

目 次

- 新年献词 吴连伟(I)
编者的话 (II)

约 稿

- 基于双模型直接配置法的航天器轨迹优化 邱永强, 贾英民(1)
一种多智能体系统一致性协议仿真系统的设计 刘忠信, 韦月飞, 曹勇, 陈增强(6)
基于差分进化的多机器人路径规划 雷小宇, 楼朴根, 张婷婷, 杨胜跃(10)
基于等价对的图像连通域标记算法 左敏, 曾广平, 涂序彦, 古世东(14)
基于灰色理论的湖库水体富营养化预测方法研究 王小艺, 赵晓平, 刘载文, 董硕琦(17)
超临界机组非线性模型参数估计与平衡点分析 田新首, 韩忠旭, 陈利杰, 蔡靖(20)
某无人机的纵向控制律设计仿真分析 蒋静(24)
移动机器人动态人工势场路径规划方法研究 连晓峰, 刘载文, 左敏(27)
带有禁忌规则的改进蚂蚁算法 范彬毅, 姜同强(32)
互联网药品经营企业市场本体数据库建设研究 陆颖, 顿彬, 陈锋, 陆明(35)
翼伞空投机器人的六自由度仿真 焦亮, 孙青林, 亢晓峰(39)
在线书签系统中标签分布特性的仿真研究 韩忠明, 刘艳君, 段大高, 左敏(43)

军事领域仿真

- 基于有效水面的航行器击水力数值计算 曹子尧, 徐德民(46)
基于空时超分辨算法的雷达目标二维重构 曹鹏, 梁华强(51)

航空航天领域仿真

- 单级轴流压气机数值仿真研究 刘月玲, 乔渭阳, 秦淋(55)
基于 Vega 的导弹防御仿真系统研究 陈新庚, 马长生, 孙文涛(59)
基于 Vega 的无人机雷达载荷视景仿真应用研究 万红坡, 席庆彪, 刘慧霞, 田雪涛(63)
GPS 接收阵列自适应抗干扰算法性能比较 周云锋, 李宏, 梁宏, 廖万友(68)
飞行模拟器经典洗出算法参数选择研究 杨宇, 郑淑涛, 韩俊伟(72)
固体推进剂力学性能预估研究 李进贤, 莫文宾, 唐金兰(76)
基于 HLA 的电子对抗仿真系统设计 张启, 许家栋, 王国超, 郝小龙(80)
航空发动机高压离心泵的设计与仿真 申世才, 李华聪, 吕伟, 陈博(84)
基于引力场模型的图像匹配方法 陈椒, 王晓璇, 马松辉(88)
航空发动机四输入四输出 H₂ 控制与仿真 代冀阳, 李华英, 应进, 李秋红(92)
曲面机身剖面参数设计与隐身性能优化 李启鹏, 王和平, 潘志雄, 司亮(98)
航空发动机准滑动模态变结构控制 章仁华, 马静(103)
常规导弹精确打击中卫星应用效能评价 马满好, 罗雪山, 汪彦明, 欧阳震净(107)
一种基于扩展滑动模态的自动驾驶仪设计 郭建国, 周军(111)
空气入口速度对冲压发动机补燃室流场的影响 王天波, 周长省, 郑健(115)
导弹半实物仿真实时数据采集系统设计 张安民, 徐海, 崔连虎(119)

建模与验模

- 水下缆索环流阻力分析 马爱民, 徐德民(123)

