第四届全驱系统理论与应用会议

The 4th Conference on Fully Actuated System Theory and Applications
（FASTA 2025）

程序册

Final Program

主办单位

南京理工大学

中国自动化学会全驱系统理论与应用专业委员会

亚洲控制协会全驱系统理论与应用专业委员会

承办单位

南京理工大学自动化学院

Organizing Institutions
Nanjing University of Science and Technology
Technical Committee on Fully Actuated System Theory and Applications, CAA
Technical Committee on Fully Actuated System Theory and Applications, ACA

Host Institution
School of Automation, Nanjing University of Science and Technology

中国 China | 南京 Nanjing | 2025.7.4-6 July 4-6,2025

协办单位：

IEEE Guangzhou Section、IEEE industrial Electronics Society

IEEE Nanjing Section、南京信息工程大学、江苏省自动化学会

江苏省电机工程学会、空间目标感知全国重点实验室

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Machines

欢迎辞

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会议总主席

徐胜元教授
会议程序委员会主席

第四届全驱系统理论与应用会议(The 4th Conference on Fully Actuated System Theory and Applications, FASTA2025)将于2025年7月4-6日在江苏省南京市召开。会议总主席由中国科学院院士、哈尔滨工业大学段广仁教授担任，会议程序委员会主席由国家杰青、教育部高层次人才、南京理工大学徐胜元教授担任。会议旨在为从事全驱系统理论与应用相关领域研究的国内外专家、学者及工程技术人员提供一个学术交流平台，更好地宣传全驱系统理论与应用领域的研究成果，推动全驱系统理论与应用研究的发展。会议采用大会报告、分会场报告、特邀论坛、分组报告和张贴论文等形式进行交流。会议的工作语言为中文和英文。会议收录的论文会后将提交IEEE Xplore数据库。

在此，我们谨代表会议程序委员会与组织委员会对所有投稿作者及参会人员表示最衷心的感谢与最热烈的欢迎！

本届会议由南京理工大学、中国自动化学会全驱系统理论与应用专业委员会、亚洲控制协会全驱系统理论与应用专业委员会共同主办，南京理工大学自动化学院承办，IEEE 广州分会、IEEE工业电子协会、IEEE 南京分会、南京信息工程大学、江苏省自动化学会、江苏省电机工程学会、空间目标感知全国重点实验室协办。会议共收到来自中国、澳大利亚、新加坡、美国、日本、加拿大、英国等9个国家和地区的投稿665篇（包括论文580篇，长摘要85篇），经过严格、认真的评审程序，共有517篇论文和81篇长摘要被会议录用。本次会议安排口头报告51组，共378篇论文和长摘要，会议期间共安排12-13个会议室进行四轮口头报告交流。会议安排张贴报告2组，共167篇论文和长摘要。

我们很荣幸地邀请了3位国际知名学者作大会报告，他们是Prof. Alessandro Astolfi（伦敦帝国理工学院，英国），Prof. Hyungbo Shim（首尔大学，韩国），Prof. Donghua Zhou（东南大学，中国）。本次会议组织了两个分会场报告，分别邀请了北京航空航天大学胡庆雷教授，四川大学李彬教授，南京理工大学叶茂娇教授，南开大学孙宁教授，中国矿业大学代伟教授，上海交通大学李元龙教授、中国科学院数学与系统科学研究院齐洪胜研究员、南方科技大学孔贺教授担任主讲嘉宾。会议还精心组织了巾帼论坛、成长论坛等6组特邀论坛，特别邀请到北京大学、浙江大学、东南大学、香港城市大学等知名高校的30余位控制领域杰出学者，分别担任报告人、主持人及点评专家等角色，围绕领域前沿展开深度学术分享与交流。

本次会议特设“优秀青年论文奖”“最佳学生论文奖”与“张贴论文奖”，旨在激励更多青年科研工作者与学生投身全驱系统控制理论及应用研究；同时设立“全驱奖”与“青年全驱奖”，以表彰在全驱系统理论与应用领域取得卓越成果的学者。

在此，我们谨向所有为本届会议顺利召开做出贡献的人士致以我们最真诚的谢意！感谢审稿人及程序委员会委员对投稿论文的严谨评审！感谢组委会和志愿者提供的热情服务！感谢大会报告人与分会场报告人接受会议邀请，与大家一同分享他们最新的研究成果！最后，我们谨代表程序委员会衷心感谢所有投稿作者和参会人员对第四届全驱系统理论与应用会议的支持！第四届全驱系统理论与应用会议欢迎您！

会议总主席

会议程序委员会主席

Welcome Address

The 4th Conference on Fully Actuated System Theory and Applications (FASTA2025) will be held from July 4 to 6, 2025, in Nanjing, Jiangsu Province, China. The General Chair is Professor Guangren Duan, an Academician of the Chinese Academy of Sciences from Harbin Institute of Technology. The Program Committee Chair is Professor Shengyuan Xu, recipient of the National Science Fund for Distinguished Young Scholars, from Nanjing University of Science and Technology. The conference aims to provide an academic exchange platform for experts, scholars, and engineers from around the world engaged in research related to fully actuated system theory and applications, to better disseminate research achievements in this field, and to promote the advancement of fully actuated system theory and applications. The conference will feature various forms of communication, including plenary lectures, invited sessions, invited forums, oral presentations, and poster sessions. The working languages of the conference are Chinese and English. Papers accepted by the conference will be submitted to the IEEE Xplore database after the event.

Guangren Duan
General Chair

Shengyuan Xu
Program Committee Chair

On behalf of the conference Program Committee, we would like to express our heartfelt thanks and warmest welcome to all the contribut ors and participants!

The conference is co-sponsored by Nanjing University of Science and Technology, the Technical Committee on Fully Actuated System Theory and Applications, CAA, and the Technical Committee on Fully Actuated System Theory and Applications, ACA. It is hosted by the School of Automation at Nanjing University of Science and Technology and co-organized by the IEEE Guangzhou Section, IEEE Industrial Electronics Society, IEEE Nanjing Section, Nanjing University of Information Science and Technology, Jiangsu Association of Automation, Jiangsu Electrical Engineering Society, and the National Key Laboratory of Space Object Perception. The conference received a total of 665 submissions (including 580 full papers and 85 extended abstracts) from nine countries and regions, including China, Australia, Singapore, the United States, Japan, Canada, and the United Kingdom. After a strict and careful review process, 517 papers and 81 extended abstracts are accepted by the conference. During the conference, 13-15 conference rooms are assigned for 4 rounds of oral presentation, including 51 oral sessions that cover a total of 378 papers. Two poster sessions, including a total of 167 papers, are also scheduled during the conference.

We are honored to invite three internationally famous scholars to deliver Plenary Lectures. They are Professor Alessandro Astolfi (Imperial College London, UK), Professor Hyungbo Shim (Seoul National University, South Korea), and Professor Donghua Zhou (Southeast University, China). We also organize 8 Semi-plenary Lectures and they are delivered by

Professor Qinglei Hu from Beihang University, Prof. Bin Li from Sichuan University, Prof. Maojiao Ye from Nanjing University of Science and Technology, Prof. Ning Sun from Nankai University, Prof. Wei Dai from China University of Mining and Technology, Prof. Yuanlong Li from Shanghai Jiao Tong University, Prof. Hongsheng Qi from Academy of Mathematics and Systems Science, Chinese Academy of Sciences, and Prof. He Kong from Southern University of Science and Technology. The conference has also organized 6 groups of invited forums. Over 30 distinguished scholars from renowned universities such as Peking University, Zhejiang University, Southeast University, and City University of Hong Kong have been invited, engaging in in-depth academic sharing and exchanges focusing on cutting-edge issues in the field.

The conference set up the "Outstanding Youth Paper Award", "Best Student Paper Award" and "Poster Paper Award", aiming to encourage more young researchers and students to devote themselves to the research on control theory and applications of fully actuated systems. Meanwhile, the "Full-Actuation Award" and "Youth Full-Actuation Award" are set up to recognize scholars who have made extraordinary achievements in the field of fully actuated system theory and applications.

We would like to express our most sincere gratitude to all those who contributed to the successful convening of this conference! Thanks to the reviewers and members of the Program Committee for their rigorous review of the submitted papers! Thank the organizing committee and volunteers for their warm service! We would like to thank the plenary speakers, the semi-plenary speakers and the invited forum speakers for accepting the conference invitation and sharing their latest research findings with us! Finally, on behalf of the Program Committee,we would like to thank all contributors and participants for their support of the 4th Conference on Fully Actuated System Theory and Applications!

Guangren Duan
General Chair

Shengyuan Xu
Program Committee Chair

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https://fasta2025.scimeeting.cn/cn/web/index/25936_2227298

- **FASTA2025会议论文管理系统网址**
(Website of FASTA2025 Paper Management System): http://cms.amss.ac.cn/

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第四届全驱系统理论与应用会议

The 4th Conference on Fully Actuated System Theory and Applications

日期	时间	日程	会场
7月4日 （星期五） July 4 (Friday)	08:00-22:00	报到注册	宾馆大堂 Hotel Lobby
	20:00-21:00	CAA TC FASTA 全体委员工作会议 ACA TC FASTA 全体委员工作会议	3F-第一会议室 3F-YI XIAN HALL

日期	时间	日程	主持人	会场
7月5日 （星期六） July 5 (Saturday)	08:00-08:30	入场、合影		
	08:30-09:00	开幕式致辞		3F-钟山厅 3F-ZHONG SHAN HALL
	09:00-09:45	►**大会报告一：Dynamic Linearizability Implies Static Stabilizability and Related Results** ►Speaker: Alessandro Astolfi ►Imperial College London, UK	James Lam	
	09:45-10:15	茶歇		
	10:15-11:00	►**大会报告二：Synchronization of Heterogeneous Multi-agent Systems through Singu lar Perturbation** ►Speaker: Hyungbo Shim ►Seoul National University, South Korea	Guoxiang Gu	3F-钟山厅 3F-ZHONG SHAN HALL
	11:00-11:45	►**大会报告三：Fault Tolerant Control of High-Order Fully Actuated Systems** ►Speaker: Donghua Zhou ►Southeast University, China	Bin Jiang	
	12:00-13:30	午餐自助		2F-玫瑰厅 2F-MEI GUI HALL 4F-紫金厅 4F-ZI JIN HALL 4F-金陵厅 4F-JIN LING HALL
	13:30-15:30	分组报告一、张贴报告一、优秀青年论文评选、巾帼论坛、特邀论坛1		
	15:30-16:00	茶歇		
	16:00-18:00	分组报告二、张贴报告一、优秀学生论文评选、成长论坛A、特邀论坛2		
	18:00-19:30	晚餐自助		2F-玫瑰厅 2F-MEI GUI HALL

日期	时间	日程	主持人	会场
7月6日 （星期天） July 6 (Sunday)	08:15-10:15 分会场报告(一)	►1. Optimal Fully Actuated System Approach (FASA) Based Control Theory and Applications ►Speaker: Bin Li ►Sichuan University, China	Shaoyuan Li	3F-钟山厅 3F-ZHONG SHAN HALL
		►2. Distributed online resource allocation with free-in and free-out nodes ►Speaker: Maojiao Ye ►Nanjing University of Science and Technology, China	Baoyong Zhang	
		►3. Motion control of underactuated robots based on the fully actuated system approach and related appli cations ►Speaker: Ning Sun ►Nankai University, China	Yanzheng Zhu	
		►4. Lightweight learning model for industrial intelligent computing: Taking the energy industry as an example ►Speaker: Wei Dai ►China University of Mining and Technology, China	Xin Xin	
	08:15-10:15 分会场报告(二)	►1. Intelligent Perception and Control for Spacecraft Proximity Operations with Non-Cooperative Targets ►Speaker: Qinglei Hu ►Beihang University, China	Kemin Zhou	4F-紫金厅 4F-ZI JIN HALL
		►2. Constrained Control of High-Order Fully Actuated Systems ►Speaker: Yuanlong Li ►Shanghai Jiao Tong University, China	Fei Han	
		►3. Feedback Shaping for Logical Dynamic Systems ►Speaker: Hongsheng Qi ►Academy of Mathematics and Systems Science, Chinese Academy of Sciences, China	Dong Yue	
		►4. A Fully Actuated System Approach to Underactuated Systems Control–The Example of Cubli ►Speaker: He Kong ►Southern University of Science and Technology, China	Zhiyun Lin	
	10:15-10:45	茶歇		
	10:45-12:15	分组报告三，张贴报告二		
	12:15-13:30	午餐自助		2F-玫瑰厅 2F-MEI GUI HALL
	13:30-15:30	分组报告四、张贴报告二、成长论坛B、特邀论坛3		
	15:30-16:00	茶歇		
	16:00-17:00	闭幕式		3F-钟山厅 3F-ZHONG SHAN HALL
	17:00-20:00	晚宴		

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主办单位： 南京理工大学
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苗子博	哈尔滨工业大学（深圳）
闵惠芳	南京理工大学
缪志强	湖南大学
那　靖	昆明理工大学
戚文念	哈尔滨工业大学
齐文海	曲阜师范学院
丘　立	香港中文大学（深圳）
邱剑彬	哈尔滨工业大学
邱　丽	深圳大学
佘　维	郑州大学
史明明	四川大学
宋申民	哈尔滨工业大学
孙光辉	哈尔滨工业大学
孙慧杰	中山大学
孙维超	哈尔滨工业大学
孙　伟	聊城大学
孙希明	大连理工大学
孙振东	山东科技大学
万雄波	中国地质大学
王好谦	清华大学
王宏霞	山东科技大学
王　龙	北京大学
王　鹏	上海交通大学
王　茜	杭州电子科技大学
王申全	长春工业大学
王　桐	哈尔滨工业大学
王　伟	山东大学
王　伟	大连理工大学
王秀博	东北大学秦皇岛分校
王占山	东北大学
魏才盛	中南大学
温广辉	东南大学
温长云	新加坡南洋理工大学
文　杰	哈尔滨工业大学（深圳）
吴爱国	哈尔滨工业大学（深圳）
吴立刚	哈尔滨工业大学
武云丽	北京控制工程研究所
夏卫国	大连理工大学
夏元清	北京理工大学
肖　峰	华北电力大学
谢晓晨	哈尔滨工业大学（深圳）
忻　欣	东南大学
邢兰涛	山东大学
徐娟娟	山东大学
徐明亮	郑州大学
徐胜元	南京理工大学
徐　翔	南方科技大学
徐晓东	中南大学
徐　勇	北京理工大学
徐雨田	哈尔滨工业大学（深圳）
许文盈	东南大学
闫　飞	西南交通大学
杨嘉楠	哈尔滨工业大学
杨学博	哈尔滨工业大学
杨亚娜	燕山大学
杨　懿	北京航空航天大学
杨再跃	南方科技大学
杨紫雯	上海交通大学
姚秀明	北京交通大学
衣　鹏	同济大学
雍可南	南京航空航天大学
余　弦	深圳大学
余　翔	北京航空航天大学
余长君	上海大学
于兴虎	宁波智能装备研究院有限公司
张保勇	南京理工大学
张承玺	江南大学
张　丹	浙江工业大学
张　烽	中国运载火箭技术研究院
张国峰	香港理工大学
张　恒	江苏海洋大学
张宏伟	哈尔滨工业大学
张化光	东北大学
张焕水	山东科技大学
张金会	北京理工大学
张锦绣	中山大学
张　凯	四川大学
张　柯	南京航天航空大学
张立宪	哈尔滨工业大学
张　刘	吉林大学
张清瑞	中山大学
张世杰	河南工业大学
张　颖	哈尔滨工业大学（深圳）
张中才	曲阜师范大学
赵春晖	浙江大学
赵广磊	燕山大学
赵　林	新加坡国立大学
郑　凯	大连海事大学
钟麦英	山东科技大学
周　彬	哈尔滨工业大学
周东华	东南大学
周克敏	南京大学
朱庆华	上海航天技术研究院
朱善迎	上海交通大学
朱延正	山东科技大学
邹　云	南京理工大学
左宗玉	北京航空航天大学

口头报告与张贴报告要求
(Instruction for Oral and Poster Presentations)

口头报告 (Oral Presentations)

●每篇论文口头报告时间为15分钟(包含讨论)，口头报告分组请参见会议程序册或会议网站(https://fasta2025.scimeeting.cn/cn/web/index/25936_2273981)。

Oral Presentation: 15 minutes (including discussion). Please refer to the final program or the conference website (https://fasta2025.scimeeting.cn/cn/web/index/25936_2273981) about the arrangement of oral presentations.

