔, 况栋梁 (1)

多聚磷酸及橡胶粉复合改性沥青性能..... 周育名, 魏建国, 时 松, 高建平, 段筱娟, 程 毅 (9)

再生沥青中新旧沥青扩散特性..... 刘朝晖, 高新文, 翟 龙, 李 平, 李欧婧 (18)

旧料掺量对温拌再生沥青混合料耐久性的影响分析..... 李 达 (25)

沥青与集料黏附性评价方法..... 李善强, 叶宏宇, 方 杨, 李 浩 (32)

道路用涂料耐久性评价指标与方法..... 刘英杰, 刘 闯 (40)

除雪化冰路面微波敏感涂层材料与设备..... 王剑英, 王选仓, 丁龙亭, 付林杰 (49)

基于实测高程和整车模型的沥青路面平整度力学预估方法..... 陈正伟, 徐 松, 张洪亮, 张高望 (58)

基于温度与荷载实际耦合的沥青路面车辙预估..... 李 喜, 王选仓, 房娜仁, 王 鑫 (67)

中国绿色公路建设与评估技术..... 张正一, 王朝辉, 张 廉, 王 帅, 曾 伟 (76)

• 交通工程 •

基于结构方程模型的不同规模城市居民出行方式选择影响因素的关联性分析

..... 刘宇峰, 钱一之, 胡大伟, 王来军, 李 露, 马壮林 (87)

基于空间计量模型的跨区公交通勤需求机理..... 严 海, 李 娜, 齐 岩, 曹 佳 (96)

基于 v/C 比和载重汽车混入率的高速公路基本路段车辆平均行程时间预测模型

..... 景立竹, 李群善, 许金良, 贾兴利, 刘 江, 韩跃杰 (106)

基于分层 Logit 的多方式随机用户均衡分配模型

..... 刘诗序, 池其源, 阎 昊, 郭丽丹, 唐颖诺, 严 海 (114)

驾驶人智能手机使用行为与风险感知分析 郭羽熙, 吴 昊, 付 锐, 刘 通, 向 琦 (123)

基于动态分段和 DBSCAN 算法的交通事故黑点路段鉴别方法 耿 超, 彭余华 (131)

高速公路突发事件恢复重建期交通量预测	赵 朋, 王建伟, 孙茂棚, 周雅欣 (139)
公共交通网络的复杂性及其优化——以宝鸡市为例	高红艳, 刘 飞, 钱 郁 (146)
基于交通冲突的山区高速公路可变限速控制方法	李传华, 吴 昊, 孙一帆 (154)
山区高速公路上坡路段合理速差研究	王贤良, 张晓冬, 许金良, 贾兴利 (162)
路面薄水膜状态对行车安全的影响	罗 京, 王元庆 (168)
人工湿地处理高速公路服务区污水效能	姬国斌, 张 楠 (176)
基于承运人横向合作的运输企业联盟绩效	李华强, 刘浩学, 刘 丹 (182)
基于集对分析的区域农村公路建设发展阶段性评价	白 骅, 王建军, 许 鹤 (189)
中国汽车露营地发展模式与创新路径研究	戴 宏, 郭 嘉, 李羿翔, 刘 晗 (196)

• 交通信息与控制工程 •

基于快速峰值聚类的高速公路异常事件识别方法	赵怀鑫, 张英杰, 邓然然, 丁明航, 孙朝云, 李 伟 (205)
基于紫外图像的隧道岩体样本节理裂隙二维面积及三维体积估计	高 婷, 王卫星, 王峰萍, 刘 威, 张广南 (213)
溶洞在电阻率层析成像图中的成像特征及其解释推断	魏 锋, 陈忠达, 张 震, 朱耀庭, 胡文华, 吴福泉 (221)
一种基于特征金字塔的快速行人检测方法	王世芳, 徐 琨, 陈明瑶 (231)

• 汽车与机械工程 •

无人驾驶汽车 RBF 神经网络滑模 横向控制策略	贺伊琳, 马 建, 赵 丹, 刘晓东, 张一西, 张 凯 (238)
生物柴油发动机燃烧特性与超细颗粒物排放特性	方 文, 苏 欣, 马文晓, 徐孟龙, 李海鸽, 滑海宁 (249)

CONTENTS

• Road Engineering •

Performance of asphalt binders modified by different crumb rubbers
..... ZHANG Xiao-liang, CHEN Hua-xin, ZHANG Ben, KUANG Dong-liang (1)

Properties of composite-modified asphalt with polyphosphoric acid and rubber powder
..... ZHOU Yu-ming, WEI Jian-guo, SHI Song, GAO Jian-ping, DUAN Xiao-juan, CHENG Yi (9)

Diffusion characteristics of aged and virgin asphalt in reclaimed asphalt
..... LIU Zhao-hui, GAO Xin-wen, ZHAI Long, LI Ping, LI Ou-jing (18)