网络与互连技术

- 瑞利信道中双门限检测算法性能仿真及研究 姜微, 马惠珠(127)
一种基于数据聚合的网络拓扑推測算法 段琪, 靖朝鹏, 蔡皖东, 赵涛(131)
无线自组网节点信任关系的评估机制研究 刘芳, 董荣胜(136)
基于 Agent 的 QoS 组播路由算法及仿真 侯丽敏, 张瑞坤(140)
CDN 网络中一种新的负载平衡技术 卢卓君(144)
一种新的 OFDM 系统载波频偏盲估计算法 韩冲, 廉保旺, 任璐(147)
NS2 中门限对仿真性能影响及其最优值研究 赵锋, 郭爱煌, 罗恒, 李慧(151)
快衰落信道下改进的 STBC 解码性能分析 杨柳, 刘汉奎, 郝希准, 李骏(155)
基于 Ad Hoc 网络自愈合机制的创新研究 文春生(158)
弯折线偶极子射频识别标签天线设计方法研究 胡中皓, 张麟兮, 郭斌(162)
机载电子干扰吊舱效能仿真研究 康锐, 徐建城, 茅坪(166)
频域宽带波束成形器设计 姬国伟, 葛利嘉, 高雷, 罗健源(170)
基于能量选择的 RelnForM 路由算法研究与仿真 王登第, 柴乔林, 蔡晓军(174)
无线传感器 LEACH 算法的优化及仿真 林楠, 史苇杭(178)

IA-SVM 算法在网络入侵检测中的研究 黄艳秋(182)

人工智能与专家系统

- 基于多特征选择及粒子滤波的目标稳健跟踪 孟犇,胡瞰,杨杰(186)
组合人工神经网络在地震预测中的应用研究 陈以,王颖,张晋魁(190)
水下目标识别的知识表示及推理 向锐兵,高颖,王修亮,彭宇馨(194)
基于改进 Smith 预估器的二阶时滞系统 安连祥,马华民,刘永刚,刘新艳(198)
基于模糊控制器的未知环境下移动机器人导航 刘宏林,罗杨宇,李成荣(201)
网络流量组合预测模型研究 邱琳强,陈梅梅(206)
基于小生境遗传神经网络的材料力学性能预测 汤嘉立,柳益君,蔡秋茹,吴访升(209)
超磁致伸缩执行器的 P-模糊 PID 控制 杨凌霄,陶玉昆,钟颖(214)
K-中心点聚类算法优化模型的仿真研究 白旭,靳志军(218)
GA-SVM 算法在文本分类中的应用研究 宋淑彩,庞慧,丁学钧(222)
基于自适应滑模的喷水推进船舶航向控制 曾薄文,朱齐丹,宋洋(226)

优化仿真

- 多群体差分演化算法及其应用 廖锋,高兴宝(230)
一种求解生产计划问题的改进量子粒子群算法 王亦乐,王万良(234)
蚁群算法在 PID 控制器参数优化中的应用研究 陈书谦,张丽虹(238)

可视化仿真技术

- 基于不变矩和 SVM 分类的三维目标识别方法 王睿,李言俊,张科(242)
SAR 图像多尺度配准的小波域等周割方法 李婧,田铮(246)
有序子集最大似然 SPS 算法在 CT 中的应用 何玲君,潘晋孝,孔慧华(250)
三维锥束 CT 中几何参数的校正研究 席东星,张树生,李悍(253)
种结合小波变换的 SIFT 特征图像匹配算法 刘佳嘉,何小海,陈为龙(257)
一种改进的数字图像置乱方法 顾成喜(261)
基于小波的红外图像去噪算法研究 康志亮,许丽佳(265)
枕寰枢复合体有限元模型的建模研究 杨生,孟春玲,王鹏,郑鸿海(268)
一种基于纹理和颜色的目标跟踪方法 李巍,赵英凯,钱厚亮(273)
基于区域模板匹配的多目标实时跟踪 林月贡,何小海,张生军(277)
复杂场景下遗留物体的检测 方瑜,滕奇志,李科伟,龚国静(281)
基于均衡化和 K 均值改进蚁群算法的边缘检测 刘坤岭,周新志(285)
海平面红外目标的检测和跟踪技术 刘晔,胡绍海,李向军(289)
遗传算法粒在二维最大熵值图像分割中的应用 欧萍,贺电(294)

虚拟仿真

- 基于 NURBS 的地形仿真研究 张东,黄腾(298)

