

美国《工程索引》(EI Compendex)刊源

ISSN 1671-5497

CODEN JDXGAH

吉林大学

学报

工 学 版

Journal of Jilin University  
Engineering and Technology Edition

ISSN 1671-5497



9 771671549099

4

—  
2011

第 41 卷 第 4 期

Vol.41 No.4

中国·长春

Changchun, China

# 吉林大学学报(工学版)

第41卷 第4期 2011年7月

## 目 次

### 电子机械制动汽车稳定性控制电控单元软件开发及硬件在环试验

..... 李 静，张 建，杨 坤，等 (893)

基于动态规划算法的混联混合动力汽车控制策略 ..... 左义和，项昌乐，闫清东，等 (898)

在冰雪路面上静液驱动履带车辆转向的安全控制策略 ..... 杨 磊，马 虹，李和言 (904)

悬架运动学特性一致性的区间控制方法 ..... 麻 凯，管 欣，潘淑一，等 (910)

轮胎侧偏力学特性的胎压影响分析及预测 ..... 卢 荡，郭孔辉 (915)

客车封闭环腰梁接头形式对侧翻安全性的影响 ..... 那景新，王秋林，屈 丹，等 (921)

履带车辆变速箱箱体的试验模态参数识别及验证 ..... 张喜清，项昌乐，刘 辉 (927)

排气道废气再循环策略下实现汽油可控自燃的气门定时区域

..... 程 鹏，李 华，王有坤，等 (932)

基于核自组织映射-前馈神经网络的交通流短时预测 ..... 龚勃文，林赐云，李 静，等 (938)

轨道交通枢纽换乘系统可靠性及其影响因素 ..... 杨丽丽，贾洪飞，雋志才 (944)

轨道交通与常规公交计划调度协调模型 ..... 陈 鹏，严新平，李旭宏，等 (950)

高速公路路侧景观量化方法 ..... 李世武，王琳虹，孙文财，等 (956)

基于模态曲率理论及神经网络的简支梁桥损伤识别 ..... 刘寒冰，焦峪波，程永春，等 (963)

基于数字图像处理和有限元建模方法的沥青混合料劈裂试验数值模拟

..... 王端宜，吴文亮，张肖宁，等 (968)

5554 铝合金异种焊料焊接的显微组织及力学性能 ..... 汪洪峰，左敦稳，王 琛，等 (974)

三维曲面零件连续成形的形状控制 ..... 蔡中义，李明哲，兰英武，等 (978)

激光预制裂纹槽的断裂分析 ..... 赵 勇，杨慎华，郑祺峰，等 (984)

基于一维束流理论的液力减速器部分充液特性预测 ..... 卢秀泉，褚亚旭，才 委，等 (988)

数控机床可用度建模与仿真 ..... 魏领会，申桂香，张英芝，等 (993)

姿控飞轮电控系统电磁兼容设计 ..... 安 静，武俊峰，吴一辉 (998)

基于结构化奇异值设计方法的液压操纵负荷系统鲁棒控制

..... 齐潘国，王 慧，韩俊伟 (1004)

具有自光顺功能的五坐标样条插补控制器 ..... 刘 源，曹喜滨，王永章，等 (1010)

汽车点火系统的次级电压仿真算法 ..... 王启松，赵永平，李木天 (1015)

新型 4-UPS-UPU 并联坐标测量机刚柔耦合动力学性态

..... 陈修龙，贾帅帅，邓 显，等 (1020)

整车环境下商用车驾驶室模态刚度灵敏度 ..... 陈宇东，裴春艳，潘淑华，等 (1025)

基于模糊失效准则的混凝土结构横向裂纹可靠度 ..... 蔡 斌，孟广伟，董 心，等 (1029)

基于网络聚类选择的神经网络集成方法及应用 ..... 刘大有，张冬威，李妮娅，等 (1034)