张贴报告 (Poster Presentations)

●会议将为每篇张贴论文提供一块标准展版（宽0.8m，高1.2m）。张贴论文要求内容简洁、字迹清晰，版面可进行一定的艺术加工，字体至少可在1米以外清晰可见，用双面胶或透明胶粘贴。张贴报告PPT模板请到会议网站下载(https://fasta2025.scimeeting.cn/cn/web/index/25936_2273981)

The conference will provide an exhibition board (width 0.8m, height 1.2 m) for each poster paper. The boards will be arranged in the order of the papers in the final program. Tape and other materials will be provided on site, and volunteers will provide necessary help. Posters are required to be condensed and attractive. The characters should be large enough so that they are visible from 1 meter apart. Please download the poster template at the conference website: https://fasta2025.scimeeting.cn/cn/web/index/25936_2273981

会场交通及周边

南京青旅宾馆坐落于南京紫金山南麓、月牙湖畔，距南京南站、新街口商圈仅十余分钟车程，酒店周围景点众多、环境优美、交通便利。

详细地址：南京市秦淮区后标营路101号。

抵达方式：

地点	直线距离/公里（大约）
南京禄口国际机场	43公里
南京站	8.7公里
南京南站	11公里

● 南京禄口国际机场至南京青旅宾馆

1.出租车：车程约43分钟，费用约140元。

2.公交：约1小时34分钟。

南京禄口机场T1航站楼上车→乘机场巴士1号线（南京火车站东广场方向）→七里街站换乘87路（上坊保障房总站方向）→苜蓿园大街站下车→步行697米到达青旅宾馆。

● 南京站至南京青旅宾馆

1.出租车：车程约23分钟，费用约40元。

2.公交：约1小时3分钟。

南京站·南广场东站上车→乘公交59路（杨庄方向）→苜蓿园大街站下车→步行697米到达青旅宾馆。

● 南京南站至南京青旅宾馆

1.出租车：车程约18分钟，费用约41元。

2.地铁公交：约55分钟。

南京南站上车→乘地铁3号线（林场方向）→大明路4号口换乘公交99路（银城东苑方向）→后标营路·童卫路站下车→步行175米到达青旅宾馆。

会场环境：

• 钟山厅

• 紫金厅

• 金陵厅

• 第一会议室

• 第二、三会议室

• 第五、六、七、八会议室

• 第一教室

• 第二教室、第三教室

• 友谊厅

会场平面图：

第四届全驱系统理论与应用会议 三楼平面图

会场交通周边：

南京青旅宾馆位于南京紫金山南麓、月牙湖畔

12分钟 到达明故宫/南京博物院地区商业区

38分钟 连通南京禄口国际机场

19分钟 连通南京南站

地铁：3号线大明路4号口换乘公交99路到后标营路·童卫路站

公交：后标营路·童卫路站

南京理工大学简介

南京理工大学是隶属于工业和信息化部的全国重点大学，学校由创建于1953年的新中国军工科技最高学府中国人民解放军军事工程学院（简称“哈军工”）分建而成，历经中国人民解放军炮兵工程学院、华东工程学院、华东工学院等发展阶段，1993年更名为南京理工大学。1995年，学校成为国家“211工程”重点建设高校；2000年，获批成立研究生院；2011年，获批建设“985工程优势学科创新平台”；2017年，学校入选“双一流”建设高校，“兵器科学与技术”学科入选“双一流”建设学科；2018年，学校王泽山院士获得国家最高科学技术奖，同年，学校成为工信部、教育部、江苏省共建高校。进入新时代、开启新征程，学校坚持“以人为本，厚德博学”的办学理念，秉持“进德修业，志道鼎新”的校训，弘扬“团结、献身、求是、创新”的校风，以服务国家战略需求、推动社会进步为使命，为党育英才、为国铸利器，围绕陆海空天信融合发展，加快建设特色鲜明世界一流大学。

南京理工大学自动化学院简介

南京理工大学自动化学院前身是中国人民解放军军事工程学院（简称“哈军工”）炮兵工程系指挥仪科，经过不断调整与发展，2005年更名为南京理工大学自动化学院。学院获批第三批全国党建工作标杆院系，黄大年式教师团队党支部获批第四批全国高校党建工作样板支部，自动控制系博士生第三党支部获第三批全国高校“百个研究生样板党支部”建设单位。

学院拥有“控制科学与工程”“电气工程”“智能科学与技术”3个一级学科，其中“控制科学与工程”为江苏省一级重点学科，拥有博士学位授予权（含“控制理论与控制工程”“系统工程”等5个二级学科博士点）、博士后流动站和硕士学位授予权。学院设有“自动化”“电气工程及其自动化”“轨道交通信号与控制”“智能电网信息工程”4个本科专业。

学院现有教职工182人，其中全职院士1人、国家级教学名师2人、国家级领军人才7人、国家级青年人才10人、“全国创新争先奖”获得者1人、“国家百千万人才工程”获评者2人。拥有全国高校黄大年式教师团队1个、教育部创新团队2个、江苏省青蓝工程科技创新团队1个、江苏省“六大人才高峰”创新人才团队1个、教育部虚拟教研室建设试点1个、江苏省创新团队2个。

学院现有在校本科生1584人，硕士研究生1697人，博士研究生276人。学院坚持以学科竞赛为牵引，提升学生创新实践能力，每年获省部级以上竞赛奖励学生人次占比超过20%。近几年，获中国国际大学生创新大赛金奖1项、银奖1项，全国大学生机器人大赛一等奖1项，全国“挑战杯”大学生科技作品竞赛特等奖2项，“互联网+”大学生创新创业大赛全国金奖1项、银奖3项、铜奖3项，“创青春”全国大学生创业计划大赛金奖1项。

学院坚持“四个面向”，锚定自主创新，经过几代人的不懈努力，形成了智能导航与火力控制、智能网信与指挥控制、智能检测与运动控制、复杂系统智能控制理论、新能源发电控制及并网技术、军事智能交通等优势特色研究方向。“十三五”以来，获国家科技进步一等奖、国家技术发明二等奖、国家自然科学二等奖等省部级及以上科技荣誉和奖励近20项。近年来，承担了国家自然科学基金创新研究群体、国家重大仪器专项、中央军委科技委基础加强计划项目等一大批国家级重大项目。

学院与国（境）外多所高校保持着良好的学术交流和科研合作关系，聘请了包括中科院院士、IFAC Fellow、IEEE Fellow等在内的近二十名国内外知名学者任我学院的兼职教授和客座教授。近年来承办了第三届国际自主无人系统大会（2023年）、国际信息物理社会智能会议（2022年）、第三届应用超导学术年会（2020年）、江苏省自动化学会伺服与运动控制专委会会议（2020年）等多个国际国内会议，极大地提高了学院的学术水平和国内外的知名度。

中国自动化学会全驱系统理论与应用专业委员会简介

中国自动化学会全驱系统理论与应用专业委员会(Technical Committee on Fully Actuated System Theory and Applications, Chinese Association of Automation, CAA TC FASTA)于2023年11月得到中国自动化学会的创建批复，依托单位为南方科技大学。专委会主任由段广仁院士担任，副主任由东南大学周东华教授、河北科技大学/燕山大学华长春教授、南京理工大学邹云教授、山东大学冯俊娥教授、哈尔滨工业大学（深圳）吴爱国教授、南方科技大学徐翔研究院担任，专委会秘书长由哈尔滨工业大学（深圳）张颖教授担任。该委员会旨在促进全驱系统领域内的学术交流、技术发展和人才培养，推动全驱系统在国防、工业、农业等领域的应用和发展。

全驱系统理论与应用会议是全驱系统理论与应用专业委员会主办的系列学术年会。2022年8月5日，国家自然科学基金委全驱系统理论与航天器控制技术基础科学中心启动仪式暨中国自动化学会全驱系统理论与应用专业委员会第一届学术研讨会在黑龙江哈尔滨华旗饭店隆重举行，吸引了来自哈尔滨工业大学、国家自然科学基金委、中国自动化学会的领导和全国100余专家参加会议。

2023年全驱系统理论与应用会议于2023年7月14-16日在山东省青岛市西海岸国家新区召开。会议旨在为从事相关领域和研究的国内外专家、学者及工程技术人员提供一个学术交流平台，展示最新的理论与技术成果。今后专业委员会将扩大该学术会议的规模，力争打造国际化的学术交流平台，增进国内学者与国际同行的交流，促进中国全驱系统理论与应用的发展。2023年全驱系统理论与应用会议的会议主题范围涵盖全驱系统控制理论、基于全驱系统理论的鲁棒控制、非线性控制、故障诊断与容错控制、航空航天飞行器控制等多个热门研究领域。会议共收到来自中国、加拿大、澳大利亚、新加坡等9个国家和地区的投稿论文267篇，经过评审专家和会议程序委员会严格、认真的评审，最后共录用论文231篇（包括长摘要35篇）。最终有190篇收入会议论文集。

2024年全驱系统理论与应用会议于2024年5月10-12日在深圳召开，由南方科技大学、中国自动化学会全驱系统理论与应用专业委员会主办，南方科技大学系统设计与智能制造学院承办。会议共收到来自中国、法国、澳大利亚、新加坡、加拿大、美国、日本、荷兰等12个国家和地区的投稿论文353篇，经过评审专家和会议程序委员会严格、认真的评审，最后共录用论文308篇（包括长摘要27篇）。来自全球相关高校及研究院所的610多位专家学者参加了会议，并围绕全驱系统理论与应用及其相关问题进行了深入的学术交流和探讨。

2025年全驱系统理论与应用会议于2025年7月4-6日在南京召开，由南京理工大学、中国自动化学会全驱系统理论与应用专业委员会、亚洲控制协会全驱系统理论与应用专业委员会主办，南京理工大学自动化学院承办。此次会议将采用大会报告、半大会报告、特邀论坛、分组报告、张贴论文等形式进行交流。

在新的世纪，国家航空航天、工业等领域对控制科学与工程提出了更高的要求，全驱系统理论将在更加广阔的领域显示其巨大的活力，这也为全驱系统理论与应用专业委员会的发展提供了更广阔的天地。作为中国自动化学会诸多专业委员会中唯一一个以中国学者原创性方法命名的专委会，我们将团结奋进、开拓创新，在中国自动化学会的领导下迅速发展壮大，谱写全驱系统理论与应用专业委员会的新篇章。

Introduction of the ACA Technical Committee on Fully Actuated System Theory and Applications

The Technical Committee (TC) on Fully Actuated System Theory and Applications (FASTA) is established under the Asian Control Association (ACA) to pioneer and globally advance a transformative methodology in control systems. Spearheaded by Prof. Guang-Ren Duan (IEEE/IET/CAA Fellow, Academician of the Chinese Academy of Sciences), the Fully Actuated System (FAS) approach represents a paradigm shift in control design. It replaces traditional state-space models–which have dominated control theory for centuries but struggle with nonlinear and multivariable systems–with mathematically generalized FAS models. This innovative framework elegantly solves previously intractable problems in nonlinear control, including robust stabilization, adaptive control, disturbance rejection, and MIMO system design, while bridging theoretical research with practical applications in robotics, aerospace, energy systems, and intelligent manufacturing.

The establishment of this TC addresses a critical scientific need highlighted by control pioneer Alberto Isidori, who observed that feedback control design for MIMO nonlinear systems "came to a (almost complete) stall" in the mid-1990s. The FAS approach breaks this stagnation by offering a methodology as broad in scope as the state-space approach but with distinct advantages for complex dynamical systems. Despite its recent emergence (2020-2021), FAS has rapidly gained global traction, evidenced by exponential growth in publications, participation from over 15 countries (e.g., USA, UK, Japan, Australia, Turkey), and three highly successful annual FASTA conferences (2022–2024). Its technical scope spans from theoretical advances, such as robust and adaptive control, predictive control, cooperative control, and fault-tolerant control, to practical applications in areas like spacecraft, robotics, microgrids, and unmanned aerial vehicles.

The TC's mission is threefold: to accelerate cutting-edge FAS research through global collaboration, transfer theoretical advances to industrial practice, and mentor the next generation of control scientists. Its vision is to establish FAS as a foundational methodology parallel to state-space approaches, solving multivariable nonlinear control challenges that traditional frameworks cannot address.

Past achievements underscore the TC's momentum. The FASTA conference series has grown from 150+ attendees (2022) to 610+ (2024), with peer-reviewed proceedings indexed in IEEE Xplore/EI. Prof. Duan has delivered 20+ plenary talks at flagship conferences (e.g., IEEE ICRA 2021, IFAC TDS 2021), while special issues in the International Journal of Systems Science have disseminated foundational work globally. Future initiatives include ACA affiliation for FASTA conferences (from 2025), special sessions at IEEE/IFAC events, dedicated issues in Control Engineering Practice (2026) and Asian Journal of Control (2026), and annual awards for students and young researchers.

Organized under the ACA's framework, the TC is led by the Chair, Prof. Guang-Ren Duan (Harbin Institute of Technology) and six global Vice Chairs, including Prof. Michael V. Basin (Autonomous University of Nuevo Leon), Prof. James Lam (University of Hong Kong), and Prof. Ju H. Park (Yeungnam University). An eminent Advisory Board featuring Stephen Boyd (Stanford University), Okyay Kaynak (Bogazici University), and Imre Rudas (Óbuda University) provides strategic guidance. With 120+ members spanning 15+ countries–including 40+ IEEE Fellows–the TC embodies international collaboration.

Researchers, engineers, and students worldwide are invited to join this dynamic community. We welcome you to participate in FASTA conferences, contribute to journal special issues, or explore industry-academia partnerships. For inquiries, contact Prof. Duan (g.r.duan@hit.edu.cn) or Secretaries Dr. Kemi Ding (dingkm@sustech.edu.cn) and Dr. Tao Liu (liut6@sustech.edu.cn).

大会报告 (Plenary Lectures)

Plenary Lecture 1

7月5日 09:00-09:45 钟山厅
July 5, 09:00-09:45 ZHONG SHAN HALL

Speaker: Alessandro Astolfi, Imperial College London, UK
Title: Dynamic linearizability implies static stabilizability and related results
Chair: James Lam, The University of Hong Kong

Abstract: This talk discusses how the property of dynamic linearizability, to be understood as linearizability by means of the dynamic extension algorithm, implies the existence of static, possibly time varying, control laws yielding asymptotic output tracking with arbitrary speed of convergence and asymptotic stabilization with a computable bound on the region of attraction. Similar results hold for systems which are only input/output linearizable by means of dynamic state feedback, provided that the inverse dynamics possess certain stability properties. Applications to the problem of regional stabilization and trajectory tracking under-actuated systems are also discussed.

Alessandro Astolfi was born in Rome, Italy, in 1967. He graduated in electrical engineering from the University of Rome in 1991. In 1992 he joined ETH-Zurich where he obtained a M.Sc. in Information Theory in 1995 and the Ph.D. degree with Medal of Honor in 1995 with a thesis on discontinuous stabilization of nonholonomic systems. In 1996 he was awarded a Ph.D. from the University of Rome "La Sapienza" for his work on nonlinear robust control. Since 1996 he has been with the Electrical and Electronic Engineering Department of Imperial College London, London (UK), where he is currently Professor of Nonlinear Control Theory and College Consul for the Faculty of Engineering and Business School. From 2010 to 2022 he served as Head of the Control and Power Group at Imperial College London and from 1998 to 2003 he was an Associate Professor at the Dept. of Electronics and Information of the Politecnico of Milano. Since 2005 he has also been a Professor at Dipartimento di Ingegneria Civile e Ingegneria Informatica, University of Rome Tor Vergata. He has been a visiting lecturer in "Nonlinear Control" in several universities, including ETH-Zurich (1995-1996); Terza University of Rome (1996); Rice University, Houston (1999); Kepler University, Linz (2000); SUPELEC, Paris (2001), Northeastern University, Boston (2013), the University of Cyprus (2018--), and Southeast University, China (2019--).

His research interests are focused on mathematical control theory and control applications, with special emphasis for the problems of discontinuous stabilization, robust and adaptive control, observer design and model reduction. He is the author of over 190 journal papers; 30 book chapters; and over 370 papers in refereed conference proceedings. He is the author (with D. Karagiannis and R. Ortega) of the monograph "Nonlinear and Adaptive Control with Applications" (Springer-Verlag).

He is the recipient of the IEEE CSS A. Ruberti Young Researcher Prize (2007), the IEEE RAS Googol Best New Application Paper Award (2009), the IEEE CSS George S. Axelby Outstanding Paper Award (2012), the Automatica Best Paper Award (2017), and the IEEE Transactions on Control Systems Technology Outstanding Paper Award (2023). He is a "Distinguished Member" of the IEEE CSS, IEEE Fellow, IFAC Fellow, IET Fellow, and Member of the Academia Europaea. He served as Associate Editor for Automatica, Systems and Control Letters, the IEEE Trans. on Automatic Control, the International Journal of Control, the European Journal of Control and the Journal of the Franklin Institute; as Area Editor for the Int. J. of Adaptive Control and Signal Processing; as Senior Editor for the IEEE Trans. on Automatic Control; and as Editor-in-Chief for the European Journal of Control. He is currently Editor-in-Chief of the IEEE Trans. on Automatic Control (2018--). He served as Chair of the IEEE CSS Conference Editorial Board (2010-2017) and in the IPC of several international conferences. He has served as Chair of the IEEE CSS Antonio Ruberti Young Researcher Prize (2015-2021); he is Vice Chair of the IFAC Technical Board (2020-2026) and he has been a Member of the IEEE Fellow Committee (2016), (2019-2022). He is currently a member of the IEEE PSPB Strategic Planning Committee.

Plenary Lecture 2

7月5日 10:15-11:00 钟山厅
July 5, 10:15-11:00 ZHONG SHAN HALL

Speaker: Hyungbo Shim, Seoul National University, South Korea
Title: Synchronization of Heterogeneous Multi-agent Systems through Singular Perturbation
Chair: Guoxiang Gu, Louisiana State University/Southwest Jiaotong University

Abstract: The talk begins with a brief introduction to the blended dynamics theorem. We then discuss the intuition behind the theorem using a singular perturbation interpretation. This interpretation leads to an extension of enforced synchronization via impulsive gossiping, which in turn provides a singular perturbation argument for hybrid systems. We also discuss several applications of the blended dynamics theorem.

Hyungbo Shim received his B.S., M.S., and Ph.D. degrees from Seoul National University. He was a postdoctoral researcher at the University of California, Santa Barbara, and is currently a professor at Seoul National University. He has served as an associate editor for Automatica, IEEE Transactions on Automatic Control, and the International Journal of Robust and Nonlinear Control. He is a senior member of IEEE, an IFAC Distinguished Lecturer, and a member of the Korean Academy of Science and Technology. His research interests include stability analysis of nonlinear systems, observer design, disturbance observers, secure control systems, and synchronization in multi-agent systems.

Plenary Lecture 3

7月5日 11:00-11:45 钟山厅
July 5, 11:00-11:45 ZHONG SHAN HALL

Speaker: Donghua Zhou, Southeast University, China
Title: Fault Tolerant Control of High-Order Fully Actuated Systems
Chair: Bin Jiang, Nanjing University of Aeronautics and Astronautics

Abstract: High-order fully actuated systems are more suitable for controller design, because the whole structure is fully parameterized, and the nonlinearity can be decoupled. However, system faults may disrupt the nonlinear cancellation principle of fully actuated systems, thus fault tolerant control (FTC) of high-order fully actuated systems need to be studied, which is a key technology to improve the safety and reliability of complex systems. This report gives the latest progress of my group on the FTC of high-order fully actuated systems, including both deterministic and stochastic systems.

Donghua Zhou: Professor, doctoral supervisor at Southeast University, Chief Scientist of the Institute of Intelligent Unmanned Systems, and Director of the National-Local Joint Engineering Research Center for Mine Safety Detection Technology and Automation Equipment. He holds a Ph.D. from Shanghai Jiao Tong University and completed his postdoctoral studies at Zhejiang University. He has previously served as the Director of the Department of Automation at Tsinghua University, Vice President of Shandong University of Science and Technology, Chairman of the Teaching Steering Committee for Automation-related Majors in Higher Education Institutions under the Ministry of Education, member of the 6th and 7th Control Science and Engineering Discipline Evaluation Group of the State Council, and Chairman of the Fault Diagnosis and Safety Committee of the Chinese Association of Automation for three consecutive terms (the 3rd, 4th, and 5th). He is a recipient of the National Science Fund for Distinguished Young Scholars, a Distinguished Professor of the Changjiang Scholars Program, a Leading Talent of the "Ten Thousand Talents Plan," the leader of an innovative research group funded by the National Natural Science Foundation, and the head of a national university teacher team in the style of Huang Danian. He also enjoys a special government allowance from the State Council. He concurrently holds positions such as a member of the IFAC Technical Committee on Fault Detection, Supervision, and Safety for Technical Processes and Vice Chairman of the Chinese Association of Automation.

His primary research interests include fault diagnosis and fault-tolerant control of dynamic systems, as well as theories for operational safety assessment. As the first completing author, he has received three national-level awards (including two second prizes for the National Natural Science Award and one second prize for National Teaching Achievements), and five first prizes for science and technology from provincial/ministerial levels and nation.

