

# 控制理论与应用

第43卷 第3期 2025年3月

## 目次

### 论文与报告

- 非线性波动方程半离散格式的一致指数稳定性·····王丽梅, 郭宝珠 (449)
- 时变质量双涡喷构型无人机建模与轨迹跟踪·····闫林, 李鹏, 何家兴, 张钊 (458)
- 分数阶时滞锥不变系统的稳定性和增益性能·····邱宏凌, 沈俊 (469)
- 增强空间信息的快速自适应模糊聚类图像分割算法·····吴嘉昕, 王小鹏, 焦建军, 陈浩然 (478)
- 基于扰动区间观测器的四旋翼无人机几何控制·····蔡庆, 邱宏凌, 费城, 沈俊 (489)
- 时变时滞电力系统负荷频率控制的稳定性分析·····翟正亮, 严怀成, 陈世明, 常雨芳 (499)
- 散货码头门机负载防摇无模型自适应控制·····姚文龙, 刘旺旺, 池荣虎, 慕成林, 李博洋 (507)
- 基于加权图卷积网络的多传感器旋转机械故障诊断·····胡艳艳, 衣骁捷, 彭开香 (519)
- 带有事件触发和输入量化的无人船轨迹跟踪控制·····宁君, 王二月, 李铁山, 陈俊龙 (528)
- 带输入时滞的高速列车防滑控制·····蔡亮成, 乐洋, 黄德青 (539)
- 噪声抑制线性扩张状态观测器频域分析·····王立新, 李金泽, 赵丁选, 王赫, 贾拓 (549)
- 一类含饱和项Gierer-Meinhardt模型的交叉扩散研究·····李华, 肖敏, Leszek RUTKOWSKI, 万佑红 (559)
- 融合Steffensen加速迭代与无模型自适应终端滑模的双轴进给伺服系统轮廓控制  
·····黄亮, 黄华, 赵秋舸, 梅乐 (571)
- 面向上肢康复的改进Hammerstein模型与最优迭代学习控制·····霍本岩, 李祯, 刘艳红, 赵新刚, 张宇波 (585)
- 磁耦合无线电能传输系统的忆阻特性及多稳态·····陆益民, 周佳, 豆欢朋, 张波 (594)
- 基于信息矩阵迹的分布式容积信息一致性滤波算法·····王迪, 郝钢 (605)
- 灵活车场多类型叫车接送问题的改进模拟退火算法·····陈可嘉, 司徒腾宽, 方云飞, 陈荣晖 (612)
- 固定时间收敛的预设性能攻击时间控制制导方法·····钟绮霖, 李国飞, 吴云洁, 左宗玉, 吕金虎 (623)
- 基于动态事件触发的异质复杂网络量化同步控制·····黄玲, 郭婧, 王云飞 (632)
- 多源不确定条件下智能薄板主动振动抑制·····国佳, 文新宇, 李生权, 崔洋洋 (641)
- 节气门离散二阶变增益滑模控制及实验分析·····林荣嘉, 龙云, 姚崇, 宋恩哲, 柯赞 (650)
- 动态图-时间卷积神经网络EEG-fNIRS多模态运动想象/执行解码  
·····颜亨, 周正康, 何新生, 李俊华, 袁振, 王洪涛 (659)
- 分段复合幂次趋近律的滑模控制·····刘旭, 智亚丽, 张燕, 孙先涛, 陈文杰 (669)

### 短文

- 严格反馈非线性系统的全状态预设性能自适应跟踪控制·····孔祥玲, 孙海滨, 侯林林 (675)
- 基于离散时间输出调节方法的二级倒立摆跟踪控制·····张文军, 平兆武, 黄云志, 葛锁良, 卢俊国 (682)
- 基于YUV颜色空间和图卷积残差网络的图像去模糊算法·····张萌, 郭一娜, 王海东, 上官宏 (689)