改进的分层定性空间表示和推理方法	刘大有, 董 颖, 欧阳继红, 等	(1041)
间接使用扩展规则求解 #SAT 问题	许有军, 欧阳丹彤, 叶育鑫, 等	(1047)
XML 文档分类的 IL-AdaBoost 算法	董元方, 李雄飞, 李 军, 等	(1054)
基于活跃熵的 DoS 攻击检测模型	刘衍珩, 付 枫, 朱建启, 等	(1059)
通过需求依赖判定横切关注点	罗术通, 张长海, 金 英, 等	(1065)
基于 DNA 微阵列数据的特征子空间集成分类	于化龙, 顾国昌, 赵 靖, 等	(1071)
结合 K 均值和非负矩阵分解集成文本聚类算法	徐 森, 卢志茂, 顾国昌	(1077)
三维最大 Renyi 熵的灰度图像阈值分割算法	魏 巍, 申铉京, 千庆姬, 等	(1083)
基于预测控制的时滞网络主动队列管理	王 萍, 陈 虹, 卢晓晖	(1089)
波域预测三通道时延双边遥操作	于振中, 闫继宏, 赵 杰, 等	(1096)
基于支持向量机粒子滤波的目标跟踪算法	蒋 蔚, 伊国兴, 曾庆双	(1102)
基于可视切线图的新型煤矿救援机器人路径规划	刘 罂, 刘玉斌, 赵 杰, 等	(1107)
直驱式电液伺服系统压力流量复合控制	郝双晖, 石晶合, 郝明晖, 等	(1113)
基于惯性测量单元的欠驱动球形机器人惯性参数辨识	庄 未, 刘晓平, 孙汉旭	(1119)
基于改进的 D-S 证据理论的栅格地图构建	曹红玉, 孙汉旭, 贾庆轩, 等	(1126)
基于主动控制的异结构混沌系统有限时间同步	张袅娜, 周 遼, 张德江	(1131)
基于语音清浊音分离的语音增强算法	王海艳, 赵晓晖	(1135)
一种新的网络信道编码中继协作方案	韩春雷, 葛建华, 宫丰奎	(1140)
自适应正交频分复用系统的最优导频间隔设计	卢 冀, 肖 嵩, 吴成柯, 等	(1146)
基于 LMAP 算法的改进算法——ELMAP	关新平, 王 胜, 刘志新	(1151)
移动自主网与 Internet 互联中的自适应网关发现算法	庄 琳, 刘元安, 刘凯明, 等	(1157)
适用于广播业务的协同中继协议性能分析	朱 松, 王文博, 彭木根	(1162)
基于核方法的二维线性判决分析的人脸识别算法	张朝柱, 左国辉	(1167)
基于改进的局部二值拟合主动轮廓模型的指静脉图像分割	陈攻攻, 郭树旭, 钱晓华	(1171)
基于斜投影极化滤波的高频雷达电台干扰抑制	刘爱军, 毛兴鹏, 邓维波	(1177)
北方大型沼气工程加热保温系统优化	王丽丽, 杨印生, 王忠江	(1183)
湿氧预处理玉米秸秆酶解与酒精发酵	张 强, Anders Thygesen, Anne Belinda Thomsen	(1189)