分会场报告 (Semi-plenary Lectures)

Semi-plenary Session 1

7月6 日 08:15-10:15 钟山厅
July 6, 08:15-10:15 ZHONG SHAN HALL

Speakers: Bin Li — Sichuan University, China
Maojiao Ye — Nanjing University of Science and Technology, China
Ning Sun — Nankai University, China
Wei Dai — China University of Mining and Technology, China

Speaker: Bin Li, Sichuan University, China
Title: Optimal Fully Actuated System Approach (FASA) Based Control Theory and Applications
Chair: Shaoyuan Li, Qingdao University of Science and Technology/Shanghai Jiao Tong University

Abstract: In this talk, the optimal fully actuated system approach (FASA) based theory is presented. First, the idea of the theory is given. Then, the required numerical optimal control method is introduced. Last but not least, three applications of the optimal FASA-based control are provided to show the effectiveness and advantages of the proposed theory.

Bin Li is the professor and doctoral supervisor at School of Aeronautics and Astronautic, Sichuan University. He was selected for the National High-Level Talent Youth Program, the Sichuan Provincial Top Youth Talent Program, and Sichuan Provincial Distinguished Expert. He is a Senior Member of IEEE and serves as an editorial board member for top international journals IEEE Transactions on Neural Networks and Learning Systems and Applied Mathematical Modeling. His primary research focuses on optimization-based control theory and its applications in autonomous decision-making and control of unmanned aerial vehicles/swarms. He has published over 80 SCI-indexed journal papers, obtained more than 50 authorized national invention patents, and authored one English monograph. He has led key national projects such as Key Program of National Natural Science Foundation of China. He was awarded the 9th Youth Scientist Award by the Chinese Association of Automation.

Speaker: Maojiao Ye, Nanjing University of Science and Technology, China
Title: Distributed online resource allocation with free-in and free-out nodes
Chair: Baoyong Zhang, Nanjing University of Science and Technology

Abstract: In this talk, an online resource allocation problem with free-in and free-out nodes is introduced. A distributed online optimization algorithm is constructed for agents to achieve the minimization of their total cost while satisfying local box constraints and a global balancing equality constraint. In the developed algorithm, the agents update their decision variables and dual variables via the projected gradient method and dual averaging method, respectively. A dynamic regret and an accumulation of constraint violation are introduced as performance indices of evaluating the established algorithm.

Maojiao Ye received the B.Eng. degree in automation from the University of Electronic Science and Technology of China, Sichuan, China, in 2012 and the Ph.D. degree from Nanyang Technological University, Singapore, in 2016. She was a research fellow in the School of Electrical and Electronic Engineering at Nanyang Technological University from 2016 to 2017. She is currently a Professor with the School of Automaton, Nanjing University of Science and Technology. Her research interests include game theory, distributed optimization, and their applications.

Prof. Ye was a recipient of the Young Scientist Award from the Chinese Association of Automation in 2023, Guan Zhao-Zhi Award in the 36th Chinese Control Conference 2017, and the Best Paper Award in the 15th IEEE International Conference on Control and Automation 2019. She received the National Natural Science Fund for Excellent Young Scholars in 2022. She was selected into the 7th Young Elite Scientists Sponsorship Program by the China Association for Science and Technology (CAST). Prof. Ye is an Associate Editor of IEEE Transactions on Industrial Informatics, IEEE/CAA Journal of Automatica Sinica, Control Engineering Practice, and IEEE CSS Conference Editorial Board. She is the Vice-Chair of IEEE IES Technical Committee on Network-Based Control Systems and Applications and Secretary of ACA Technical Committee on MetaSystems and MetaControl.

Speaker: Ning Sun, Nankai University, China
Title: Motion control of underactuated robots based on the fully actuated system approach and related applications
Chair: Yanzheng Zhu, Shandong University of Science and Technology

Abstract: In practice, many mechanical systems, such as naval vessels, cranes, and helicopters, are underactuated to reduce energy consumption and enhance flexibility. However, compounded by strong nonlinearity arising from state coupling, the underactuated nature and high-order unavailable states pose significant challenges to motion control (particularly for un-actuated states lacking independent actuators or kinematic constraints). This talk mainly discusses the method of rearranging nonlinear underactuated systems into high-order linear fully-actuated systems, and further introduces an adaptive control method based on the fully actuated system approach, as well as a universal and scalable analysis method. In addition, the fully actuated system approach is applied to pneumatic artificial muscle-actuated robots, where their disturbance rejection and hysteresis modeling problems are considered. Finally, comparative tests on hardware platforms verify the feasibility of the proposed methods based on the fully actuated system approach.

Ning Sun is a Young Scholar of the Changjiang Scholars Program and a professor with Nankai University, Tianjin, China, and the Shenzhen Research Institute of Nankai University, Shenzhen, China. He received the B.S. degree in measurement & control technology and instruments from Wuhan University, Wuhan, China, in 2009, and the Ph.D. degree in control theory and control engineering from Nankai University, Tianjin, China, in 2014; he was a Japan Society for the Promotion of Science (JSPS) Fellow from 2018 to 2019. His research interests include intelligent control for mechatronic/robotic systems with an emphasis on (industrial) applications. Dr. Sun received the 2021 IEEE Transactions on Industrial Electronics Outstanding Paper Award, the Machines 2021 Young Investigator Award, the 2019 Wu Wenjun Artificial Intelligence Excellent Youth Award, the ICCAR 2022 Young Scientist Award, the 2024 IEEE Transactions on Systems, Man, and Cybernetics: Systems Outstanding Associate Editor Award, the 2023 International Journal of Control, Automation, and Systems Best Associate Editor, and several outstanding journal/conference paper awards. He serves as an Associate Editor for several journals, including the IEEE Transactions on Industrial Electronics, IEEE Transactions on SMC: Systems, IEEE Transactions on Intelligent Transportation Systems, and IEEE/ASME Transactions on Mechatronics. He is a Senior Member of the IEEE.

Speaker: Wei Dai, China University of Mining and Technology, China
Title: Lightweight learning model for industrial intelligent computing: Taking the energy industry as an example
Chair: Xin Xin, Southeast University

Abstract: The deep integration of new-generation artificial intelligence (AI) technologies with the manufacturing industry is driving a profound industrial transformation. As a cornerstone of China's energy supply system, coal plays a fundamental role in both energy security and system regulation. In alignment with the national "dual carbon" development strategy, the coal industry is gradually evolving from automation and informatization toward intelligentization. However, in practical production settings, the industry faces a series of challenges, such as difficulties in detecting key operational indicators like product quality and yield, time-varying working conditions, unclear mechanisms, complexity in control method design, and challenges in validating control systems due to intricate control structures. These issues present new challenges for the intelligent transformation of the energy and resources sector. This report introduces a lightweight machine learning model and, taking the coal industry as a case study, addresses its real-world intelligentization needs. By integrating data and domain knowledge, combining intelligent behavior with intelligent methodologies, and merging modeling with control, the report demonstrates how AI technologies can be applied to the coal preparation process. The goal is to achieve AI-driven modeling and operational optimization control for coal sorting. Finally, the report explores new opportunities and challenges brought by the industrial internet in the realm of intelligent computing.

Wei Dai is a Full Professor and Vice Dean of the School of Information and Control Engineering, China University of Mining and Technology, where he also supervises PhD candidates. He is a recipient of the National Young Talents Program, the Jiangsu Distinguished Young Scholars Fund, and the Jiangsu Excellent Young Scholars Fund. He has also been recognized as an Excellent Young Backbone Teacher under Jiangsu's "Qinglan Project" and is a IEEE Senior Member. He currently serves as a council member of the Jiangsu Association of Automation and the Jiangsu Coal Society. His main research interests include AI-driven modeling and operational optimization control of complex process industrial systems, as well as next-generation AI methodologies such as federated learning and incremental learning. His research has been recognized with multiple awards, including the Second Prize of the Ministry of Education Natural Science Award, the First Prize of the Liaoning Patent Award, the Youth Science and Technology Award of the Chinese Association of Automation (CAA), the Youth Science and Technology Award of China Coal Society, the First and Second Prizes of CAA Natural Science Awards, the Second Prize of the CAA Science and Technology Progress Award, the Innovation Award (Individual) from the China Industry-University-Research Institute Collaboration Association, and the Third Prize of Jiangsu Science and Technology Award. He has successfully transferred four patents into application.

Semi-plenary Session 2

7月6日 08:15-10:15 紫金厅
July 6, 08:15-10:15 ZI JIN HALL

Speakers:	**Qinglei Hu**	**Beihang University, China**
	Yuanlong Li	**Shanghai Jiao Tong University, China**
	Hongsheng Qi	**Chinese Academy of Sciences, China**
	He Kong	**Southern University of Science and Technology, China**

Speaker: Qinglei Hu, Beihang University, China
Title: Intelligent Perception and Control for Spacecraft Proximity Operations with Non-Cooperative Targets
Chair: Kemin Zhou, Nanjing University

Abstract: Spacecraft proximity operations with non-cooperative targets, as enabling technologies for some current and near-future missions such as removing space debris, repairing defunct satellites, etc., have garnered extensive attention. The success of these missions heavily relies on accurate target perception and safe proximity control. However, the non-cooperative nature of targets and the complexities of the space environment pose significant challenges for the target perception and control of spacecraft proximity operations. In this talk, I would like to share our recent research advances on the intelligent perception and control for spacecraft proximity operations with non-cooperative targets. The main research contents include: 1) intelligent target perception in the complex space environment, including representation and determination of semantic information, three-dimensional reconstruction, and pose measurement of space non-cooperative targets; 2) reinforcement-learning-based intelligent proximity control under complex motion and physical constraints; 3) simulation and experimental validation of the proposed method in typical scenes. The research results provide significant theoretical and technical support for the autonomous manipulation and control of space non-cooperative targets. Finally, I shall close by discussing on-going and future research avenues that can further address some practical engineering problem in spacecraft proximity operations.

Qinglei Hu obtained his B.Eng. degree in electrical and electronic engineering from Zhengzhou University, Zhengzhou, China, in 2001, and his Ph.D. degree with the specialization in guidance and control from Harbin Institute of Technology, Harbin, China, in 2006. From 2003 to 2014, he was with the Department of Control Science and Engineering, Harbin Institute of Technology, and then he joined Beihang University in 2014 as a Full Professor. His current research interests include intelligent perception and control, fault diagnosis and fault-tolerant control, and their applications in autonomous spacecraft systems. He has published five monographs in

Elsevier, Springer, etc., and 80+ journal papers in IEEE transactions and AIAA journals. He has authorized 30+ national invention patents. He has won the second prize of national Technological Invention Award and the first prize of national defense technological invention Award. He has been appointed the Changjiang Distinguished Professorship, and has been selected as Thomson Reuters Highly Cited Researchers from 2016-2022. Currently, he serves as an Associate Editor for Aerospace Science and Technology.

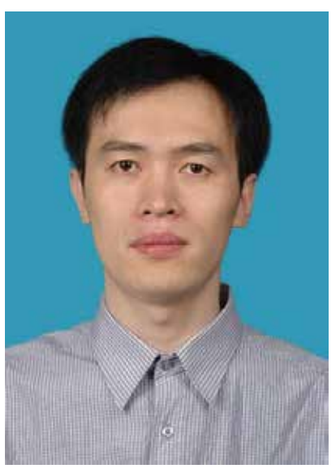
Speaker: Yuanlong Li, Shanghai Jiao Tong University, China
Title: Constrained Control of High-Order Fully Actuated Systems
Chair: Fei Han, Shanghai Aerospace Control Technology Institute

Abstract: High-order fully actuated system (HOFAS) approach presents a promising framework for addressing nonlinear control problems. However, the efficacy of this methodology is constrained by prevalent physical limitations in practical engineering applications. Specifically, system state constraints restrict the design freedom of feedback gains, thus preventing the arbitrary assignment of closed-loop poles. On the other hand, input saturation constraints compromise the system's full-actuation property. Consequently, the pre-designed controllers may fail to completely eliminate the inherent system nonlinearities and establish the desired closed-loop linear dynamics. This report introduces two methods for handling constrained control problems in HOFAS, namely, explicit reference governor design and anti-windup compensation.

Yuanlong Li is currently a Professor at Shanghai Jiao Tong University. He received the Ph.D. degree in control theory and control engineering from Shanghai Jiao Tong University, Shanghai, China, in 2015. He was a Visiting Graduate Student with the Charles L. Brown Department of Electrical and Computer Engineering, University of Virginia, Charlottesville, USA, from September 2011 to August 2012. He served as Principal Investigator for the NSFC Excellent Young Scientists Fund Project. His research interests include nonlinear control theory and constrained control systems.

Speaker: Hongsheng Qi, Chinese Academy of Sciences, China
Title: Feedback Shaping for Logical Dynamic Systems
Chair: Dong Yue, Nanjing University of Posts and Telecommunications

Abstract: Logical dynamic systems (LDS) are a class of discrete-time dynamic systems where states and inputs take values from finite sets, and evolution follows logical rules (such as Boolean functions). They arise in various application domains, such as biology, computer networks, and social networks etc. The representation and control of such systems have attracted much attention in recent years. In a parallel line of research, Koopman developed an operator view of nonlinear dynamical systems, which shows that, by making use of observable functions, every nonlinear dynamics can be represented as a (possibly infinite dimensional) linear system. In this talk, we first present a Koopman representation for LDS. Then, we establish a necessary and sufficient condition for shaping the closed-loop dynamics via feedback into any desired form for logical systems under the representation, and we develop a feedback control synthesis algorithm to solve this feedback shaping problem.



Hongsheng Qi received his Ph.D. degree in systems theory from Academy of Mathematics and Systems Science, Chinese Academy of Sciences in 2008. From July 2008 to May 2010, he was a postdoctoral fellow in the Key Laboratory of Systems Control, Chinese Academy of Sciences. He currently is a professor with the Academy of Mathematics and Systems Science, Chinese Academy of Sciences. His research interests include logical dynamic systems, game theory, quantum networks, etc. He was a recipient of “Automatica” 2008-2011 Theory/Methodology Best Paper Prize in 2011 and a recipient of a second National Natural Science Award of China in 2014.

Speaker: He Kong, Southern University of Science and Technology, China
Title: A Fully Actuated System Approach to Underactuated Systems Control–The Example of Cubli
Chair: Zhiyun Lin, Southern University of Science and Technology

Abstract: The Cubli is an interesting underactuated mechatronics system with reaction wheels mounted on its three faces. It can balance on one of its corners or edges by applying torques to the reaction wheels. Existing methods use linearization-based LQR or backstepping methods for its attitude control. In this talk, we will discuss our attempts on adopting the fully actuated system (FAS) approach to attitude control of Cubli, touching on aspects of model transformation, disturbance rejection, and closed-loop control.

He Kong received the Bachelor's degree in Electrical Engineering from China University of Mining and Technology, Xuzhou, China, Master's degree in Control Science and Engineering from Harbin Institute of Technology, Harbin, China, and the Ph.D. degree in Electrical Engineering from the University of Newcastle, Australia, respectively. He was a Research Fellow at the Australian Centre for Field Robotics, the University of Sydney, Australia, during 2016-2021. In early 2022, he joined the Southern University of Science and Technology, Shenzhen, China, where he is currently an Associate Professor. His research interests include active multi-modal perception, robot audition, state estimation, control applications. He is currently serving on the editorial board of IEEE Robotics and Automation Letters, IEEE Robotics and Automation Magazine, IEEE Sensors Letters, International Journal of Adaptive Control and Signal Processing, Proceedings of the IMechE-Part I: Journal of Systems and Control Engineering, Journal of Climbing and Walking Robots. He has also served as an Associate Editor on the IEEE CSS Conference Editorial Board and for the IEEE RAS flagship conferences such as the IEEE ICRA, IEEE/RSJ IROS, IEEE CASE, etc. As a co-recipient, he has received several awards, including the Best Paper Award at the 14-th International Conference on Indoor Positioning and Indoor Navigation in 2024, the Outstanding Poster Prize at the 5th Annual Conference of China Robotics Society in 2024, a Finalist for the Young Author Award at the 1st IFAC Workshop on Robot Control in 2019.

特邀论坛（Invited Forums）

巾帼论坛　三楼第三会议室

时间	报告人	单位	报告题目	论坛主席
7月5日 13:30-15:30	赵春晖	浙江大学	大语言模型赋能的工业过程故障语义表达与零样本诊断	董海荣 赵春晖
	蒲华燕	重庆大学	非稳定约束扰动下智能无人系统目标探测识别关键技术与应用	
	杨　懿	北京航空航天大学	高分辨率超动态光场显微成像关键技术研发及应用	
	和望利	华东理工大学	探索之路：复杂网络-多智能体系统-电氢耦合能源系统	
	刘　璐	香港城市大学	自主系统的智能控制：挑战与探索	

现场主持协调：丁克蜜 南方科技大学

特邀论坛1　三楼第二会议室

时间	报告人	单位	报告题目	论坛主席
7月5日 13:30-15:30	洪奕光	同济大学	非线性系统的安全性验证和控制设计	曾志刚 洪奕光
	段志生	北京大学	线性系统中多输入的本质作用	
	刘腾飞	东北大学	动态不确定性影响下的安全控制	
	赵　珺	大连理工大学	典型工业装备建模仿真及流场重构	
	何　潇	清华大学	动态系统的实时安全性评估技术	

现场主持协调：刘涛 南方科技大学

特邀论坛2　三楼第二会议室

时间	报告人	单位	报告题目	论坛主席
7月5日 16:00-18:00	周　彬	哈尔滨工业大学	不变因子和最小多项式配置	钟伟民 柴　利
	孙　健	北京理工大学	网络化系统数据驱动控制研究进展	
	柴　利	浙江大学	大规模图信号处理及其在若干应用中的新结果	
	虞文武	东南大学	网络群体智能自主协同控制	
	程　鹏	浙江大学	协同制造场景多智能体通信与计算探索	

现场主持协调：徐翔 南方科技大学

特邀论坛3　三楼第二会议室

时间	报告人	单位	报告题目	论坛主席
7月6日 13:30-15:30	李世华	东南大学	机电系统建模、分析及安全抗干扰控制研究进展	冯俊娥 李世华
	赵旭东	大连理工大学	切换系统时间驱动切换控制设计	
	邱剑彬	哈尔滨工业大学	航天器轨道威胁智能感知与自主规避	
	温广辉	东南大学	网络群体智能理论与技术	
	孙长银	安徽大学	试错驱动具身智能学习与进化	

现场主持协调：陈亮名 南方科技大学

成长论坛A　三楼第三会议室

时间	姓名	单位	点评专家	论坛主席
7月5日 16:00-18:00	徐占伯	西安交通大学	田玉平	张立宪 秦家虎
	薛文超	中科院系统所	严怀成	
	刘　明	哈尔滨工业大学	秦家虎	
	古　槿	清华大学	余　翔	
	张言军	北京理工大学		
	谢云云	南京理工大学	张立宪	

现场主持协调：邹文成、汪进文　南京理工大学

成长论坛B　三楼第三会议室

时间	姓名	单位	点评专家	论坛主席
7月6日 13:30-15:30	蔡声泽	浙江大学	张焕水	张立宪 吴争光
	周　敏	北京交通大学	刘万泉	
	郭露露	同济大学		
	车杭骏	西南大学	吴争光	
	赵　亮	大连理工大学	陈阿莲	
	喻　骁	厦门大学		
	权　浩	南京理工大学	张立宪	

现场主持协调：郜晨、耿伟伟　南京理工大学

Technical Program

PL1
大会报告1
Plenary Lecture 1
July 5, 09:00-09:45
三楼钟山厅
ZHONG SHAN HALL

Chair: James Lam　The University of Hong Kong
PL1 Dynamic linearizability implies static stabilizability and related results
Speaker: Alessandro Astolfi　Imperial College London, UK.