Influence of RAP content on durability of warm-mix recycled asphalt mixture LI Da (25)

Evaluation method of asphalt and aggregate adhesion durability
..... LI Shan-qiang, YE Hong-yu, FANG Yang, LI Hao (32)

Durability evaluation indices and method of coating material for pavements LIU Ying-jie, LIU Chuang (40)

Microwave sensitive coating materials and equipment for snow removal
..... WANG Jian-ying, WANG Xuan-cang, DING Long-ting, FU Lin-jie (49)

Mechanistic method of predicting asphalt pavement roughness using real pavement profile and complete vehicle model
..... CHEN Zheng-wei, XU Song, ZHANG Hong-liang, ZHANG Gao-wang (58)

Rutting prediction of asphalt pavement based on actual coupling of temperature and load
..... LI Xi, WANG Xuan-cang, FANG Na-ren, WANG Xin (67)

Construction and assessment technology of green road in China
..... ZHANG Zheng-yi, WANG Chao-hui, ZHANG Lian, WANG Shuai, ZENG Wei (76)

• Traffic Engineering •

Correlation analysis of travel mode choice for urban residents in different urban size based on structural equation model
..... LIU Yu-feng, STEVEN I-Jy Chien, HU Da-wei, WANG Lai-jun, LI Lu, MA Zhuang-lin (87)

Mechanism of cross-line commuter demand based on spatial econometric model YAN Hai, LI Na, QI Yan, CAO Jia (96)

Average travel time prediction model in basic expressway sections based on v/C ratio and truck percentage
..... JING Li-zhu, LI Qun-shan, XU Jin-liang, JIA Xing-li, LIU Jiang, HAN Yue-jie (106)

Multimodal stochastic user equilibrium model based on nested Logit
..... LIU Shi-xu, CHI Qi-yuan, YAN Hao, GUO Li-dan, TANG Ying-nuo, YAN Hai (114)

Analysis of drivers' smartphone usage behavior and risk perception	GUO Yu-xi, WU Hao, FU Rui, LIU Tong, XIANG Qi (123)
Identification method of traffic accident black spots based on dynamic segmentation and DBSCAN algorithm	GENG Chao, PENG Yu-hua (131)
Traffic flow prediction of expressway traffic emergency recovery and reconstruction period	ZHAO Peng, WANG Jian-wei, SUN Mao-peng, ZHOU Ya-xin (139)
Complexity and optimization of public transit network: Taking Baoji for example	GAO Hong-yan, LIU Fei, QIAN Yu (146)
Variable speed limit method of mountainous expressway based on traffic conflict Index	LI Chuan-hua, WU Hao, SUN Yi-fan (154)
Reasonable speed difference on uphill section of mountainous freeways	WANG Xian-liang, ZHANG Xiao-dong, XU Jin-liang, JIA Xing-li (162)
Influence of thin water films over road surfaces on driving safety	LUO Jing, WANG Yuan-qing (168)
Ecological treatment process of sewage in expressway service area	JI Guo-bin, ZHANG Nan (176)
Performance evaluation of transport enterprise based on carrier's horizontal alliance	LI Hua-qiang, LIU Hao-xue, LIU Dan (182)
Evaluate of regional rural road construction and development of static phase based on set pair analysis	BAI Hua, WANG Jian-jun, XU He (189)
Development mode and innovation path of self-driving and RV camping in China	DAI Hong, GUO Jia, LI Yi-xiang, LIU Han (196)

• Traffic Information and Control Engineering •

Expressway anomaly event recognition method based on clustering by fast search and find of density peaks	ZHAO Huai-xin, ZHANG Ying-jie, DENG Ran-ran, DING Ming-hang, SUN Zhao-yun, LI Wei (205)
2D area and 3D volume estimation for rock fractures of Joint fracture of rock mass in tunnel by using ultraviolet images	Gao Ting, WANG Wei-xing, WANG Feng-ping, LIU Wei, ZHANG Guang-nan (213)
Imaging characteristics and interpretation for karst caves using electrical resistivity tomography	WEI Feng, CHEN Zhong-da, ZHANG Zhen, ZHU Yao-ting, HU Wen-hua, WU Fu-quan (221)
A fast pedestrian detection algorithm based on feature pyramid	WANG Shi-fang, XU Kun, CHEN Ming-yao (231)

• Automotive and Mechanical Engineering •

Lateral control strategy of RBF neural sliding mode for autonomous vehicles	HE Yi-lin, MA Jian, ZHAO Dan, LIU Xiao-dong, ZHANG Yi-xi, ZHANG Kai (238)
Combustion and ultrafine particle emissions of biodiesel engine	FANG Wen, SU Xin, MA Wen-xiao, XU Meng-long, LI Hai-ge, HUA Hai-ning (249)