# Journal of Jilin University

## (Engineering and Technology Edition)

Vol. 41 No. 4

July 2011

### Contents

Development of ECU software and hardware-in-the-loop simulation for stability control of vehicle with electro-mechanical brake	..... LI Jing, ZHANG Jian, YANG Kun, et al. (893)
Parallel-serial hybrid electrical vehicle control strategy based on dynamic programming algorithm	..... ZUO Yi-he, XIANG Chang-le, YAN Qing-dong, et al. (898)
Steering safety control strategy of hydrostatic driving tracked vehicle on icy-snowy road	..... YANG Lei, MA Biao, LI He-yan (904)
Interval control method on consistency of suspension kinematics	..... MA Kai, GUAN Hsin, PANG Shu-yi, et al. (910)
Analysis and prediction of tire cornering property for different inflation pressure	..... LU Dang, GUO Kong-hui (915)
Influence of waist beam joint type for bus enclosed skeleton on rollover safety	..... NA Jing-xin, WANG Qiu-lin, QU Dan, et al. (921)
Identification and validation of test modal parameters of gearbox housing in a certain tracked vehicle	..... ZHANG Xi-qing, XIANG Chang-le, LIU Hui (927)
Test on valve timing region to realize gasoline controlled autoignition combustion under the strategy of exhaust gas recirculation in exhaust port	..... CHENG Peng, LI Hua, WANG You-kun, et al. (932)
Short-term traffic flow prediction based on KSOM-BP neural network	..... GONG Bo-wen, LIN Ci-yun, LI Jing, et al. (938)
Transfer system reliability and its influencing factors of rail transit terminal	..... YANG Li-li, JIA Hong-fei, JUAN Zhi-cai (944)
Schedule coordination model between rail transit and bus transit	..... CHEN Peng, YAN Xin-ping, LI Xu-hong, et al. (950)
Feature quantification method for freeway roadside landscape	..... LI Shi-wu, WANG Lin-hong, SUN Wen-cai, et al. (956)
Damage identification for simply supported beam bridge based on modal curvature theory and neural network	..... LIU Han-bing, JIAO Yu-bo, CHENG Yong-chun, et al. (963)
Numerical simulation of splitting test of asphalt mixture based on DIP-FEM	..... WANG Duan-yi, WU Wen-liang, ZHANG Xiao-ning, et al. (968)
Analysis of microstructure and mechanical properties of aluminum alloy 5554 welded joints with dissimilar solders	..... WANG Hong-feng, ZUO Dun-wen, WANG Min, et al. (974)
Shape control of 3-dimensional curved surface part in continuous forming	..... CAI Zhong-yi, LI Ming-zhe, LAN Ying-wu, et al. (978)
Fracture analysis of specimen with crack notch processed by laser	..... ZHAO Yong, YANG Shen-hua, ZHENG Qi-feng, et al. (984)
Predicting method for partial-filling performance of hydrodynamic retarder based on one-dimensional flow beam theory	..... LU Xiu-quan, CHU Ya-xu, CAI Wei, et al. (988)
Modeling and simulating availability of CNC machine tools	..... WEI Ling-hui, SHEN Gui-xiang, ZHANG Ying-zhi, et al. (993)
Electromagnetic compatibility design of electronic control system for attitude control flywheel	..... AN Jing, WU Jun-feng, WU Yi-hui (998)
$\mu$ -synthesis based robust control of hydraulic control loading system	..... QI Pan-guo, WANG Hui, HAN Jun-wei (1004)
Spline interpolation controller with fairing function for five-axis machining	..... LIU Yuan, CAO Xi-bin, WANG Yong-zhang, et al. (1010)
Secondary voltage simulation algorithm for automotive ignition system	..... WANG Qi-song, ZHAO Yong-ping, LI Mu-tian (1015)
Dynamic behaviors of rigid-flexible coupling for novel 4-UPS-UPU parallel coordinate measuring machine	..... CHEN Xiu-long, JIA Shuai-shuai, DENG Yu, et al. (1020)
Modal stiffness sensitivity of commercial vehicle cab under full vehicle environment	..... CHEN Yu-dong, PEI Chun-yan, PAN Shu-hua, et al. (1025)
Reliability analysis for transverse crack in concrete structure based on fuzzy invalidation criterion	..... CAI Bin, MENG Guang-wei, DONG Xin, et al. (1029)
Selective approach for neural network ensemble based on network clustering technology and its application	..... LIU Da-you, ZHANG Dong-wei, LI Ni-ya, et al. (1034)