能源领域仿真

- 短期负荷预测的简化 LS-SVM 模型及实现 贺红林,周翔,曾劲松(302)
非整周期采样谐波有功功率计量的时频域分析 俞集辉,刘金强,郑可,付志红(307)
基于级联网络的短期电力负荷预测研究 魏安静,田丽,凤权(311)
新型锁相技术在单相系统中的应用研究 陈自强,黄守道,曾智波,熊山(315)
风机变桨距非线性预测控制算法 雷涛,贾利民(319)

交通体系与工具仿真

- 车辆橡胶防尘罩静力学特性分析 王青春,鲍际平,宁耕,石洪意(323)
基于 Adaboost 的轿车尾部检测方法 叶丽燕,赵建民,朱信忠,徐慧英(327)

制造业仿真

- 数控加工刀具变形误差补偿技术研究 李苏渊,杨茂奎,杨川(331)

仿真应用研究

- 基于物元的协同软件可用性量化评估算法 王世安,李太寿(336)
基于简单度和能量的心音分段算法研究 罗保钦,陈远贵,曾庆宁(340)
信号自适应去噪方法的仿真研究 陈华丽,刘康,程耕国(344)
GPS 软件接收机载波跟踪环的设计实现 刘高辉,曹家昆(348)
声探测网络延时概率多假设跟踪算法 申屠晗,郭云飞,薛安克(352)
基于 Markov 过程的冗余系统可靠性分析 杨其国(356)
户用太阳能辅助加热沼气池动态传热仿真 郭甲生,秦朝葵,魏晓峰,唐继旭(360)
语音增强的计算机仿真 马裕,齐凯,杨晓阔(365)
盾构施工中地表沉降的数值仿真及影响分析 秦弦,杨培中,刘涛,金先龙(369)
尺寸和发射频率对换能器声场影响仿真分析 韩伟,张丕状(374)
Parrondo 悖论博弈的理论分析与计算机仿真 叶晔,谢能刚,彭法睿,许刚(378)
核筒悬挂结构在耦合地震下的抗震分析 吴昊,刘洪兵,张军(383)
基于加速度计的路形计算方法研究 赵红毅(388)
化工原料中对羧基苯甲醛含量的软测量建模 邵联合,韩莉(392)
径向边界驱动下湍流问题的仿真 王艳,邓子辰,高小科(396)