PL2
大会报告2
Plenary Lecture 2
July 5, 10:15-11:00
三楼钟山厅
ZHONG SHAN HALL

Chair: Guoxiang Gu　Louisiana State University/Southwest Jiaotong University
PL2 Synchronization of Heterogeneous Multi-agent Systems through Singular Perturbation
Speaker: Hyungbo Shim　Seoul National University, South Korea

PL3
大会报告3
Plenary Lecture 3
July 5, 11:00-11:45
三楼钟山厅
ZHONG SHAN HALL

Chair: Bin Jiang　Nanjing University of Aeronautics and Astronautics
PL3 Fault Tolerant Control of High-Order Fully Actuated Systems
Speaker: Donghua Zhou　Southeast University, China

Parallel Session 1 | **July 6, 08:15-10:15**
分会场报告1 | **三楼钟山厅**
Semi-plenary Session 1 | **ZHONG SHAN HALL**

▸ PS1-1 08:15-08:45

Chair: Shaoyuan Li Qingdao University of Science and Technology/Shanghai Jiao Tong University

PS1 Optimal Fully Actuated System Approach (FASA) Based Control Theory and Applications

Speaker: Bin Li Sichuan University, China

▸ PS1-2 08:45-09:15

Chair: Baoyong Zhang Nanjing University of Science and Technology

PS2 Distributed online resource allocation with free-in and free-out nodes

Speaker: Maojiao Ye Nanjing University of Science and Technology, China

▸ PS1-3 09:15-09:45

Chair: Yanzheng Zhu Shandong University of Science and Technology

PS3 Motion control of underactuated robots based on the fully actuated system approach and related applications

Speaker: Ning Sun Nankai University, China

▸ PS1-4 09:45-10:15

Chair: Xin Xin Southeast University

PS4 Lightweight learning model for industrial intelligent computing: Taking the energy industry as an example

Speaker: Wei Dai China University of Mining and Technology, China

Parallel Session 2 | **July 6, 08:15-10:15**
分会场报告2 | **四楼紫金厅**
Semi-plenary Session 2 | **ZI JIN HALL**

▸ PS2-1 08:15-08:45

Chair: Kemin Zhou Nanjing University

PS1 Intelligent Perception and Control for Spacecraft Proximity Operations with Non-Cooperative Targets

Speaker: Qinglei Hu Beihang University, China

▸ PS2-2 08:45-09:15

Chair: Fei Han Shanghai Aerospace Control Technology Institute

PS2 Constrained Control of High-Order Fully Actuated Systems

Speaker: Yuanlong Li Shanghai Jiao Tong University, China

▸ PS2-3 09:15-09:45

Chair: Dong Yue Nanjing University of Posts and Telecommunications

PS3 Feedback Shaping for Logical Dynamic Systems

Speaker: Hongsheng Qi Chinese Academy of Sciences, China

▸ PS2-4 09:45-10:15

Chair: Zhiyun Lin Southern University of Science and Technology

PS4 A Fully Actuated System Approach to Underactuated Systems Control–The Example of Cubli

Speaker: He Kong Southern University of Science and Technology, China

巾帼论坛 | **三楼第三会议室** | **7月5日13:30-15:30**

论坛主席：董海荣 山东科技大学；赵春晖 浙江大学

▸ 赵春晖 浙江大学
报告题目：大语言模型赋能的工业过程故障语义表达与零样本诊断
▸ 蒲华燕 重庆大学
报告题目：非稳定约束扰动下智能无人系统目标探测识别关键技术与应用
▸ 杨 懿 北京航空航天大学
报告题目：高分辨率超动态光场显微成像关键技术研发及应用
▸ 和望利 华东理工大学
报告题目：探索之路:复杂网络-多智能体系统-电氢耦合能源系统
▸ 刘 璐 香港城市大学
报告题目：自主系统的智能控制:挑战与探索

现场主持协调：丁克蜜 南方科技大学

特邀论坛1 | **三楼第二会议室** | **7月5日13:30-15:30**

论坛主席：曾志刚 华中科技大学；洪奕光 同济大学

▸ 洪奕光 同济大学
报告题目：非线性系统的安全性验证和控制设计
▸ 段志生 北京大学
报告题目：线性系统中多输入的本质作用
▸ 刘腾飞 东北大学
报告题目：动态不确定性影响下的安全控制
▸ 赵 珺 大连理工大学
报告题目：典型工业装备建模仿真及流场重构
▸ 何 潇 清华大学
报告题目：动态系统的实时安全性评估技术

现场主持协调：刘涛 南方科技大学

特邀论坛2 | **三楼第二会议室** | **7月5日16:00-18:00**

论坛主席：钟伟民 华东理工大学；柴利 浙江大学

▸ 周 彬 哈尔滨工业大学
报告题目：不变因子和最小多项式配置
▸ 孙 健 北京理工大学
报告题目：网络化系统数据驱动控制研究进展
▸ 柴 利 浙江大学
报告题目：大规模图信号处理及其在若干应用中的新结果
▸ 虞文武 东南大学
报告题目：网络群体智能自主协同控制
▸ 程 鹏 浙江大学
报告题目：协同制造场景多智能体通信与计算探索

现场主持协调：徐翔 南方科技大学

特邀论坛3　　三楼第二会议室　　7月6日13:30-15:30

论坛主席：冯俊娥 山东大学；李世华 东南大学

- 李世华　东南大学

报告题目：机电系统建模、分析及安全抗干扰控制研究进展

- 赵旭东　大连理工大学

报告题目：切换系统时间驱动切换控制设计

- 邱剑彬　哈尔滨工业大学

报告题目：航天器轨道威胁智能感知与自主规避

- 温广辉　东南大学

报告题目：网络群体智能理论与技术

- 孙长银　安徽大学

报告题目：试错驱动具身智能学习与进化

现场主持协调：陈亮名 南方科技大学

成长论坛A　　三楼第三会议室　　7月5日16:00-18:00

点评专家：田玉平 严怀成 秦家虎 余翔 张立宪　　**论坛主席：张立宪、秦家虎**

- 徐占伯　西安交通大学
- 薛文超　中科院系统所
- 刘　明　哈尔滨工业大学
- 古　槿　清华大学
- 张言军　北京理工大学
- 谢云云　南京理工大学

现场主持协调：邹文成、汪进文　南京理工大学

成长论坛B　　三楼第三会议室　　7月6日13:30-15:30

点评专家：张焕水 刘万泉 吴争光 陈阿莲 张立宪　　**论坛主席：张立宪、吴争光**

- 蔡声泽　浙江大学
- 周　敏　北京交通大学
- 郭露露　同济大学
- 车杭骏　西南大学
- 赵　亮　大连理工大学
- 喻　骁　厦门大学
- 权　浩　南京理工大学

现场主持协调：郜晨、耿伟伟　南京理工大学

Saturday, July 05, 2025 下午第一场

SaA01　　四楼牡丹厅　　13:30-15:10

Fasta Outstanding Youth Paper Award

SaA01-1　13:30-13:50

038 Tracking Control for Nonlinear Fully Actuated Systems with Multiple Disturbances Using Dual-Disturbance Observer

Da-Wei Zhang　Southern University of Science and Technology
Guoping Liu　Southern University of Science and Technology

SaA01-2　13:50-14:10

0521 High-Order Fully Actuated Voltage Control for DC Microgrids With Constant Power Loads

Yi Yu　The Hong Kong Polytechnic University
Guoping Liu　Southern University of Science and Technology
Peng Shi　University of Adelaide
Chi-yung Chung　The Hong Kong Polytechnic University

SaA01-3　14:10-14:30

0249 Dynamic event-triggered mechanism for networked nonlinear systems via output-feedback control

Wenhui Liu　Nanjing University of Science and Technology
Qian Ma　Nanjing University of Science and Technology
Shengyuan Xu　Nanjing University of Science and Technology

SaA01-4　14:30-14:50

0155 Fault-Tolerant Control for High-Order Fully Actuated Systems With Dead-Zone Observers

Miao Cai　Southeast University
Donghua Zhou　Tsinghua University

SaA01-5　14:50-15:10

0596 Bias-Policy Iteration Based Adaptive Dynamic Programming for Nonlinear Fully Actuated Systems

Huaiyuan Jiang　Harbin Institute of Technology
Ruiqing Zhang　Harbin Institute of Technology
Bin Zhou　Harbin Institute of Technology

SaA02 三楼第一会议室 13:30-15:30

Invited Session: Fully Actuated System Theory and Applications Research Fund for Young Scholars (Nanjing University of Aeronautics and Astronautics)

Chair: Ke Zhang Nanjing University of Aeronauitcs and Astronautics
Co-Chair: Kenan Yong Nanjing University of Aeronautics and Astronautics (NUAA)

SaA02-1 13:30-13:45

091 Incremental Fully Actuated System Approach Based Fault-Tolerant Control Design and Fight Implementation of Unmanned Helicopters

Guangrun Liu Nanjing University of Aeronautics and Astronautics
Qiyang Miao Nanjing University of Aeronautics and Astronautics
Jingping Xia Nanjing University of Aeronautics and Astronautics
Bin Jiang Nanjing University of Aeronautics and Astronautics
Ke Zhang Nanjing University of Aeronautics and Astronautics

SaA02-2 13:45-14:00

0101 Re-planning of Reconnaissance Missions for Multi-UAV Systems Under Potential Faults

Lintao Xu Nanjing University of Aeronautics and Astronautics
Ke Zhang Nanjing University of Aeronautics and Astronautics
Bin Jiang Nanjing University of Aeronautics and Astronautics

SaA02-3 14:00-14:15

0326 Adaptive trajectory tracking for nonminimum phase HSVs based on HOFA system approaches

Yirong Zhou Nanjing University of Aeronautics and Astronautics
Ruiyun Qi Nanjing University of Aeronautics and Astronautics

SaA02-4 14:15-14:30

0400 Adaptive Trajectory Tracking Control of Quadrotor UAV under Turbulent Winds via Fully Actuated System Approach

Aize Li Nanjing University of Aeronautics and Astronautics
Liyan Wen NanJing Universty of Aeronautics and Astronautics
Liu Sirui Nanjing University of Aeronautics and Astronautics

SaA02-5 14:30-14:45

0461 Formation Control of Multi-UAV Based on High-Order Fully Actuated System Approaches

Zibei Zhang Nanjing University of Aeronautics and Astronautics
Jing Zhu Nanjing University of Aeronautics and Astronautics
Hongyuan Zheng Nanjing University of Aeronautics and Astronautics

SaA02-6 14:45-15:00

0482 Flexible Performance-based Fully Actuated Control for Mechanical System under Input Saturation

Kenan Yong Nanjing University of Aeronautics and Astronautics

SaA02-7 15:00-15:15

0598 Stabilization and Tracking Control of Underactuated Unmanned Surface Vessel with High-Order Fully Actuated System Approach in GPS-Denied Environments

Qi Pan Nanjing University of Aeronautics and Astronautics
Tengteng Zeng Nanjing University of Aeronautics and Astronautics
Xiuhui Peng Nanjing University of Aeronautics and Astronautics

SaA02-8 15:15-15:30

0604 Discrete-time fractional-order cooperative control of multi-spacecraft based on fully actuated system theory and disturbance observer

Yiqi Chen Nanjing University of Aeronautics and Astronautics
shuyi Shao Nanjing University of Aeronautics and Astronautics

SaA03 三楼第四会议室 13:30-15:30

Invited Session: Recent Developments on Control and Optimization based on Fully Actuated System Theory

Chair: Da-Wei Zhang Southern University of Science and Technology
Co-Chair: Xiubo Wang Northeastern University at Qinhuangdao

SaA03-1 13:30-13:45

037 Adaptive Fully Actuated Prescribed Performance Control for Combined Spacecraft with Unknown Inertial Parameters

Guangquan Duan Harbin Institute of Technology
Xiaoguang Wang NORINCO GROUP Aviation Ammunition Research Institute Co., Ltd.
Yuxin Liang Harbin Institude of Technology
Qi Wang Norinco Group Air Ammunition Research Institute
bowen yu China Ordnance Industry Group Aviation Ammunition Research Institute Co., Ltd
Xianglei Meng AAI

SaA03-2 13:45-14:00

0591 Predictive Control for A Type of UASs with Unmatched Disturbances based on FAS Approaches

Xiubo Wang Northeastern University at Qinhuangdao
Lixue Xu Harbin Institute of Technology

SaA03-3 14:00-14:15

0103 Low-complexity Prescribed Performance Control for Perturbed Robotic Manipulators: A Fully Actuated System Approach

Yi Ding Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology

SaA03-4 14:15-14:30

0116 Predictive Control for Networked Buck Converter Systems with Time Delays Based on Fully Actuated System Theory

Xiaoran Dai Wuhan University
Guoping Liu Southern University of Science and Technology
Zhongcheng Lei Wuhan University
Wenshan Hu Wuhan University
Hong Zhou Wuhan University
Jun Zhang Wuhan University

SaA03-5 14:30-14:45

0312 Noncertainty-Equivalent Adaptive Control for Submarines Using SDU Decomposition: A FAS Approach

Zhijun Chen Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology

SaA03-6 14:45-15:00

0381 High-gain Observer-based Output Feedback Stabilization for Nonlinear Systems with Quantized Input Signal: A Fully Actuated System Approach

Lin Liu Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology

SaA03-7 15:00-15:15

0525 Anti-disturbance and fault tolerance control for discrete systems based on interval observers

QuanZhi Liu Jilin University
Jia-Kun Zhang Shanghai Institute of Spaceflight Control Technology
Li-Song Sun Northeastern University
Yang Xiao Jilin University
Guowei Fan Jilin University
Liu Zhang Jilin University

SaA03-8 15:15-15:30

0665 Inverter Impedance Modelling and Stability Analysis Based on Virtual Synchronous Generator Control

Ruitong Zhang Nanjing University of Science and Technology
Puyu Wang Nanjing University of Science and Technology
Dengpan Sun Nanjing University of Science and Technology
Linpei Hu Nanjing University of Science and Technology

SaA04 三楼第五会议室 13:30-15:30

Invited Session: Fully Actuated System, Intelligent Perception and Control; 新能源电力系统控制-全驱系统方法; Recent Developments in Fully Actuated System Approach with System Uncertainties

Chair: Lingling Lv North China University of Water Conservancy and Electric Power
Co-Chair: Yang Liu Beihang University (BUAA)

SaA04-1 13:30-13:45

021 Prescribed-time control for nonholonomic systems: A fully actuated systems method

Jiaming Zhang Beihang University
Yang Liu Beihang University
Ben Niu Shandong Normal University

SaA04-2 13:45-14:00

0235 Online Federated Reproduced Gradient Descent with Time-varying Global Optima

Wenling Li Beihang University
Yifu Lin Beihang University

SaA04-3 14:00-14:15

0310 Evolutionary dynamics of cooperation in structured public goods game with a generalized interaction mode

Ju Han University of Electronic Science and Technology of China
Xiaojie Chen University of Electronic Science and Technology of China

SaA04-4 14:15-14:30

0616 Research on multi-agent obstacle avoidance navigation based on hierarchical deep reinforcement learning

Hanqi Sun University of Electronic Science and Technology of China
Rui Li University of Electronic Science and Technology of China
Tian Min University of Electronic Science and Technology of China
Ying Jing Shi University of Electronic Science and Technology of China

SaA04-5 14:30-14:45

0628 固定拓扑下一阶线性多智能体系统周期一致性控制

吕灵灵 华北水利水电学院
李罡 华北水利水电大学

SaA04-6 14:45-15:00

0782 Fully actuated system approach of prescribed-time spacecraft elliptical orbital rendezvous

Xiangyu Gao Guangxi Normal University
Mengjie Chen Guangxi Normal University
Lingling Lv North China University of Water Conservancy and Electric Power

SaA04-7 15:00-15:15

0669 Interaction of Active Power Control Channels in a PMSG Grid-Integrated System Based on Grid-Forming Control

Xin Wang Nanjing University of Science and Technology
Puyu Wang Nanjing University of Science and Technology
Tianming Gu Nanjing University of Science and Technology
Linpei Hu Nanjing University of Science and Technology
Yu Sheng Nanjing University of Science and Technology

SaA04-8 15:15-15:30

0311 Fault Detection Set-Valued Observer Design for Discrete-Time Nonlinear Systems Based on Fully Actuated System Approach

Weijie Ren Southern University of Science and Technology
He Kong Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology

SaA05 三楼第六会议室 13:30-15:30

Invited Session: 全驱系统理论及其在航空航天领域的应用； Autonomous sensing and collaborative control of multi-agent systems

Chair: 侯明哲 哈尔滨工业大学
Co-Chair: 蔡光斌 火箭军工程大学

SaA05-1 13:30-13:45

0180 Sliding Mode Control-based Prescribed Performance Fault-Tolerant Tracking Control for Morphing Aircraft

Ziqi Ye Rocket Force University of Engineering
Hui Xu Rocket Force University of Engineering
Xuen Fan Rocket Force University of Engineering
Encheng Dai Rocket Force University of Engineering
Guang-Bin Cai Xi'an Research Institute of High-Tech

SaA05-2 13:45-14:00

0181 Fault-Tolerant H∞ Control for a Linear Parameter-Varying Model of Morphing Aircraft

Xuen Fan Rocket Force University of Engineering
Tong Wu Rocket Force University of Engineering
Guang-Bin Cai Xi'an Research Institute of High-Tech

SaA05-3 14:00-14:15

0189 Data Fusion Algorithm for Redundant Gyroscope System Based on Differential Layout Array

Jixiang Lu Rocket Force University of Engineering
Liang Xue Rocket Force University of Engineering
Guang-Bin Cai Xi'an Research Institute of High-Tech
Guoyuan He Northwestern Polytechnical University

SaA05-4 14:15-14:30

0566 Fixed-time Incremental Sliding Mode Control of Aircraft with Actuator Faults

Jiayu Liu Harbin Institute of Technology
Shuyu Zhang Harbin Institute of Technology
yan zhen The third general design department of China aerospace science and industry corporation
Mingzhe Hou Harbin Institute of Technology

SaA05-5 14:30-14:45

0567 A Novel Dynamic Periodic Event-Triggered Prescribed Performance Control of Uncertain Semi-Strict Feedback Systems With Application

xindi xu Harbin Institute of Technology
Mingzhe Hou Harbin Institute of Technology
Feng Tan Harbin Institute of Technology