Improved hierarchical qualitative spatial representation and reasoning approach	..... LIU Da-you, DONG Sa, OUYANG Ji-hong, et al. (1041)
Solving # SAT with extension rule indirectly	..... XU You-jun, OUYANG Dan-tong, YE Yu-xin, et al. (1047)
IL-AdaBoost algorithm for XML document classification	..... DONG Yuan-fang, LI Xiong-fei, LI Jun, et al. (1054)
DoS detection model base on alive entropy	..... LIU Yan-heng, FU Feng, ZHU Jian-qi, et al. (1059)
Determination of cross-cutting concerns by requirement dependency	..... LUO Shu-tong, ZHANG Chang-hai, JIN Ying, et al. (1065)
Feature subspace ensemble classification based on DNA microarray data	..... YU Hua-long, GU Guo-chang, ZHAO Jing, et al. (1071)
Integrating K-means and non-negative matrix factorization to ensemble document clustering	..... XU Sen, LU Zhi-mao, GU Guo-chang(1077)
Thresholding algorithm based on three-dimensional Renyi's entropy	..... WEI Wei, SHEN Xuan-jing, QIAN Qing-ji, et al. (1083)
Active queue management of delay network based on model predictive control	..... WANG Ping, CHEN Hong, LU Xiao-hui(1089)
3CH time-delayed bilateral teleoperation using wave variable with prediction	..... YU Zhen-zhong, YAN Ji-hong, ZHAO Jie, et al. (1096)
Target tracking algorithm based on support vector machine particle filter	..... JIANG Wei, YI Guo-xing, ZENG Qing-shuang(1102)
Path planning for a new mine rescue robot base on visual tangent graphs	..... LIU Gang, LIU Yu-bin, ZHAO Jie, et al. (1107)
Pressure and flow compound control of direct drive electro-hydraulic servo system	..... HAO Shuang-hui, SHI Jing-he, HAO Ming-hui, et al. (1113)
Method for identifying inertial parameters of underactuated spherical robot based on inertial measurement unit	..... ZHUANG Wei, LIU Xiao-ping, SUN Han-xu(1119)
Building grid map with improved Dempster-Shafer evidence theory	..... CAO Hong-yu, SUN Han-xu, JIA Qing-xuan, et al. (1126)
Synchronization control of finite time convergence between two different structure chaos systems	..... ZHANG Niao-na, ZHOU Sui, ZHANG De-jiang(1131)
Speech enhancement algorithm based on voiced/unvoiced discrimination	..... WANG Hai-yan, ZHAO Xiao-hui(1135)
Novel network-channel coding scheme for relay cooperation	..... HAN Chun-lei, GE Jian-hua, GONG Feng-kui(1140)
Optimal pilot spacing for adaptive orthogonal frequency division multiplexing systems	..... LU Ji, XIAO Song, WU Cheng-ke, et al. (1146)
ELMAP: an improved algorithm based on LMAP	..... GUAN Xin-ping, WANG Sheng, LIU Zhi-xin(1151)
Adaptive gateway discovery algorithm in MANET for internet connectivity	..... ZHUANG Lin, LIU Yuan-an, LIU Kai-ming, et al. (1157)
Outage performance of cooperative relay protocol for broadcast service	..... ZHU Song, WANG Wen-bo, PENG Mu-gen(1162)
Kernel method in face recognition based on 2DLDA	..... ZHANG Chao-zhu, ZUO Guo-hui(1167)
Finger vein image segmentation based on an improved LBF active contour model	..... CHEN Mei-meи, GUO Shu-xu, QIAN Xiao-hua(1171)
Radio interference suppression for high frequency radar based on oblique projection polarization filtering	..... LIU Ai-jun, MAO Xing-peng, DENG Wei-bo(1177)
Optimization on heating and insulating system for northern large-scale biogas project	..... WANG Li-li, YANG Yin-sheng, WANG Zhong-jiang(1183)
Enzymatic hydrolysis and ethanol fermentation from corn stover pretreated by wet oxidation	..... ZHANG Qiang, Anders Thygesen, Anne Belinda Thomsen(1189)