CONTENTS

Spacecraft Trajectory Optimization Using Dual-Model Direct Collocation Method	QI Yong-qiang, JIA Ying-min (1)
Design of a Simulation System for Consensus Protocols of Multi-Agent System	LIU Zhong-xin, WEI Yue-fei, et, al (6)
Path Planning Research for Multi-Robot Based on Differential Evolution	LEI Xiao-yu, LOU Pu-gen, et, al (10)
A Connected Domain Labeling Algorithm Based On Equivalence Pair In Binary Image	ZUO Min, ZENG Guang-ping, et, al (14)
Research on Lake Eutrophication Forecasting Methods Based on Grey Theory	WANG Xiao-yi, ZHAO Xiao-ping, et, al (17)
Parameter Estimation and Equilibrium Points Analysis on Non-linear Model of the Supercritical Unit	TIAN Xin-shou, HAN Zhong-xu, et, al (20)
Longitudinal Control for UAV and Simulation	JIANG Jing (24)
Research on Dynamic Fuzzy Artificial Potential Field Method for Mobile Robot Path Planning	LIAN Xiao-feng, LIU Zai-wen, et, al (27)
An Improved ant Colony System with Tabu Rule	FAN Bin-yi, JIANG Tong-qiang (32)
Study on Database Construction Scheme of Market Ontology for Internet Medicine Enterprises	LU Ying, DUN Bin, et, al (35)
Simulation of 6-DOF Parafoil and Air-dropped Robot System	JIAO Liang, SUN Qing-lin, et, al (39)
Simulation of Tag Distribution in Online Social Bookmark System	HAN Zhong-ming, LIU Yan-jun, et, al (43)
Numerical Simulation of Water-entry Impact Forces of Hydrobomb Based on Virtual Surface	CAO Zi-yao, XU De-min (46)
2_D Reconstruction of Radar Target Based on Spatial-temporal Super-resolution Algorithm	CAO Peng, JIANG Hua-qiang (51)
CFD Investigation of Single-Stage Compressor	LIU Yue-ling, QIAO Wei-yang, et, al (55)
Research of Simulation Missile Defense System Based on Vega	CHEN Xin-geng, MA Chang-sheng, et, al (59)
Research on Visual Simulation of a Radar Sensor of UAV Based on Vega	WAN Hong-po, XI Qing-biao, et, al (63)
Comparison between Adaptive Anti-jamming Algorithms Applying in GPS Arrays	ZHOU Yun-feng, LI Hong, et, al (68)
Study on Choosing of Washout Filter Parameters for Flight Simulator	YANG Yu, ZHENG Shu-tao, et, al (72)
Research on Mechanical Property Prediction of Solid Propellant Base on GA-BP Neural Network	LI Jin-xian, MO Wen-bin, et, al (76)
Design of Simulation System about Electronic Counter Measures based on HLA	ZHANG Qi, XU Jia-dong, et, al (80)
Design and Simulation of Aero-engine High Pressure Centrifugal Pump	SHEN Shi-cai, LI Hua-cong, et, al (84)
Method for Image Matching Based on Gravitation Field Model	CHEN Qiu, WANG Xiao-can, et, al (88)
Design and Simulation of H_∞ Controller for Aeroengines with Four-inputs and Four-outputs	DAI Ji-yang, LI Hua-ying, et, al (92)
Section Parameters Design of the Curved Surface Fuselage and Stealth Performance Optimization	LI Qi-peng, WANG He-ping, et, al (98)