SaA05-6 14:45-15:00

0345 Adaptive Kalman Filter for Dynamic Systems Localization with Skewed Heavy-tailed Noise

Zihao Zhang China University of Mining and Technology
Guoqing Wang China University of Mining and Technology
Chunyu Yang China University of Mining and Technology
Lei Ma China University of Mining and Technology

SaA05-7 15:00-15:15

0346 Data-Driven Controllability and Observability of Probabilistic Logical Control Networks

Lin Lin The University of Hong Kong
James Lam The University of Hong Kong

SaA05-8 15:15-15:30

0353 Non-Overshooting Position Tracking Control for Permanent Magnet Synchronous Motor Servo Systems via High-Order Fully-Actuated Modeling

Chunyu Yang China University of Mining and Technology
Mingjun Ji China University of Mining and Technology
Lei Ma China University of Mining and Technology

SaA06 三楼第七会议室 13:30-15:30

Invited Session: Analysis and optimization design for complex dynamical systems subject to communication constraints; Recent Advances on Nonlinear Dynamic Systems Based on Fully Actuated System Theory

Chair: Jun Hu Harbin University of Science and Technology
Co-Chair: Lei Zou Brunel University London

SaA06-1 13:30-13:45

031 Sliding Mode Control for Discrete Uncertain T-S Fuzzy Delayed Systems: Attack Detection Scheme

Zhiyuan Zuo Harbin University of Science and Technology
Na Lin Harbin University of Science and Technology
Hongxu Zhang Harbin University of Science and Technology
Liu Hao Harbin University of Science and Technology
Jun Hu Harbin University of Science and Technology

SaA06-2 13:45-14:00

070 Lead-Time Affine Formation Control of Multi-agent Systems under Actuator Faults

Jiawei Pi Harbin University of Science and Technology
Chong Tan Harbin University of Science and Technology
Yanjiang Li Harbin University of Science and Technology

SaA06-3 14:00-14:15

083 Fault Detection for Markov Jump Systems Against Deception Attacks Under Critical-Information Protection Mechanism

Siteng Ma Harbin University of Science and Technology
Weilu Chen Harbin University of Science and Technology
Xiaolong Yang Harbin University of Science and Technology
Zhihui Wu Harbin University of Science and Technology
Jun Hu Harbin University of Science and Technology

SaA06-4 14:15-14:30

087 Fault Diagnosis for Gearbox of Wind Turbine Based on Transfer Learning and Improved Res2Net

Ke Chen China University of Petroleum (East China)
Ming Gao China University of Petroleum (East China)
Li Sheng China University of Petroleum (East China)
Xiaopeng Xi Universidad Técnica Federico Santa María

SaA06-5 14:30-14:45

088 Quadratic Filtering Based with Random Access Protocol and Probabilistic Quantization

yang zhou Donghua University
Na Li Qingdao University of Science and Technology
Wen Chen Harbin University of Science and Technology
Lei Zou Brunel University London

SaA06-6 14:45-15:00

0562 Free Final-Time Trajectory Optimization for Ramjet Mode of ATR Aircraft by Successive Difference-of-Convex Programming

邓泽晓 哈尔滨工业大学（深圳）
王雁 哈尔滨工业大学（深圳）
刘鲁华 中山大学

SaA06-7 15:00-15:15

0446 FMS of Centralized and Distributed Affine Nonlinear Systems and Observer Design Based on FMCF

Yuyan Li Shandong University
Jinjin Zhang Shandong University
Shuai Liu Shandong University

SaA06-8 15:15-15:30

0501 Trajectory Tracking of Robotic Manipulator Based on High-Order Fully Actuated System Approach

Jinjin Zhang Shandong University
Yuyan Li Shandong University
Shuai Liu Shandong University

SaA07 三楼第八会议室 13:30-15:30

Invited Session: Fully actuated system theory and its application in robot control; Intelligent control and estimation in engineering field

Chair: Ling Huang Harbin University of Science and Technology
Co-Chair: jun wang Nanjing University of Science and Technology

SaA07-1 13:30-13:45

0111 Robust Trajectory Tracking for UVMS via Fully Actuated System Theory and Liquid Neural Networks

Jiawei Wu Harbin Engineering University
Bing Li Harbin Engineering University
Ling Huang Harbin University of Science and Technology
Jiashuai Li Northeast Forestry University
Mingze Li Harbin Engineering University

SaA07-2 13:45-14:00

0225 Event-triggered synchronization control complex semiconductor laser network with bit-rate constraint

Jing Guo Harbin University of Science and Technology
Ling Huang Harbin University of Science and Technology

SaA07-3 14:00-14:15

0370 An Unscented Kalman Filter Algorithm for Rebar Signal Processing Based on an Adaptive Forgetting Factor

Jianwei Fan Harbin University of Science and Technology
Ling Huang Harbin University of Science and Technology
Baoluo Li Harbin University of Science and Technology

SaA07-4 14:15-14:30

0449 A Network Communication Time Delay Compensation Strategy Based on High Order Predictive Control

Yi Zhou Wuhan Institute of Technology
jiali ding Wuhan Institute of Technology
Xuhuan Xie Wuhan Institute of Technology
Hao Liu Wuhan Institute of Technology
Zixin Huang Wuhan Institute of Technology

SaA07-5 14:30-14:45

0626 An Adaptive Control Method for Humanoid Robots Based on Fully-actuated Systems

Hao Sun Northwestern Polytechnical University
Liang He Northwestern Polytechnical University
Ling Huang Harbin University of Science and Technology

SaA07-6 14:45-15:00

0670 Multi-agent Cooperative Pursuit Algorithm for UGVs Based on MASAC

Min Fang Nanjing University of Science and Technology
Jun Wang Nanjing University of Science and Technology

SaA07-7 15:00-15:15

0671 Disturbance Rejection Control of Flying Rifle Based on Adaptive Prescribed Performance

Chichen Zhang Nanjing University of Science and Technology
Jun Wang Nanjing University of Science and Technology
Fan Cao Nanjing University of Science and Technology
Yuming Bo Nanjing University of Science and Technology

SaA07-8 15:15-15:30

0681 Prescribed Performance-Based Recoil Compensation Control for Flying Rifle Systems

Fan Cao Nanjing University of Science and Technology
Jun Wang Nanjing University of Science and Technology
Chichen Zhang Nanjing University of Science and Technology

SaA08 三楼第一教室 13:30-15:30

Invited Session: Renewable Energy Power System Control - A Fully Actuated System Approach

Chair: Yi Yu — The Hong Kong Polytechnic University
Co-Chair: Hao Quan — Nanjing University of Science and Technology

SaA08-1 13:30-13:45

0264 Digital Twin-Based Monitoring and Networked Tolerant Control for Cyber-Physical Systems

ShiYu Chen — Southern University of Science and Technology
Guoping Liu — Southern University of Science and Technology
Yi Yu — The Hong Kong Polytechnic University

SaA08-2 13:45-14:00

0666 Analysis of Short Circuit Ratio Stability Domain of Direct-Drive Wind Farm with Hybrid-Synchronous Control Under Different Input Proportional Coefficients

Linpei Hu — Nanjing University of Science and Technology
Puyu Wang — Nanjing University of Science and Technology
Xin Wang — Nanjing University of Science and Technology
Shijie Fu — Nanjing University of Science and Technology
Ruitong Zhang — Nanjing University of Science and Technology

SaA08-3 14:00-14:15

0667 Small-signal Modelling of Hybrid Bipolar HVDC Transmission Systems

Yu Sheng — Nanjing University of Science and Technology
Puyu Wang — Nanjing University of Science and Technology
Yanyu Zhu — Nanjing University of Science and Technology
Dengpan Sun — Nanjing University of Science and Technology
Bin Wu — Nanjing University of Science and Technology

SaA08-4 14:15-14:30

0668 Active Support Performance Analysis of Photovoltaic Inverter Based on DC Voltage Inertia Control

Xujie Tang — Nanjing University of Science and Technology
Puyu Wang — Nanjing University of Science and Technology
Dengpan Sun — Nanjing University of Science and Technology
Tianwei Li — Nanjing University of Science and Technology
Yu Sheng — Nanjing University of Science and Technology

SaA08-5 14:30-14:45

0344 An Effective Model Based on STmixing-LSTM for Short Term Wind Power Prediction

Tianci Li — Nanjing University of Science and Technology
Fuming Peng — Nanjing University of Science and Technology
Hao Quan — Nanjing University of Science and Technology
Xiang Ma — SINTEF

SaA08-6 14:45-15:00

0535 A Comprehensive Analysis of Electric Vehicle Charging Patterns Using Hybrid BIRCH-K-MEANS Clustering Algorithm

Zixu Wang — Nanjing University of Science and Technology
Hao Quan — Nanjing University of Science and Technology
Xiang Ma — SINTEF
yingxiang Zhao — High North Quality AS
Fuming Peng — Nanjing University of Science and Technology

SaA08-7 15:00-15:15

0612 Power System Region Partition Method with High-Penetration of Renewable Energy Considering Frequency Temporal-spatial Distribution Characteristics

Tao Zhou — Nanjing University of Science and Technology
Jian Wu — Nanjing University of Technology
Yong Qiao — Southeast University
Meng Dai — Nanjing University of Science and Technology
Wenke Gu — Nanjing University of Science and Technology
Zhong Chen — Southeast University

SaA08-8 15:15-15:30

0615 Synthetic Inertial Control for Fast Frequency Response of Photovoltaic Power Generation Based on Load Shedding

Tao Zhou — Nanjing University of Science and Technology
Yulu Wang — Nanjing University of Science and Technology
Jun Ni — State Grid Wuxi Power Supply Company
Chao Xu — State Grid Wuxi Power Supply Company
Yan Xu — Jiangsu Frontier Electric Technology Co., Ltd

SaA09 三楼第二教室 13:30-15:30

Invited Session: Cooperative Control Technologies for Large-Scale Renewable Energy Integration; Operation and Control Technologies for High Penetration Renewable Energy Power Systems

Chair: Minghui Yin — Nanjing university of Science and Technology
Co-Chair: Zaiyu Chen — Nanjing University of Science and Technology

SaA09-1 13:30-13:45

0476 Dual-Mode UAV Collaboration in Unknown Environments: A Frontier-Integrated MASAC Approach with Dynamic Role Specialization

Chanjuan He — Nanjing University of Science and Technology
Guanqi Wang — Nanjing University of Science and Technology
Chenxiao Cai — Nanjing University of Science and Technology

SaA09-2 13:45-14:00

0551 A Fast Power Sharing Method for Wind Farms Participating in Primary Frequency Regulation

Zemiao Ge — Nanjing University of Science and Technology
Ze Sun — Nanjing University of Science and Technology
Zaiyu Chen — Nanjing University of Science and Technology

SaA09-3 14:00-14:15

0570 Research on Smooth Wind Power Control Strategy for Hybrid Energy Storage Based on MPC

PengFei Ma — Nanjing University of Science and Technology
Jing Bu — Nanjing University of Science and Technology
Boyang Sun — Nanjing University of Science and Technology

SaA09-4 14:15-14:30

0592 Frequency Support Method for Offshore Wind Power VSC-HVDC System Based on Dual-Terminal Symmetric Coordinated Inertial Synchronization Control

Jie Wang — Nanjing University of Science and Technology
Tianyi Xu — Nanjing University of Science and Technology
Zaiyu Chen — Nanjing University of Science and Technology

SaA09-5 14:30-14:45

0799 Observer-based Prescribed Finite-time Control for Singularly Perturbed Systems

Zheng Li — Nanjing University of Science and Technology
Chenxiao Cai — Nanjing University of Science and Technology

SaA09-6 14:45-15:00

0575 Frequency Support Control of Wind Turbines Based on Frequency Response Analysis

Ze Sun — Nanjing University of Science and Technology
Jie Wang — Nanjing University of Science and Technology
Zaiyu Chen — Nanjing University of Science and Technology

SaA09-7 15:00-15:15

0590 Active Power Optimization Dispatch Strategy of Wind Farm Considering Maximum Reactive Power Support Capability

Xiaoya Wang — Nanjing University of Science and Technology
Jin Ju — Nanjing University of Science and Technology
Chang Xu — Nanjing University of Science and Technology

SaA09-8 15:15-15:30

0593 Small-Signal Stability Analysis and Parameter Optimization of Grid-Forming Wind Turbine

Boyang Sun — Nanjing University of Science and Technology
Xiaoya Wang — Nanjing University of Science and Technology
Kunlong Liu — Nanjing University of Science and Technology

SaA10 三楼第三教室 13:30-15:30

Invited Session: Resilient Control of Networked Nonlinear Systems; Complex Fully Actuated Systems Analysis and Control

Chair: Qian Ma Nanjing University of Science and Technology
Co-Chair: Liwei An Northeastern University

SaA10-1 13:30-13:45

0278 Neural Adaptive Control for Nonlinear Cyber-Physical Systems Under Random False Data Injection Attacks

Qiang Zhang Northeastern University
Xingling Shao North University of China
Jin Chen School of Electrical and Control Engineering

SaA10-2 13:45-14:00

0477 Research on Path Planning for Mobile Robots Based on Optimized Ant Colony Algorithm

Qingchao Tian Nanjing University of Science and Technology
Qian Ma Nanjing University of Science and Technology
Peng Jin Wuhan Textile University

SaA10-3 14:00-14:15

0478 D_ORB: A robust visual SLAM system based on deep feature extraction

Zijie Xie Nanjing University of Science and Technology
Qian Ma Nanjing University of Science and Technology
Peng Jin Wuhan Textile University

SaA10-4 14:15-14:30

0509 Homology Analysis for Positioning Offsets Caused by Malicious Attacks

Xiaolei li Beijing University of Chemical Technology
Xuzheng Chen Beijing University of Chemical Technology
Wan Li che Beijing University of Chemical Technology
Yukun Shi Beijing University of Chemical Technology
Youqing Wang Beijing University of Chemical Technology

SaA10-5 14:30-14:45

0563 Adaptive Prescribed-Performance Control of Nonlinear Strict-Feedback Systems Based on State-Triggered Mechanism

Tong Jia Northeastern University
Liwei An Northeastern University

SaA10-6 14:45-15:00

0599 Extended State Observer Based Fully Actuated Sliding Mode Trajectory Tracking Control of Space Manipulator

Weiwei Wei Harbin Institute of Technology
Xiaolong Ma Aerospace System Engineering Shanghai
Yue Zhao Harbin Institute of Technology
CHEN Meng Institute of Aerospace System Engineering Shanghai
Ouyang Zhang Harbin Institute of Technology
Zhuang Liu Harbin Institute of Technology
Jianxing Liu Harbin Institute of Technology

SaA10-7 15:00-15:15

0643 Fixed Time Disturbance Observer based Adaptive Fuzzy Control for QUAV with State Constraints

Runze Chen Nanjing University of Science and Technology
Qian Ma Nanjing University of Science and Technology

SaA10-8 15:15-15:30

0337 Finite-time Formation Control for Fixed-Wing UAVs Based on Fully Actuated System Approach

Zhengyuan Li Nanjing University of Science and Technology
Chen Chen Nanjing University of Science and Technology
Jian Guo Nanjing University of Science and Technology

SaA11 四楼茉莉厅 + 蔷薇厅 13:30-15:30

Invited Session: Intelligent navigation and decision-making algorithms and applications

Chair: Xiang Wu Nanjing University of Science and Technology
Co-Chair: ChangHui Jiang Nanjing University of Aeronautics and Astronautics

SaA11-1 13:30-13:45

0314 USV Swarm Defense Optimization for Island Protection Based on Enhanced IDQ

Xingchen Zhuo Nanjing University of Science and Technology
Zhixian Tang The 28th research institute of china electronics technology group corporation
YongHao Cheng Nanjing University of Science and Technology
Qilong Huang Nanjing University of Science and Technology

SaA11-2 13:45-14:00

0315 Motion Trend Prediction of Unmanned Surface Vessels Based on Physics-Informed Neural Network

YongHao Cheng Nanjing University of Science and Technology
Jian Yu China Ship Development and Design Center
Fan Huili China Ship Development and Design Center
Feiyang He China Ship Development and Design Center
Qihang Li Nanjing University of Science and Technology
Qilong Huang Nanjing University of Science and Technology

SaA11-3 14:00-14:15

0316 Lightweight RT-DETR with Dynamic Optimization and Multi-Scale Attention for Real-Time Traffic Object Detection

Hengwei Xu Nanjing University of Science and Technology
Yuan Li Nanjing University of Science and Technology
Zhaolei Li Nanjing University of Science and Technology
Rui Zhang Nanjing University of Science and Technology
Xiang Wu Nanjing University of Science and Technology

SaA11-4 14:15-14:30

0317 Coordination Optimization of Air-sea Confrontation Force Based on Enhanced MDPLO

Qihang Li Nanjing University of Science and Technology
Fan Huili China Ship Development and Design Center
Jian Yu China Ship Development and Design Center
Chen Junyu China Ship Development and Design Center
Xingchen Zhuo Nanjing University of Science and Technology
Qilong Huang Nanjing University of Science and Technology
Li Yang Nanjing University of Science and Technology

SaA11-5 14:30-14:45

0338 ChanCrossFormer: A Ballistic Trajectory Prediction Model Integrating Channel Attention and Cross-Attention Mechanisms

Jun Zhong Nanjing University of Science and Technology
Yuhang Zhou Nanjing University of Science and Technology
Yukuang Shen School of Automation, Nanjing University of Science and Technology
Jiamei Yuan Nanjing University of Science and Technology
Xiang Wu Nanjing University of Science and Technology

SaA11-6 14:45-15:00

0422 Research on Pursuit-Evasion Strategies for GEO Satellites Using PD-DDPG

Gang Shen Nanjing University of Science and Technology
Zhi Hang Ren Shanghai Institute of Aerospace Systems Engineering
Jun Zhong Nanjing University of Science and Technology
Gaopeng Zhao Nanjing University of Science and Technology
Xiang Wu Nanjing University of Science and Technology

SaA11-7 15:00-15:15

0528 Time Series Forecasting with Multi-Scale Feature Extraction and Explicit Periodic Modeling

Jiamei Yuan Nanjing University of Science and Technology
Gang Shen Nanjing University of Science and Technology
Zhipeng Cheng Nanjing University of Science and Technology
Jun Zhong Nanjing University of Science and Technology
Xiang Wu Nanjing University of Science and Technology

SaA11-8 15:15-15:30

0553 Two-stage Multi-UAV path planning based on MAPPO

Yudie Wang — Nanjing University of Science and Technology
Qingzhong Yan — Nanjing University of Science and Technology
Zhi Hang Ren — Shanghai Institute of Aerospace Systems Engineering
Gaopeng Zhao — Nanjing University of Science and Technology
Xiang Wu — Nanjing University of Science and Technology

SaA12 四楼荷花厅 13:30-15:30

Invited Session: Autonomous sensing and collaborative control of multi-agent systems

Chair: Lei Ma — China University of Mining and Technology
Co-Chair: Chenxiao Cai — Nanjing University of Science and Technology

SaA12-1 13:30-13:45

0129 Distributed H_{infty} Sliding Mode Functional Filtering for a class of Nonlinear Systems

Xiaotian Shi — Nanjing University of Science and Technology
Chenxiao Cai — Nanjing University of Science and Technology