# CONTROL THEORY & APPLICATIONS

Vol. 43 No. 3 Mar. 2026

## CONTENTS

### Papers and Reports

- On uniform exponential stability of semi-discrete scheme for nonlinear wave equation· WANG Li-mei, GUO Bao-zhu (449)
- Modelling and sliding mode-based trajectory tracking control of a dual-jet UAV with time-varying mass  
..... YAN Lin, LI Peng, HE Jia-xing, ZHANG Zhao (458)
- Stability and gain performance of fractional-order delayed cone-invariant systems· ..... QIU Hong-ling, SHEN Jun (469)
- Fast adaptive fuzzy clustering image segmentation algorithm with enhanced spatial information  
..... WU Jia-xin, WANG Xiao-peng, JIAO Jian-jun, CHEN Hao-ran (478)
- Disturbance interval observer based geometric control for quadrotor  
..... CAI Qing, QIU Hong-ling, FEI Cheng, SHEN Jun (489)
- Stability analysis of time-varying delayed load frequency control in power systems  
..... ZHAI Zheng-liang, YAN Huai-cheng, CHEN Shi-ming, CHANG Yu-fang (499)
- Model-free adaptive control for load anti-swing of bulk terminal portal crane  
..... YAO Wen-long, LIU Wang-wang, CHI Rong-hu, MU Cheng-lin, LI Bo-yang (507)
- Multi-sensor rotating machinery fault diagnosis using weighted graph convolutional network  
..... HU Yan-yan, YI Xiao-jie, PENG Kai-xiang (519)
- Unmanned surface vehicle trajectory tracking control with event-triggered and input quantization  
..... NING Jun, WANG Er-yue, LI Tie-shan, CHEN Jun-long (528)
- Antiskid control of high-speed trains with input delay· ..... CAI Liang-cheng, YUE Yang, HUANG De-qing (539)
- Frequency domain analysis of LESO with noise suppression  
..... WANG Li-xin, LI Jin-ze, ZHAO Ding-xuan, WANG He, JIA Tuo (549)
- Cross-diffusion research of a class of Gierer-Meinhardt models with saturation terms  
..... LI Hua, XIAO Min, Leszek RUTKOWSKI, WAN You-hong (559)
- Contour control of a two-axis feed servo system incorporating Steffensen accelerated iteration and model-free adaptive terminal sliding mode .....HUANG Liang, HUANG Hua, ZHAO Qiu-ge, MEI Le (571)
- Improved Hammerstein model and optimal iterative learning control for upper limb rehabilitation  
..... HUO Ben-yan, LI Zhen, LIU Yan-hong, ZHAO Xin-gang, ZHANG Yu-bo (585)
- Memristive characteristics and multistability of inductive wireless power transfer system  
..... LU Yi-min, ZHOU Jia, DOU Huan-peng, ZHANG Bo (594)
- Distributed cubature information consensus filtering algorithm based on information matrix trace  
..... WANG Di, HAO Gang (605)
- Improved simulated annealing algorithm for multiple depots heterogeneous dial-a-ride problem with flexible depots  
..... CHEN Ke-jia, SITU Teng-kuan, FANG Yun-fei, CHEN Rong-hui (612)
- Performance prescribed impact-time-control guidance law with fixed time convergence  
..... ZHONG Qi-lin, LI Guo-fei, WU Yun-jie, ZUO Zong-yu, LÜ Jin-hu (623)
- Quantitative synchronization control of heterogeneous complex networks based on dynamic event triggering  
..... HUANG Ling, GUO Jing, WANG Yun-fei (632)
- Active vibration suppression for smart thin plates under multi-source uncertainties  
..... GUO Jia, WEN Xin-yu, LI Sheng-quan, CUI Yang-yang (641)
- Throttle discrete second order variable gain sliding mode control and experimental analysis  
..... LIN Rong-jia, LONG Yun, YAO Chong, SONG En-zhe, KE Yun (650)
- Dynamic graph-temporal convolutional neural network for EEG-fNIRS multimodal motor imagery/execution decoding  
..... YAN Heng, ZHOU Zheng-kang, HE Xin-sheng, LI Jun-hua, YUAN Zhen, WANG Hong-tao (659)
- Piecewise compound power reaching law for sliding mode control  
..... LIU Xu, ZHI Ya-li, ZHANG Yan, SUN Xian-tao, CHEN Wen-jie (669)

### Brief Papers

- Full state prescribed performance adaptive tracking control for strict-feedback nonlinear systems  
..... KONG Xiang-ling, SUN Hai-bin, HOU Lin-lin (675)
- Tracking control of double inverted pendulum based on discrete-time output regulation method  
..... ZHANG Wen-jun, PING Zhao-wu, HUANG Yun-zhi, GE Suo-liang, LU Jun-guo (682)
- Image deblurring algorithm based on YUV color space and graph convolutional residual network  
..... ZHANG Meng, GUO Yi-na, WANG Hai-dong, SHANGGUAN-Hong (689)