Application of Quasi-Variable Structure Control Method in Aeroengine Control System	ZHANG Ren-hua, MA Jing (103)
Evaluation of Satellite Application Effectiveness in Missile Precise Strike	MA Man-hao, LUO Xue-shan, et, al (107)
Autopilot Design Based on Extended Sliding Mode	GUO Jian-guo, ZHOU Jun (111)
Influence of Different Air Inlet velocity on Flow Field for Ramjet	WANG Tian-bo, ZHOU Chang-sheng, et, al (115)
Design of Real-Time Data Acquisition System for Missile Hardware-in-the-Loop Simulation	ZHANG An-min, XU Hai, et, al (119)
Hydraulic Resistance Analysis in Towed Wire Rope Modeling	MA Ai-min, XU De-min (123)
Performance of Double Threshold Detection Over Rayleigh Channel	JIANG Wei, MA Hui-zhu (127)
MPDIA: A Sensor Network Topology Inference Algorithm based on Data Aggregation	DUAN Qi, JING Chao-peng, et, al (131)
An Evaluation Mechanism to Node Trust Relationship in Wireless Ad Hoc Networks	LIU Fang, DONG Rong-sheng (136)
QoS Multicast Routing Algorithm Based on Agent and Simulation	HOU Li-min, ZHANG Rui-kun (140)
CDN Network Load Balancing a New Technology	LU Zhou-jun (144)
A New Method for Blind Estimating Carrier Frequency Offset in OFDM	HAN Chong, LIAN Bao-wang, et, al (147)
Impact of Thresholds on Simulation Performance of NS-2 and Their Optimal Values	ZHAO Feng, GUO Ai-huang, et, al (151)
Performance Analysis of Improved STBC Decoder in Fast Fading Channels	YANG Liu, LIU Han-kui, et, al (155)
Ad Hoc Networks Based on Self-healing Mechanism of Innovative Research	WEN Chun-sheng (158)
One Design Method of Meander-line Dipole Antennas for RFID Applications	HU Zhong-hao, ZHANG Lin-xi, et, al (162)
Simulation Research on Effectiveness of Airborne Electronic Jamming Pod	KANG Rui, XU Jian-cheng, et, al (166)
Frequency-Domain Broadband Beamformer Design	JI Guo-wei, GE Li-jia, et, al (170)
Research and Simulation of ReInForM Routing Algorithm Based on Energy Selection	WANG Deng-di, CHAI Qiao-lin, et, al (174)
Simulation Research of Wireless Sensor Networks Based on LEACH Protocol	LIN Nan, SHI Wei-hang (178)
Research Network Intrusion Detection Based on Combination of PCA and SVM	HUANG Yan-qi (182)
Robust Object Tracking With Multi-Feature Selection and Particle Filter	MENG Ben, HU Tun , et, al (186)
Research on Combined Artificial Neural Network and Its Application in Earthquake Prediction	CHEN Yi, WANG Ying, et, al (190)
Knowledge Representation and Reasoning Algorithm in Underwater Target Recognition	YAN Rui-bing, GAO Ying, et, al (194)
A 2 th Order Time Delay System Based on Improved Fuzzy Smith Predictor	AN Lian-xiang, MA Hua-min, et, al (198)
Fuzzy Controller for Mobile Robot Navigation under Unknown Environments	LIU Hong-lin, LUO Yang-yu, et, al (201)
Research on Combination Forecast of Network Traffic	QIU Lin-qiang, CHEN Mei-mei (206)