SaA12-2 13:45-14:00

0359 Asynchronous Event-Triggered-Based Security Control for Two-Time-Scale CPSs under Asynchronous DoS Attacks

Ying Zhang — China University of Mining and Technology
Lei Ma — China University of Mining and Technology

SaA12-3 14:00-14:15

0500 Controllability of Discrete-Time Linear Positive Multi-agent Systems

Bohao Zhu — The University of Hong Kong
James Lam — The University of Hong Kong
Chengyan Zhao — Ritsumeikan University
Ka-Wai Kwok — The Chinese University of Hong Kong

SaA12-4 14:15-14:30

0147 Fuzzy \mathcal{H}_{\infty} Filtering for Singularly Perturbed Jumping Systems Based on HMM Method

Guanqi Wang — Nanjing University of Science and Technology
Chenxiao Cai — Nanjing University of Science and Technology

SaA12-5 14:30-14:45

0202 Event-triggered Consensus Control for Multi-agent Systems with Cyber-attacks and Saturation

Yifang Zhang — Zhejiang University
James Lam — The University of Hong Kong
Ka-Wai Kwok — The Chinese University of Hong Kong

SaA12-6 14:45-15:00

0204 Intelligent Fault Detection and Diagnosis of Circuit Systems Based on A Mixed Feature Extractor

Min Xue — The university of Hong Kong
James Lam — The University of Hong Kong
Ka-Wai Kwok — The Chinese University of Hong Kong

SaA12-7 15:00-15:15

0269 Adaptive Event-Triggered Affine Formation Control for Communication-Constrained Linear Multi-Agent Systems

Chenjun Liu — University of Macau
Jason Jinrong Liu — University of Macau
James Lam — The University of Hong Kong

SaA12-8 15:15-15:30

0341 Fully Actuated System-Based Control for Precise Trajectory Tracking of Quadrotor UAVs

Aqeel- Ur-Rehman — Nanjing University of Science and Technology
Chenxiao Cai — Nanjing University of Science and Technology

SaA13 四楼友谊厅 13:30-15:30

Invited Session: 无人集群与智能系统的自主控制与辨识; Operation and Control Technologies for High Penetration Renewable Energy Power Systems

Chair: 李芃 — 哈尔滨工业大学（深圳）
Co-Chair: 陆文杰 — 哈尔滨工业大学（深圳）

SaA13-1 13:30-13:45

079 Resilient Estimation for Linear and Adaptive Distributed Observer Based on Redundant Information Flow

Jingjian Mo — Harbin Institute of Technology (Shenzhen)
Xiaobo Zhang — Harbin Institute of Technology (Shenzhen)
Yangkun Zhang — Harbin Institute of Technology (Shenzhen)
Wenjie Lu — Harbin Institute of Technology (Shenzhen)
Peng Li — Harbin Institute of Technology (Shenzhen)

SaA13-2 13:45-14:00

0169 A Unified Representation of Different Dynamics Using Deep Koopman Operator

Rong Chen — Harbin Institute of Technology (Shenzhen)
Duofeng Pan — Harbin Institute of Technology (Shenzhen)
Peng Li — Harbin Institute of Technology (Shenzhen)
Wenjie Lu — Harbin Institute of Technology (Shenzhen)

SaA13-3 14:00-14:15

0170 Reinforcement Learning with Guaranteed Robustness under Dynamics Modeling Uncertainties

Duofeng Pan — Harbin Institute of Technology (Shenzhen)
Rong Chen — Harbin Institute of Technology (Shenzhen)
Peng Li — Harbin Institute of Technology (Shenzhen)
Wenjie Lu — Harbin Institute of Technology (Shenzhen)

SaA13-4 14:15-14:30

0445 A Lightweight Transformer for PCB Defects Detection

Yuanchen Niu — Harbin Institute of Technology
Rui Wang — Harbin Institute of Technology
Peng Li — Harbin Institute of Technology (Shenzhen)
Yangkun Zhang — Harbin Institute of Technology (Shenzhen)

SaA13-5 14:30-14:45

0451 Quality Prediction in Multi-Stage Manufacturing with Hybrid TCN-Transformer

Peng Siwei — Harbin Institute of Technology
Rui Wang — Harbin Institute of Technology
Peng Li — Harbin Institute of Technology (Shenzhen)
Yangkun Zhang — Harbin Institute of Technology (Shenzhen)

SaA13-6 14:45-15:00

0511 ESO-based Iterative Learning Control for Robotic Manipulators with Disturbances: A High-order Fully Actuated Approach

Yanjing Chen — Sun Yat-Sen University
Qiqi Xing — Sun Yat-Sen University
Junkai Wang — Sun Yat-Sen University
Xuefang Li — Sun Yat-sen University

SaA13-7 15:00-15:15

0595 Damping control of offshore wind power grid-forming flexible HVDC grid-connected system considering the influence of measurement delay

Jin Ju — Nanjing University of Science and Technology
Boyang Sun — Nanjing University of Science and Technology
Kunlong Liu — Nanjing University of Science and Technology

saA13-8 15:15-15:30

0762 Primary Frequency Control of Deloaded Wind Turbines Considering the Pitch Angle Dynamic Process

Xinchen Zhang — Nanjing University of Science and Technology
Wei Gu — Nanjing University of Science and Technology

Saturday, July 05, 2025 下午第二场

SaB01 四楼牡丹厅 16:00-18:00

FASTA Best Student Paper Award

SaB01-1 16:00-16:20

0232 Adaptive Prescribed Performance Control for Variable-Sweep Aircraft Based on Fully-Actuated System Approach

Baisen Wang — National University of Defense Technology
Peng wang — National University of Defense Technology

SaB01-2 16:20-16:40

0798 Optimal Control of Nonlinear Singular Systems based on Fully Actuated System Theory

Yufa Sun — Harbin Engineering University
Zhiguang Feng — Harbin Engineering University

SaB01-3 16:40-17:00

0215 Prescribed Performance Tracking Control for Uncertain Strict-Feedback Systems Using Fully Actuated System Approach

Yu Lin Duan — Southern University of Science and Technology
Jiaming Zhang — Beihang University
junxiang zhang — Southern University of Science and Technology
Guang-Ren Duan — Harbin Institute of Technology

SaB01-4 17:00-17:20

0533 On the perfect output regulation of high-order fully actuated systems with invariant zeroes

Shunli Li — Harbin Institute of Technology
Guangren Duan — Harbin Institute of Technology
Bin Zhou — Harbin Institute of Technology

SaB01-5 17:20-17:40

0333 Adaptive Control of Nonlinear Systems with Parameter Uncertainty Based on the Fully Actuated System Approaches

Liji Wang — Nanjing University of Science and Technology
Zhicheng Wei — Nanjing University of Science and Technology
Huifang Min — Nanjing University of Science and Technology

SuB01-6 17:40-18:00

0522 FAS-Based Attitude Tracking Control with Prespecified-Time Sliding Mode for Rigid Spacecraft

Yan Jia — China University of Geosciences, Wuhan
Yi-Fan Li — China University of Geosciences
Qian Chen — China University of Geosciences
Teng-Fei Ding — China University of Geosciences
Ming-Feng Ge — China University of Geosciences

SaB02 三楼第一会议室 16:00-18:00

Invited Session: Fully Actuated System Theory and Applications Research Fund for Young Scholars (Harbin Institute of Technology, Shenzhen)

Chair: Yan Wang — Harbin Institute of Technology (Shenzhen)
Co-Chair: Zibo MIAO — Harbin Institute of Technology (Shenzhen)

SaB02-1 16:00-16:15

0410 Vision-Based Cooperative Transport for Two Mobile Robots in Communication-free Mapless Environments with Guaranteed Payload Safety

Renhe Guan — Harbin Institute of Technology (Shenzhen)
Yan Wang — Harbin Institute of Technology (Shenzhen)

SaB02-2 16:15-16:30

0480 Distributed Optimal Control of Large-scale Higher-order Fully Actuated Systems

Ziming Ding — Harbin Institute of Technology (Shenzhen)
Yan Wang — Harbin Institute of Technology (Shenzhen)

SaB02-3 16:30-16:45

0601 Population Transfer in Quantum Systems Based on Fully Actuated System Approach

Jia xiang Li — Harbin Institute of Techonlogy
Huilong Xu — School of Robotics and Advanced Manufacturing
Zibo MIAO — Harbin Institute of Technology (Shenzhen)

SaB02-4 16:45-17:00

0224 Prescribed-Time Control for a Class of Fully Actuated Rigid-Body Systems

Yingqi Zhu — Harbin Institute of Technology (Shenzhen)
Zhiyuan Dong — Harbin Institute of Technology (Shenzhen)

SaB02-5 17:00-17:15

0548 Predictor feedback control of linear time-invariant systems with distinct input delays

Shi-Long Shen — Harbin Institute of Technology (Shenzhen)
Yu Wang — Harbin Institute of Technology (Shenzhen)

SaB02-6 17:15-17:30

064 Flexible Formation and Obstacle Avoidance for multi-UAV system via Nutcracker Optimization and Trajectory Control

Zhihao Liu — Harbin Institute of Technology (Shenzhen)
Peng Li — Harbin Institute of Technology (Shenzhen)
Yangkun Zhang — Harbin Institute of Technology (Shenzhen)

SaB02-7 17:30-17:45

0171 Nonlinear Control of a Fully Actuated Robotic Hand Using High-Order Sliding-Mode Controller for Prosthetic Applications

ASRA SARWAT — Harbin Institute of Technology (Shenzhen)
Wenjie Lu — Harbin Institute of Technology (Shenzhen)
Jiaole Wang — Harbin Institute of Technology (Shenzhen)
Peng Li — Harbin Institute of Technology (Shenzhen)

SaB02-8 17:45-18:00

0803 Prescribed-time Trajectory Tracking Controller for Flexible-joint Manipulators: A High-order Fully Actuated System Approach

Hanbin Qiu — Harbin Institute of Technology (Shenzhen)
Jiahao Zhang — Harbin Institute of Technology (Shenzhen)
Ying Zhang — Harbin Institute of Technology (Shenzhen)

SaB03 三楼第四会议室 16:00-18:00

Invited Session: Recent Developments in Fully Actuated System Approach with System Uncertainties

Chair: Weizhen Liu Harbin Institute of Technology
Co-Chair: Menghua ZHANG Shandong University

SaB03-1 16:00-16:15

07 Inverse Reinforcement Learning for Optimal Control of Discrete-Time Fully Actuated System

Jinna Li Liaoning Petrochemical University
Mingwei Yang Liaoning Petrochemical University

SaB03-2 16:15-16:30

0639 First-Order Nonaffine SFSs: A FAS Approach Treatment

Guangren Duan Harbin Institute of Technology
Weizhen Liu Harbin Institute of Technology

SaB03-3 16:30-16:45

09 Inverse Optimal Control for high-order Nonlinear Systems in a Fully Actuated System

Xin Zhou Liaoning Petrochemical University
Jinna Li Liaoning Petrochemical University

SaB03-4 16:45-17:00

012 Fully Actuated System Approach to Adaptive Control for Underactuated Tower Crane Systems

Menghua Zhang Shandong University
Jing Zhao University of Macau
Weizhen Liu Harbin Institute of Technology

SaB03-5 17:00-17:15

065 Finite-time Sliding Mode Control of Uncertain Hydraulic Manipulator via High-Order Fully Actuated System Approach

Zhengsheng Chen China University of Mining and Technology
Mengyang Zhou China University of Mining and Technology
Weihao Dou China University of Mining and Technology
Honglei Che China Academy of Safety Science and Technology
Jiayin Liu China Academy of Safety Science and Technology
China University of Mining and Technology Beijing
Yang Tian Liyang 28th Institute System Equipment Co., Ltd

SaB03-6 17:15-17:30

0270 Improved Observer-based Fully Actuated System Approach to 3-DOF Quadrotor Control

Jianpeng Zou Southern University of Science and Technology
Weijie Ren Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology

SaB03-7 17:30-17:45

0284 A FAS Approach for Robust Trajectory Tracking Control of a 3-DOF Quadrotor

Junxiang Zhang Southern University of Science and Technology
Weijie Ren Southern University of Science and Technology
Yulin Duan Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology

SaB03-8 17:45-18:00

0300 Adaptive Neural Control for Flexible Joint Manipulators with Uncertainties: A Fully Actuated System Approach

Jinpeng Fan Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology
Weijie Ren Southern University of Science and Technology

SaB04 三楼第五会议室 16:00-18:00

Invited Session: Estimation and Control of Complex Systems with Periodic or Switched Time-Varying Characteristics; Control and Operation of Smart Grid

Chair: Xiaochen Xie Harbin Institute of Technology (Shenzhen)
Co-Chair: Chenchen Fan The Hong Kong Polytechnic University

SaB04-1 16:00-16:15

094 Reachable Set Estimation and Control Problems for Switched Singular Systems with Time Delays

Xinyue Zhang Dalian University of Technology

SaB04-2 16:15-16:30

0114 A Fourier-based Approach to Estimating Reachable Set for Periodic Time-varying Systems

Zhaoji Ling Harbin Institute of Technology (Shenzhen)
Xiaochen Xie Harbin Institute of Technology (Shenzhen)
James Lam The University of Hong Kong
Ka-Wai Kwok The Chinese University of Hong Kong

SaB04-3 16:30-16:45

0166 Robust Stabilization of Almost Periodically Switched Systems with Dwell Time Uncertainty

Chenchen Fan The Hong Kong Polytechnic University
Xiaochen Xie Harbin Institute of Technology (Shenzhen)

SaB04-4 16:45-17:00

0350 Leveraging Data Structure Storage for Optimal Triggering Control Design in Logical Dynamic Systems

Lin Lin The University of Hong Kong
Zhiyi Zhong The University of Hong Kong
James Lam The University of Hong Kong

SaB04-5 17:00-17:15

0362 Event-triggered control of periodic piecewise system subject to DoS attack

Daiyan Wu Guangdong University of Technology
Panshuo Li Guangdong University of Technology
Liheng Wan Guangdong University of Technology

SaB04-6 17:15-17:30

0409 Polynomial Interpolation-based Smooth Switching Control of Positive Switched Systems

Xiaoqi Song The University of Hong Kong
James Lam The University of Hong Kong

SaB04-7 17:30-17:45

0703 Disturbance Rejection Observer Parametric Design for Quadrotor with Suspended Payload via Fully Actuated System Approach

Bing Yan Nanjing University of Science and Technology
Yun Zou Nanjing University of Science and Technology

SaB04-8 17:45-18:00

0375 Trigger Criterion for Emergency Adjustment in Distribution Network Repair under Sudden Risks

Xinming Wang Nanjing University of Science and Technology
Sheng Cai Nanjing University of Science and Technology
Yunyun Xie Nanjing University of Science and Technology
Chen Yu NARI Group Corporation (State Grid Electric Power Research Institute)
Kang Chang NARI Group Corporation (SGRPRI)

SaB05 三楼第六会议室 16:00-18:00

Invited Session: Advanced Fault Diagnosis and Fault Tolerant Control Technology for Electric Machine Systems; 复杂动态系统鲁棒控制

Chair: Wenlong Li Nanjing University of Science and Technology
Co-Chair: 宋晓娜 河南科技大学

SaB05-1 16:00-16:15

0395 High-performance IPMSM Servo Drive using STSM Speed Control and Iterative MTPA Current Control

Hang Li Nanjing University of Science and Technology
Wenlong Li Nanjing University of Science and Technology

SaB05-2 16:15-16:30

0401 Decoupled Estimation of Resistance and Permanent Magnet Temperature of Permanent Magnet Synchronous Motor Based on Current Angle Injection

Chengtao Shi Sun Yat-sen University
Yuting Lu Sun Yat-sen University
Beichen Ding Sun Yat-sen University
Guodong Feng Sun Yat-sen University

SaB05-3 16:30-16:45

0452 Vector Space Decoupling and Negative-Sequence Component-Based Fault-Tolerant MPC for DTP- PMSMS

Haoran Liu Nanjing University of Science and Technology
Wenlong Li Nanjing University of Science and Technology
Jingheng Zhu Nanjing University of Science and Technology

SaB05-4 16:45-17:00

0516 Adaptive-Voltage-Vector-Selection Based Model Predictive Current Control for eVTOL Propulsion

Jingheng Zhu Nanjing University of Science and Technology
Wenlong Li Nanjing University of Science and Technology
Weiwei Geng Nanjing University of Science and Technology

SaB05-5 17:00-17:15

0578 Research on Fault Diagnosis Method Based on Probe Coil for Inter-Turn Short Circuit and Rotor Eccentricity

Baowang Huang Beijing Jiaotong University
Haoyue Tang China University of Mining and Technology
Shifan Luo Beijing Jiaotong University
Weili Li Beijing Jiaotong University
Haibin Wang Jing-Jin Electric Technologies Co., Ltd
Wenmao Liu Tsinghua University

SaB05-6 17:15-17:30

0833 An intelligent multi-fault diagnosis method for Asynchronous Motors based on Depth-Wise Convolutions Enhanced Transformer

Yutao Jiang Nanjing University of Science and Technology
Wenlong Li Nanjing University of Science and Technology
Qingling Zhao Nanjing University of Science and Technology
Qingyue Wu Nanjing University of Science and Technology

SaB05-7 17:30-17:45

0848 Adaptive Intermittent Control for Output Synchronization of Reaction-diffusion Neural Networks

Kaiwen Wang Henan University of Science and Technology
Xiaona Song Henan University of Science and Technology
Danjing Zheng Henan University of Science and Technology
Xubo Wang Henan University of Science and Technology

SaB05-8 17:45-18:00

0853 Quasi-Synchronization of Generalized Inertial Neural Networks Based on Adaptive Event-Triggered Control

Xubo Wang Henan University of Science and Technology
Xiaona Song Henan University of Science and Technology
Danjing Zheng Henan University of Science and Technology
Kaiwen Wang Henan University of Science and Technology

SaB06 三楼第七会议室 16:00-18:00

Invited Session: Distributed Estimation and Safety Control of Networked Systems; Control and Operation of Smart Grid

Chair: Lifeng Ma Nanjing University of Science and Technology
Co-Chair: Yunyun Xie Nanjing University of Science and Technology

SaB06-1 16:00-16:15

0174 Encoding-Based Fault-Tolerant Tracking for Distributed Multi-Agent Systems

Xi Wang University of Shanghai for Science and Technology

SaB06-2 16:15-16:30

0178 State Estimation of Complex-Valued Neural Networks with Leakage Delay: A Dynamic Event-triggered Approach

Bing Li Chongqing Jiaotong University

SaB06-3 16:30-16:45

0306 Model-Free Adaptive Tracking Control Under Homomorphic Encryption Mechanism

Dewei Wang University of Shanghai for Science and Technology
Shuai Liu University of Shanghai for Science and Technology
Yong Zhang Wuhan University of Science and Technology