Prediction of Material Mechanical Properties with Neural Network Based on Niche Genetic Algorithm	TANG Jia-li, LIU Yi-jun, et, al (209)
Control with P-Fuzzy PID for Giant Magnetostrictive Actuator	YANG Ling-xiao, TAO Yu-kun, et, al (214)
Research on Optimal Model of K-Means Clustering Algorithm	BAI Xu ,JIN Zhi-jun (218)
Research of Text Categorization Based on Genetic Algorithm and Support Vector Machine	SONG Shu-cai, PANG Hui, et, al (222)
Adaptive Sliding Mode for Course Tracking Control of a Waterjet Propulsion Ship	ZENG Bo-wen, ZHU Qi-dan, et, al (226)
Multiple Population Differential Evolution Algorithm and its Application	LIAO Feng, GAO Xing-bao (230)
An Improved Quantum Particle Swarm Optimization for Solving Production Planning Problem	WANG Yi-le, WANG Wan-liang (234)
Application Research about ID Parameters Optimization Based on Ant Colony Algorith	CHEN Shu-qian, ZHANG Li-hong (238)
Multi-view 3-D Target Recognition Algorithm Based on Moment Invariant and Support Vector Machine Classification	WANG Rui, LI Yan-jun, et, al (242)
Multi-Scale Synthetic Aperture Radar Image Registration by Isoperimetric Cut in Wavelet Domain	LI Jing, TIAN Zheng (246)
Ordered Subsets Maximum Likelihood SPS Algorithm Applied in CT Image Reconstruction	HE Ling-jun, PAN Jin-xiao, et, al (250)
Calibration of Geometrical Parameters in 3D Cone-beam CT	XI Dong-xing, ZHANG Shu-sheng, et, al (253)
Image Matching Algorithm by Wavelet Transform Combined with SIFT Characteristics	LIU Jia-jia, HE Xiao-hai, et, al (257)
An Extended Method for Digital Image Scrambling	GUO Cheng-xi (261)
An Algorithm Study on Infrared Image De-noising Based on Wavelet Transform	KANG Zhi-liang, XU Li-jia (265)
Research on Finite Element Simulation Modeling of Occipito-atlantoaxial Complex	YANG Sheng, MENG Chun-ling, et, al (268)
Camshift Tracking Algorithm Based on LBP Feature	LI Wei, ZHAO Ying-kai, et, al (273)
Real-time Multi-targets Tracking Based on Region Template Matching	LIN Yue-gong, HE Xiao-hai, et, al (277)
Detection of Abandoned Objects in Complex Scene	FANG Yu, TENG Qi-zhi, et, al (281)
Image Edge Detection Based on Histogram Equalization and K-means Improved Ant Colony Algorithm	LIU Kun-ling, ZHOU Xin-zhi (285)
Detection and Tracking Technology for Targets in Infrared Images	LIU Ye, Hu Shao-hai, et, al (289)
2-D Maximum Entropy Method of Image Segmentation Based on Genetic Algorithm	OU Ping, HE Dian (294)
Terrain Simulation Based on NURBS	ZHANG Dong, HUANG Teng (298)
A Simple Short-Term Electrical Load Forecasting Modeling Method Based on the Least-Squares Support Vector Machine's Implementation	HE Hong-lin, ZHOU Xiang, et, al (302)
Analysis for Harmonic Active Power Measurement with Non-integer Period Sampling in Time-frequency Domain	YU Ji-hui, LIU Jin-qiang, et, al (307)
Short-Term Load Forecasting Research of Electric Power System Based on Cascaded Network	WEI An-jing, TIAN Li, et, al (311)
Applied Research of a New Type of Phase-Locking in Single-Phase System	CHEN Zi-qiang, HUANG Shou-dao, et, al (315)
Nonlinear Predictive Control Algorithm for Variable Pitch Controller of Wind Turbine	LEI Tao, JIA Li-min (319)
Static Analysis on Rubber Dust Cap for Forestry Vehicle	WANG Qing-chun, BAO Ji-ping, et, al (323)
Vehicle-rear Detection Method Based on Adaboost	YE Li-yan, ZHAO Jian-min, et, al (327)
Study on Error Compensation of Tool Deflection Based on Cutting Force in NC Machining	LI Su-yuan, YANG Mao-kui, et, al (331)
Quantitative Arithmetic of Usability Evaluation Towards Cooperative Software Based on Matter Element	WANG Shi-An, LI Tai-Shou (336)
An Algorithm for Heart Sounds Segmentation Based on Simplicity and Energy	LUO Bao-qin, CHEN Yuan-gui, et, al (340)
Study and Simulation on Signal Adaptive De-noising Method	CHEN Hua-li, LIU Kang, et, al (344)
Design of Carrier Tracking Loop in GPS Software Receiver	LIU Gao-hui, CAO Jia-kun (348)
Time Delay Probabilistic Multi-hypothesis Tracking Algorithm for Acoustic Sensor Network	SHEN Tu-han, GUO Yun-fei, et, al (352)
Reliability Analysis of Redundancy System Based on Markov Process	YANG Qi-guo (356)
Numerical Simulation of Unsteady Heat Transfer in Solar-assisted Heating Household Biogas Digester	GUO Jia-sheng, QIN Chao-kui, et, al (360)
Computer Simulation of Speech Enhancement	MA-yu, QI Kai, et, al (365)
Numerical Simulation on Ground Settlement During Shield Tunneling and Impact Analysis	QIN Xian, YANG Pei-zhong, et, al (369)
Study on Simulation of Influence of Size and Exciting Frequency of Transducer on Radiation Field	HAN Wei, ZHANG Pi-zhuang (374)
Theoretical Analysis and Computer Simulation of Parrondo's Paradox Game	YE Ye, XIE Neng-gang, et, al (378)
Vibration Characteristic of Core-Tube Suspended Structure Subjected to Multi-Dimension Seismic Coupling Excitation	WU Hao, LIU Hong-bing, et, al (383)
Calculation Algorithm Research of Road Shape Based on Accelerometers	ZHAO Hong-yi (388)
Soft Sensor Modeling of the 4-CBA Content in Chemical raw Materials	SHAO Lian-he, HAN Li (392)
Calculation and Simulation of Creeping Flow in Wedge Cavities Driven by Radial Boundary Walls	WANG Yan, DENG Zi-chen, et, al (396)