SaB06-4 16:45-17:00

0394 A Dual-Channel Decision Fusion Framework Integrating Swin Transformer and ResNet for Multi-Speed Gearbox Fault Diagnosis

Hanyang Dou Nanjing University of Science and Technology
Lifeng Ma Nanjing University of Science and Technology
Chen Gao Nanjing University of Science and Technology
Yong Zhang Wuhan University of Science and Technology

SaB06-5 17:00-17:15

0456 Distributed Sequential Balance Control for Modular Multilevel Converter-Based Battery Energy Storage System

Zhichao Zhao Shanghai University of Electric Power
Licheng Wang Shanghai University of Electric Power
Zahoor Ahmed Shanghai University of Electric Power
Yong Zhang Wuhan University of Science and Technology

SaB06-6 17:15-17:30

0439 State Estimation With Location Privacy Protection

Shijie Yin Nanjing University of Science and Technology
Yulong Wang Kunming University of Science and Technology
Chenxiao Cai Nanjing University of Science and Technology
Hong Lin Zhejiang University

SaB06-7 17:30-17:45

0675 Research on AVC Performance Assessment of Power Grid under High Renewable Penetration

Zhaiqi Zhu Nanjing University of Science and Technology
Yunyun Xie Nanjing University of Science and Technology
Sheng Cai Nanjing University of Science and Technology
Yuping Zhang Nanjing University of Science and Technology
Dandan Zhu State Grid Jiangsu Electric Power Co.,Ltd. Electric Power Science Research institute
Qian Zhou State Grid Jiangsu Electric Power Co.,Ltd. Electric Power Science Research Institute

SaB06-8 17:45-18:00

0723 Operational Dispatch Strategy for Multi-energy Microgrid Considering Pulsed Load Characteristics

Jiahao Zhang Nanjing University of Science and Technology
Sheng Cai Nanjing University of Science and Technology
Xudong Wang Academy of Military Sciences
Xing Su Academy of Military Sciences
Yunyun Xie Nanjing University of Science and Technology

SaB07 三楼第八会议室 16:00-18:00

Invited Session: Fault Diagnosis and Fault-Tolerant Control of Fully Actuated Systems; Motor drive control, motion control, and servo control

Chair: Miao Cai Southeast University
Co-Chair: SUN LE Nanjing University of Science and Technology

SaB07-1 16:00-16:15

0104 High-Gain Observer-Based Fault-Tolerant Stabilisation for High-Order Sub-Fully Actuated Systems

Mengtong Gong Tsinghua University
Li Sheng China University of Petroleum (East China)
Donghua Zhou Tsinghua University

SaB07-2 16:15-16:30

0108 Optimal Allocation of Fully Actuated Energy Systems in Gas-to-methanol Processes

Xueteng Wang Shandong University of Science and Technology
Mengyao Wei Shandong University of Science and Technology
Jiandong Wang Shandong University of Science and Technology

SaB07-3 16:30-16:45

0110 Fault-Avoidant Control for Stochastic Fully Actuated Systems With Local Faults

Xueqing Liu Tsinghua University
Li Sheng China University of Petroleum (East China)
Donghua Zhou Tsinghua University

SaB07-4 16:45-17:00

0383 A New Ultrasonic Phased Array Scanning Method for Internal Inspection of Gas Pipelines

XuDong Yang China University of Petroleum (East China)
MingYan LIAO China University of Petroleum (East China)
Ming Gao China University of Petroleum (East China)
Zhongyu Chen China University of Petroleum (East China)
Li Sheng China University of Petroleum (East China)

SaB07-5 17:00-17:15

0295 Vibration Suppression of Flexible Manipulator Driven by PMLM Based on SO-LADRC

Sheng Tong Nanjing University of Science and Technology
Jianhu Yan Nanjing University of Science and Technology
Zhiyong Duan Nanjing University of Science and Technology
Yuanjun Song Nanjing University of Science and Technology

SaB07-6 17:15-17:30

0336 Multi-Objective Optimal Design and Fault-Tolerant Control of a Five-Phase Permanent Magnet Motor

Jing Xu Nanjing University of Science and Technology
Xuefeng Jiang Nanjing University of Science and Technology
Wangyang Zhou Nanjing University of Science and Technology
Huixin Luo Nanjing University of Science and Technology
Zhao Zhao CHONGQING TIEMA INDUSTRIES GROUP CO.,LTD.

SaB07-7 17:30-17:45

0352 Position Identification of PMSM Based on Second-Order Generalized Integrator under Hall Sensors Fault

Yuanjun Song Nanjing University of Science and Technology
Jianhu Yan Nanjing University of Science and Technology
Zhiyong Duan Nanjing University of Science and Technology
Long Zhang Nanjing University of Science and Technology

SaB07-8 17:45-18:00

0674 Position Control of Maglev Permanent Magnet Linear Motor Based on Adaptive Fast Terminal Sliding Mode

Long Zhang Nanjing University of Science and Technology
Jianhu Yan Nanjing University of Science and Technology
Yixing Wang Nanjing University of Science and Technology

SaB08 三楼第一教室 16:00-18:00

Invited Session: Complex Fully Actuated Systems Analysis and Control(1)

Chair: Zhengrong Xiang Nanjing University of Science and Technology
Co-Chair: Feng Shu Southwest Minzu University

SaB08-1 16:00-16:15

0134 Output-Feedback-Based Prescribed-Time Adaptive Vehicle Tracking Control

Rui Meng Henan University of Science and Technology
Linlin Li Henan University of Science and Technology
Yifan Zhao Henan University of Science and Technology
Fazhan Tao Longmen Laboratory
Nan Wang Henan University of Science and Technology

SaB08-2 16:15-16:30

0365 Sliding-mode Predefined-time Control for Full-drive Rigid Spacecraft with Unmodeled Dynamics

Jiaqi Xu China Jiliang University
Qiang Li China Jiliang University
Jun Mao China Jiliang University

SaB08-3 16:30-16:45

0386 Sampled-data control of a class of high-order fully actuated systems

Min Li Southwest Minzu University
Feng Shu Southwest Minzu University

SaB08-4 16:45-17:00

0454 MLP-based Fixed-time Neural Network Formation Control for Uncertain Multi-USVs with Nonsymmetric Dead Zone

Wei Cai Nantong University
Chang He Nantong University
Siyu Tang Nantong University
Xingyu Zhou Nantong University

SaB08-5 17:00-17:15

0507 Variable Convergence Rate Control of High-Order Nonlinear Impulsive Systems: A Fully Actuated System Approach

Yuanen Li Sun Yat-sen University
Xuefang Li Sun Yat-sen University
Wanquan Liu Curtin University

SaB08-6 17:15-17:30

0576 Asynchronous quantized H∞ filtering of singular nonhomogeneous Markov jump systems

Xinrui Li Hohai University
Mingang Hua Hohai University

SaB08-7 17:30-17:45

0661 Position Control of Artillery Shell Chain Rammer Based on Observer and Fully Actuated System Method

Jibin Dong Nanjing University of Science and Technology
Baolin Hou Nanjing University of Science and Technology
Zhao Wei Nanjing university od science and technology
Zhengrong Xiang Nanjing University of Science and Technology
Yuhang Meng Nanjing University of Science and Technology

SaB08-8 17:45-18:00

0674 Fault Diagnosis for Distributed Grids and Frontier Exploration of Machine Learning Methods

Wei Xu Shanghai Maritime University
Fuxiao Tan Shanghai Maritime University

SaB09 三楼第二教室 16:00-18:00

Invited Session: Complex Fully Actuated Systems Analysis and Control(2)

Chair: Zhaoxia Duan Hohai University
Co-Chair: Shengquan Li Yangzhou University

SaB09-1 16:00-16:15

0138 Sliding-Mode-Based Active Disturbance Rejection Control for Self-Balancing Transport Vehicle

Jianchao Zhao Qufu Normal University
Yunlong Liu Qufu Normal University
Xinyu Liu Qufu Normal University
ChaoXin Liang Qufu Normal University

SaB09-2 16:15-16:30

0778 Intersection-Level Turning Movement Flow Prediction Using An Adaptive Spatiotemporal Feature Fusion Network

Shuangshuang Li Linyi University
Yancheng Gong Linyi University
Chunhao Liu Nanjing University of Science and Technology
Zhaodong liu Linyi University
Guangyuan Pan Linyi University

SaB09-3 16:30-16:45

0214 Observer-Based Robust Control for Flexible Robotic Manipulators with Model Uncertainties via Fully Actuated System Approaches

Yuzhu Xiang Nanjing University of Science and Technology
Weiwei Yi Nanjing University of Science and Technology
Jian Guo Nanjing University of Science and Technology

SaB09-4 16:45-17:00

0243 Finite-Time Control of Amphibious Unmanned Surface Vehicles: Fully Actuated System Approach

Haoran Tang Nanjing University of science and technology
Yuhang Meng Nanjing University of Science and Technology
Zhengrong Xiang Nanjing University of Science and Technology

SaB09-5 17:00-17:15

0244 Predefined-Time Control for Unmanned Surface Vehicles with Actuator Attacks Based on Fully Actuated System Approaches

Wangchong Peng University of Science and Technology Liaoning
Yang Cui University of Science and Technology Liaoning

SaB09-6 17:15-17:30

0245 Full-actuated system approach for an amphibious unmanned surface vehicle based on fixed-time trajectory tracking controller

Yuhang Meng Nanjing University of Science and Technology
Haoran Tang Nanjing University of Science and Technology
Dong Wu Nanjing University of Science and Technology
Zhengrong Xiang Nanjing University of Science and Technology

SaB09-7 17:30-17:45

0305 Real-Time Object Grasping and Placement in Dynamic Environments via Model-Based Policy Gradient

Yujing Li Nanjing University of Science and Technology
Shihong Yin Nanjing University of Science and Technology
Xizhe Chen Nanjing University of Science and Technology
Zhengrong Xiang Nanjing University of Science and Technology

SaB09-8 17:45-18:00

0330 Extended State Observer-based Hierarchical Objective Optimization Model-free Predictive Control for Three-level NPC Inverter

Ziyuan Yang Yangzhou University
Shengquan Li Yangzhou University
Shiqi Kan Yangzhou University
Kaiwen Cao Yangzhou University
Juan Li Southeast University

SaB10 三楼第三教室 16:00-18:00

Invited Session: 多智能体系统协同控制与优化; Artificial Intelligence for Smart Manufacturing and Industrial Control

Chair: 宋程 南京理工大学
Co-Chair: 樊渊 安徽大学

SaB10-1 16:00-16:15

0201 Fully Actuated System Approach to Trajectory Tracking Control of Robot Manipulator with Disturbance

Huanhuan Zhao Anhui University
Yuchao Guo Anhui University
Yuan Fan Anhui University

SaB10-2 16:15-16:30

0207 带未知有界测量误差的多智能体动态最大一致性

袁雨菲 南京理工大学
陶雨瑶 南京理工大学
宋 程 南京理工大学

SaB10-3 16:30-16:45

0208 带未知有界扰动和速度约束的二阶多智能体环形编队控制

陶雨瑶 南京理工大学
袁雨菲 南京理工大学
宋 程 南京理工大学

SaB10-4 16:45-17:00

0210 边界区域上带位置和速度约束的多智能体编队控制

贺勇钦 南京理工大学
宋 程 南京理工大学

SaB10-5 17:00-17:15

0332 Influence of the Discretization Methods for the Model of Lithium-ion Battery

Zepei Zhang Anhui University
Yuan Fan Anhui University
Huyong Kuang Anhui University

SaB10-6 17:15-17:30

0686 带有测量误差和输入饱和约束的多智能体系统正一致性

马屈超 南京理工大学
宋 程 南京理工大学

SaB10-7 17:30-17:45

0835 Hybrid Dynamic Event-triggered Fixed-time Circumnavigation Control for Multiagent Systems

Yinya Li Nanjing University of Science and Technology
Xin Wang Nanjing University of Science and Technology
Guoqing Qi Nanjing University of Science and Technology
Baoxing Zhu Nanjing University of Science and Technology

SaB10-8 17:45-18:00

0856 Research on workshop layout based on hybrid optimization of sparrow algorithm and Hippo optimization algorithm

JieFei Qin Henan University of Science and Technology
Lin Wang Henan University of Science and Technology
Xuhui Zhao Henan University of Science and Technology
Wang Feng CITIC Heavy Industries Co.,Ltd
Liu Muhua Henan University of Science and Technology
Zhihang Ji Henan University of Science and Technology

SaB11 四楼茉莉厅 + 蔷薇厅 16:00-18:00

Invited Session: Application of Fully Actuated System Theory to Mechanical Systems

Chair: Wei Sun Liaocheng University
Co-Chair: Zhongcai Zhang Qufu Normal University

SaB11-1 16:00-16:15

096 Hysteresis Inverse Compensation-Based Synchronous Control for Pneumatic Artificial Muscle-Actuated Parallel Robots

Shuzhen Diao Nankai University
Gendi Liu Nankai University
Xinlin Zhang Nankai University
Tong Yang Nankai University
Qingxiang Wu Nankai University
Ning Sun Nankai University

SaB11-2 16:15-16:30

0132 Event-trigger adaptive dynamic programming-based coordinate control of modular unmanned system

Tianjiao An Changchun University of Technology
HaoXuan Jing Changchun University of Technology
Bing Ma Changchun University of Technology
Hongbo Dong Changchun University of Technology
Bo Dong Changchun University of Technology
Zhenguo Zhang Changchun University of Technology

SaB11-3 16:30-16:45

0173 Adaptive Control for Uncertain High-Order Fully Actuated Nonlinear Systems With Deferred Constraint

Huarong Yue Liaocheng University
Jianwei Xia Liaocheng University

SaB11-4 16:45-17:00

0191 Event-Triggered Control Based on Neural-Network Observer for Descriptor Jump Systems Against DoS Attacks

Mengjuan Hao Liaocheng University
Yanran Fu Liaocheng University
Yanan Meng Liaocheng University
Zhihao Wang Liaocheng University
Zihan Zhao Liaocheng University
Xuetong Zhang Liaocheng University
Guangming Zhuang Liaocheng University

SaB11-5 17:00-17:15

0192 Tracking Control of Strict-Feedback System Based on Fully Actuated System Approach

Wenhui Ning Qufu Normal University
Zhongcai Zhang Qufu Normal University

SaB11-6 17:15-17:30

0230 Adaptive Self-triggered Prescribed-time Tracking Control for Underactuated Surface Vessels

Huixuan Dong Liaocheng University
Wei Sun Liaocheng University
Wenxing Yuan Liaocheng University

SaB11-7 17:30-17:45

0231 Prescribed-Time Tracking for Second-order CPSs Against Deception Attacks via Fully Actuated System Approach

Yifan Wang Liaocheng University
Wei Sun Liaocheng University

SaB11-8 17:45-18:00

0203 A YOLO-based algorithm for detecting key components on subway train roof

Ning Liu Nanjing University of Science and Technology
Juhui Zhang Nanjing University of Science and Technology
Zongyi Xing Nanjing University of Science and Technology
Peng Zhou Nanjing University of Science and Technology
Hui Fei Zhang Guangzhou Engineering Branch China Railway Signal&Communication Cor

SaB12 四楼荷花厅 16:00-18:00

Invited Session: Recent Advances on Nonlinear Dynamic Systems Based on Fully Actuated System Theory

Chair: Yongyuan Yu Shandong University
Co-Chair: Shuai Liu Shandong University

SaB12-1 16:00-16:15

022 Event-triggered control for large-scale systems with unknown coefficients and actuator faults: A fully actuated system approach

Yueyao Ye Shandong University
Yiyu Feng Shandong University
Xianfu Zhang Shandong University

SaB12-2 16:15-16:30

0791 Networked Adaptive Backstepping Control for A Class of Strict-Feedback Nonlinear Systems Using Event-Triggered Output and Control Signals

Xinmi Liu Shandong University
Tingting Cheng Shandong University
Dawei Zhang Shandong University

SaB12-3 16:30-16:45

0817 Stochastic Event-Triggered Fault-Tolerant Control of Linear Systems Against Multi-Channel Stochastic Actuator Faults

Xuan Yang Shandong University
Na Pang Shandong University
Dawei Zhang Shandong University

SaB12-4 16:45-17:00

034 Further Results on Full-Actuation of Linear Boolean Control Networks

Yuanpeng Ding Shandong University
Yunsi Yang Shandong University
Jun-e Feng Shandong University
Yongyuan Yu Shandong University

SaB12-5 17:00-17:15

049 Fully-actuated System Approach Based Trajectory Tracking Control of Wheeled Mobile Robots

Yao-Wei Wang Wuhan University of Science and Technology
DuFei Zhang Wuhan University of Science and Technology
Qi Wu Zhejiang University of Technology
Xiang Wu Zhejiang University of Technology
Cao-Yuan Gu Zhejiang University of Technology

SaB12-6 17:15-17:30

085 On Fully Actuated Boolean Control Networks

Zewei Li Shandong University
Yongyuan Yu Shandong University

SaB12-7 17:30-17:45

0133 Improved Terminal Sliding Mode Control with Voltage-Current Dual-Loop Regulation on Dual Active Bridge Converter

Sen Yang Shandong University
Xi Wen Shandong University
Mengmeng Jing Shandong University
Xiangyang Xing Shandong University

SaB12-8 17:45-18:00

0356 Event-Triggered Control for High-Order Fully Actuated Strict-Feedback Nonlinear Systems

zifan liu Shandong University
Lantao Xing Shandong University

Sunday, July 6, 2025 上午

SuA01 四楼牡丹厅 10:45-12:30

Invited Session: Fully Actuated System Theory and Applications Research Fund for Young Scholars (Shanghai Jiao Tong University)

Chair: Xiang Yin Shanghai Jiao Tong University
Co-Chair: Ziwen Yang Shanghai Jiao Tong University

SuA01-1 10:45-11:00

0165 Adaptive Bearing-based Target Entrapping Control of Autonomous Underwater Vehicles Using Fully Actuated System Approach

Haifan Su Shanghai Jiao Tong University
Ziwen Yang Shanghai Jiao Tong University
Shanying Zhu Shanghai Jiao Tong University
Cailian Chen Shanghai Jiao Tong University

SuA01-2 11:00-11:15

0179 Bearing-Only Circumnavigation of a Varying Velocity Target for AUV Based on Fully Actuated System Approach

Zhaoming Zhang Shanghai Jiao Tong University
Haifan Su Shanghai Jiao Tong University
Ziwen Yang Shanghai Jiao Tong University
Shanying Zhu Shanghai Jiao Tong University

SuA01-3 11:15-11:30

0260 Tracking Control of Quadrotors Based on a High-Order Fully Actuated System Approach

Zeyuan Zhao Shanghai Jiao Tong University
Xianwei Li Shanghai Jiao Tong University

SuA01-4 11:30-11:45

0364 High-Order Fully Actuated System Approaches: Trajectory Tracking of AGVs Based on Model Predictive Control

Tailai Cao Shanghai Jiao Tong University
Zhaoming Zhang Shanghai Jiao Tong University
Ziwen Yang Shanghai Jiao Tong University
Shanying Zhu Shanghai Jiao Tong University

SuA01-5 11:45-12:00

0492 Fully Actuated Approach for Safety-Critical Control of Underactuated Systems via Differential Flatness

Xiang Jia Central South University
Bochen Li Shanghai Jiao Tong University
Chenggang Wang Shanghai Jiao Tong University
Lei Song Shanghai Jiao Tong University
Dan Huang Shanghai Jiao Tong University
Xuanmin Du HanJiang Laboratory

SuA01-6 12:00-12:15

0704 Dynamic Anti-windup Design for Nonlinear High-order Fully Actuated Systems with Actuator Saturation

Lin Yang Shanghai Jiao Tong University
Yuanlong Li Shanghai Jiao Tong University

SuA01-7 12:15-12:30

0829 Prescribed Performance-Based Anti-windup Design for Nonlinear Fully Actuated Systems with Actuator Saturation

Lin Yang Shanghai Jiao Tong University
Yuanlong Li Shanghai Jiao Tong University

SuA02 三楼第一会议室 10:45-12:15

Invited Session: Optimization and Learning Control of Networked Systems based on Fully Actuated System Theory

Chair: Guanglei Zhao Yanshan University
Co-Chair: Fangzhou Fu, Sun Yat-sen University

SuA02-1 10:45-11:00

0367 Predictive control of underdriven gantry cranes based on High-order Fully Actuated system

Zhang Heng Yanshan University
Weili Ding Yanshan University
Changchun Hua Yanshan University
Biao Lu Nankai University

SuA02-2 11:00-11:15

0414 Intelligent Control of Hydraulic Excavators Based on Data-Driven GPC and High-Order Fully Actuated Systems

Xin Wen Yanshan University
Zhe Guan Yanshan University
Kuo Chen Yanshan University
Changchun Hua Yanshan University

SuA02-3 11:15-11:30

0627 Design of a PPO-PID Controller based on Reinforcement Learning

Lingyun Zhou School of Electrical Engineering
Zhe Guan Yanshan University
Changchun Hua Yanshan University
Yafeng Li Institute of Electrical Engineering, Yanshan University

SuA02-4 11:30-11:45

0702 Adaptive Fixed-time Control of High-order Fully Actuated Systems Using Dynamic Regressor Extension and Mixing Estimators

Yu Zhang Yanshan University
Yixu Cai Yanshan University
Keli Pang Yanshan University
Licui Zhao Yanshan University
Changchun Hua Yanshan University

SuA02-5 11:45-12:00

0752 Distributed Self-Triggered Formation Control for Fixed-Wing UAVs with Velocity and Overload Limits

Mingyang Wei Yancheng Normal University
Yuheng Wei Yancheng Teachers University
Jiayi Chen Yancheng Teachers College Tongyu Campus
Yong Chen Yancheng Normal University
Wei Guo Yancheng Normal University
Jin Zhenghong Nanyang Technological University
Zhanxiu Wang Northeastern University

SuA02-6 12:00-12:15

0577 Containment Control of Linear Heterogeneous Multi-agent Systems with Time Delay

ShuQi Chen Shenyang University of Technology
Adiya Bao Northeastern University
Zhanxiu Wang Northeastern University
Xiaoming Su Shenyang University of Technology

SuA03 三楼第二会议室 10:45-12:15

Invited Session: New Development on Nonlinear Systems and Its Applications（1）

Chair: Ping Li Southern University of Science and Technology
Co-Chair: Ping Wang Southern University of Science and Technology

SuA03-1 10:45-11:00

0280 Tracking Control for Cart-pole Pendulum System Based on Fully Actuated System Theory

Haowen Liu Southern University of Science and Technology
Weijie Ren Southern University of Science and Technology
Ping Li Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology

SuA03-2 11:00-11:15

0640 Second-Order Nonaffine SFSs: A FAS Approach Treatment

Guang-Ren Duan Harbin Institute of Technology
Ping Wang Southern University of Science and Technology

SuA03-3 11:15-11:30

0693 Event-Triggered Cooperative Output Regulation for MASs with Prescribed Time Constraints

Qinghua Hou Dalian Maritime University
Xudong Zhao Dalian University of Technology

SuA03-4 11:30-11:45

0694 Controller synthesis for T-S fuzzy systems based on premise variable-dependent H∞ performance

Qinghua Hou Dalian Maritime University
Xudong Zhao Dalian University of Technology

SuA03-5 11:45-12:00

0296 Parametric Design of Controller for Cube Robot Based on Fully Actuated System Approach

Zixun Wang Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology
Ping Li Southern University of Science and Technology

SuA03-6 12:00-12:15

0320 Predictor Design and Delay Robustness Analysis for LTI Systems with State and Input Delays: A Fully Actuated System Approach

Xujie Zhang Harbin Institute of Technology (Shenzhen)
Guangren Duan Harbin Institute of Technology

SuA04 三楼第三会议室 10:45-12:15

Invited Session: Development on Nonlinear Systems and Its Applications （2）

Chair: Yuzhong Wang The University of Hong Kong
Co-Chair: Dan Ma Northeastern University

SuA04-1 10:45-11:00

0379 A High step-up Common ground Thirteen-Level Switched-Capacitor Inverter with Reduced Components Count

Yicong Li Nanjing University of Science and Technology
Jia Yao Nanjing University of Science and Technology

SuA04-2 11:00-11:15

0390 Event-Based Prescribed Performance Control for Thermoacoustic Systems with Unknown Flame Response: A Fully Actuated System Approach

Yuzhuo Zhao Northeastern University
Dan Ma Northeastern University
Yuzhong Wang The University of Hong Kong

SuA04-3 11:15-11:30

0391 Output Tracking Control of Mobile Wheeled Inverted Pendulum with State Estimation via Fully Actuated System Approach

Shengjia Chen Southern University of Science and Technology
Haowen Liu Southern University of Science and Technology
Ping Li Southern University of Science and Technology

SuA04-4 11:30-11:45

0399 Adaptive Fuzzy Tracking Control for a Single-Link Flexible Joint Manipulator System Based on the Fully Actuated System Approaches

Zhu meng Bohai University
Wen Bai Bohai University
Huanqing Wang Bohai University

SuA04-5 11:45-12:00

0453 A Fully Actuated System Approach to Adaptive Control for Half-Car Active Suspension Systems

Tan Wang Southern University of Science and Technology of China
He Kong Southern University of Science and Technology
Ping Li Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology

SuA04-6 12:00-12:15

0609 Mixed-Order Nonaffine Strict-Feedback Systems: A FAS Approach Treatment

Guang-Ren Duan Harbin Institute of Technology
Ping Li Southern University of Science and Technology

SuA05 三楼第四会议室 10:45-12:15

Invited Session: 面向高端智能装备的感知、控制与优化

Chair: 孙维超 哈尔滨工业大学
Co-Chair: 李湛 哈尔滨工业大学

SuA05-1 10:45-11:00

0431 APCB SMD Solder Quality Inspection Method Based on Dual-Path Region Segmentation and Color Clustering

Yang Cheng Harbin Institute of Technology
Jinyong Yu Harbin Institute of Technology
Weihua Liu Yongjiang Laboratory

SuA05-2 11:00-11:15

0515 Subpixel Measurement Method for Surface Mount Devices Based on Edge Tracing

Weihua Liu Yongjiang Laboratory
Yi Peng Liu Harbin Institute of Technology
Chungang Han Harbin Institute of Technology

SuA05-3 11:15-11:30

0776 Robust Identification of Linear Dynamical Systems with Skew-Heavy-Tailed Mixture

Kaihang Yu Harbin Institute of Technology
Sen Li Harbin Institute of Technology
Xinpeng Liu Dalian University of Technology
Xianqiang Yang Harbin Institute of Technology

SuA05-4 11:30-11:45

0122 Dynamic Temperature Simulated Annealing Algorithm for the PCB Assembly Process

Lilong Yang Harbin Institute of Technology
Yuhang Bi Harbin Institute of Technology
Zhitai Liu Harbin Institute of Technology
Zhan Li Harbin Institute of Technology
Weichao Sun Harbin Institute of Technology

SuA05-5 11:45-12:00

0212 Cooperative Output Feedback Tracking Control of Heterogeneous Multi-Agent Systems under Markovian Switching Topologies and Multiple Measurement Noises

Wenjing Wan Harbin Institute of Technology
Zhao-Yan Li Harbin Institute of Technology

SuA05-6 12:00-12:15

0123 Event-triggered Adaptive Robust Fault-tolerant Control for Interconnected Systems with Flexible Prescribed Performance

Jingbo Yang Harbin Institute of Technology
Shenglin Hu Harbin Institute of Technology
Zhitai Liu Harbin Institute of Technology
Zhan Li Harbin Institute of Technology
Weichao Sun Harbin Institute of Technology

SuA06 三楼第五会议室 10:45-12:15

Invited Session: 基于全驱系统方法的约束控制、自适应控制及其应用

Chair: 王 茜 杭州电子科技大学
Co-Chair: 黄秀韦 广东工业大学

SuA06-1 10:45-11:00

0028 Discrete-Time HOFA Adaptive Control for A Type of Combined Spacecraft with Unknown Parameters and State Delays

Kaixin Cui Taiyuan University of Technology
Hao Lu Harbin Institute of Technology

SuA06-2 11:00-11:15

0035 Fully Actuated System Models for Systems in System Upper Hessenberg Form

Shiyu Zhang Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology

SuA06-3 11:15-11:30

0046 Robust Adaptive Guaranteed Cost Tracking Control for Flexible Joint Robot Based on FAS approach

Liyao Hu Anhui University of Science and Technology
Yajun Gao Beijing Institute of Control and Electric Technology

SuA06-4 11:30-11:45

0048 Adaptive backstepping tracking control of space manipulator based on neural network

Qin Zhao Ningbo University of Technology
Guang-Ren Duan Harbin Institute of Technology

SuA06-5 11:45-12:00

0052 Predefined-time sliding mode control for robotic arm based on fully actuated system approaches

Qian Wang Hangzhou Dianzi University
Jiahao Shi Hangzhou Dianzi University
Zhaoyang Leng Hangzhou Dianzi University

SuA06-6 12:00-12:15

0485 Event-Triggered Prescribed-Time Non-adaptive Control for Uncertain Fully Actuated Nonlinear Systems

Wenlong Pan Yanshan University
Changchun Hua Yanshan University
Pengju Ning Yanshan University

SuA07 三楼第六会议室 10:45-12:15

Invited Session: 基于全驱系统理论的航天器姿态与轨道控制

Chair: 钱霙婧 北京工业大学
Co-Chair: 陈立群 北京工业大学

SuA07-1 10:45-11:00

0149 Unwinding-Free Performance of a Sliding-Mode Spacecraft Pose Controller Designed by Fully Actuated System Approaches

Fuzheng Xiao Harbin Institute of Technology (Shenzhen)
Yongheng Yu Harbin Institute of Technology
Liqun Chen Harbin Institute of Technology (Shenzhen)

SuA07-2 11:00-11:15

0329 Attitude-orbit Coupling Control Based on the Fully-actuated Systems Approach Utilizing Dual Quaternion

Xuesong Li Beijing University of Technology
Yingjing Qian Beijing University of Technology

SuA07-3 11:15-11:30

0470 基于二阶锥规划的环火轨道仅测角自主交会制导方法

胡楚逸 南京航空航天大学
龚柏春 南京航空航天大学
马艳红 北京控制工程研究所
杨思亮 深空探测实验室

SuA07-4 11:30-11:45

0587 基于状态扩展的非仿射欠驱动系统高阶全驱动建模与控制方法

邢桂君 南京航空航天大学
陈 提 南京航空航天大学

SuA07-5 11:45-12:00

0589 LESO-MPC-Based Control for Test Mass Capture in the Release Phase of Gravitational Wave Detection Satellites

Rongqing Yu Harbin Institute of Technology
Yan Xiao Harbin Institute of Technology
Dong Ye Harbin Institute of Technology

SuA07-6 12:00-12:15

0617 Research on Chance-Constrained Robust MPC Method for Rendezvous with Space Tumbling Targets

Mingliang Wang Shenyang Aerospace University
Kaikai Dong Shenyang Aerospace University
Yuxi Zhang Shenyang Aerospace University

SuA08 三楼第七会议室 10:45-12:15

Invited Session: Stochastic Control with Constraints

Chair: Juanjuan Xu Shandong University
Co-Chair: Wei Wang Shandong University

SuA08-1 10:45-11:00

0168 Nash Equilibrium of Two-player Stochastic Difference Game with Given Terminal State

Qiangqiang Zhu Shandong University
Juanjuan Xu Shandong University

SuA08-2 11:00-11:15

0216 Exact Controllability of Discrete-Time Rational Expectations Model

Wenjing Wang Shandong University
Wei Wang Shandong University
Juanjuan Xu Shandong University

SuA08-3 11:15-11:30

0227 Optimal Control for Networked Systems with Multiple Delays and Packet Losses

Xinyu Jiang Linyi University
Xincheng Liu Linyi University
Xianggang Zhao Linyi University
Jingmei Liu Linyi University
Xiao Ma Linyi University
Xiao Liang Linyi University

SuA08-4 11:30-11:45

0242 The Linear Quadratic Difference Nash Game under d-Step-Delay Information Sharing Pattern

Wenyu Xu Linyi University
Xiao Liang Linyi University
Fengzeng Zhu Linyi University
Nana Jin University of Jinan
Jingmei Liu Linyi University

SuA08-5 11:45-12:00

0532 An Encoding-Decoding-Based State Estimation Scheme Considering Time Delay in Time-Correlated Fading Channels

Qiaoyu Yin School of Electrical Engineering University of Jinan
Guiru Wang School of Electrical Engineering University of Jinan
Chunyan Han University of Jinan
Wei Wang Shandong University

SuA08-6 12:00-12:15

0546 Mean-square Bounded Consensus for Multiple Underwater Biomimetic Vehicle-Manipulators with Packet Losses and Additive Noise

Hongyu Ma Shandong University
Wei Wang Shandong University
Chunyan Han University of Jinan

SuA09 三楼第八会议室 10:45-12:15

Invited Session: Theory and Application of Multimodal Control for Nonlinear Robotic Systems

Chair: Lu Minghao The University of Hong Kong
Co-Chair: Yihang Ding Harbin Institute of Technology

SuA09-1 10:45-11:00

0205 Bumpless Transfer Switching Model Predictive Control for Switched Linear Systems with Average Dwell Time

Yunpeng Li Harbin Institute of Technology
Lixian Zhang Harbin Institute of Technology
Yuejiang Han Harbin Institute of Technology
Tong Wu Harbin Institute of Technology
Yuting Ma Harbin Institute of Technology
Shengao Lu Harbin Institute of Technology

SuA09-2 11:00-11:15

0282 Stability Analysis and Fuzzy Control for Singular Switched Systems with Nonlinear Dynamics

Yuting Ma Harbin Institute of Technology
Jianan Yang Harbin Institute of Technology
Xiyang Zhi Harbin Institute of Technology
Jian Chen Harbin Institute of Technology
Lixian Zhang Harbin Institute of Technology

SuA09-3 11:15-11:30

0323 A Multimodal Optimal Control Approach for Fast Obstacle Avoidance of UAVs

Minghao Lu The University of Hong Kong

SuA09-4 11:30-11:45

0256 One-Step Ahead Optimal Strategy for Opinion Dynamic Games among Competitive Groups

Guoqing Cai Wuhan University of Science and Technology
Qingsong Liu Wuhan University of Science and Technology

SuA09-5 11:45-12:00

0428 A Study on Fuzzy Sliding Mode Control of PMSM Based on Fractional-Order Extended State Observer

Fangchao Wang Northeast Forestry University
Baolong Chen Northeast Forestry University
Haocheng Wang Northeast Forestry University
Yu Zhang Harbin Engineering University

SuA09-6 12:00-12:15

0475 Bumpless transfer control of Asynchronously Switched Linear Systems with Stochastic Mode-Dependent Sojourn-Time

Yihang Ding Harbin Institute of Technology
Ye Liang Northeast Forestry University
Jianan Yang Harbin Institute of Technology
Yifei Dong Harbin Institute of Technology
Lixian Zhang Harbin Institute of Technology

SuA10 三楼第一教室 10:45-12:15

Invited Session: Game theory, fully actuated system and intelligent control

Chair: Rui Li University of Electronics Science and Technology of China
Co-chair: Xiaojie Chen University of Electronics Science and Technology of China

SuA10-1 10:45-11:00

0148 Finite-Time Substabilization for Nonholonomic Systems with Time Delay: A Fully Actuated System Approach

Xue Zhang Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology

SuA10-2 11:00-11:15

0157 Robust Control Based on Unknown Input Disturbance Observer for Fully Actuated Systems

Hong Jiang Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology

SuA10-3 11:15-11:30

0276 Trajectory Tracking Control of Lunar Explorer Operation Robotic Manipulator Based on Fully Actuated System Approach

Jing Xu Sichuan University
Kai Zhang Sichuan University
Yue Wu Southwest Jiaotong University
Zhaoke Ning Sichuan University

SuA10-4 11:30-11:45

0286 Fully Actuated System with an Unknown State: A Bearing-only Circumnavigation Case

Shida Cao Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology

SuA10-5 11:45-12:00

0308 Impact of state feedback on evolution of cooperation in infinite and finite populations

Qiushuang Wang University of Electronic Science and Technology of China
Xiaojie Chen University of Electronic Science and Technology of China

SuA10-6 12:00-12:15

0684 Distributed Optimization of High-Order Multi-Agents Based on Activatable Event-Triggering Mechanisms

Lihui Qian Huazhong University of Science and Technology
Yong Wang Huazhong University of Science and Technology
Yu Xu Huazhong University of Science and Technology
Housheng Su Huazhong University of Science and Technology

SuA11 三楼第二教室 10:45-12:15

Invited Session: Networked Nonlinear System Control and Application Based on Fully Actuated System

Chair: Cuihua Zhang Yanshan University
Co-chair: Zhengyan Qin Northeastern University

SuA11-1 10:45-11:00

0275 3D Reconstruction of Cables for Live-Working Robots in Distribution Networks

Jingtao Yan Nanjing University of Science and Technology
Liaoxue Liu Nanjing University of Science and Technology
Jian Guo Nanjing University of Science and Technology
Yu Guo Nanjing University of Science and Technology

SuA11-2 11:00-11:15

0281 Local Input-to-State Lyapunov Function Based Small-Gain Theorem for Nonlinear Systems

Sijia Wang Shenyang University of Techology
Adiya Bao Northeastern University
Zhanxiu Wang Northeastern University
Xiaoming Su Shenyang University of Technology

SuA11-3 11:15-11:30

0351 Event-Triggered Robust Control Combined With High-Order Backstepping for Pure Feedback Nonlinear Systems with Uncertainty

Yi Liang Yanshan University
Luhan Zhang Yanshan University
Cuihua Zhang Yanshan University
Ying Zhang Yanshan University
Changchun Hua Yanshan University

SuA11-4 11:30-11:45

0372 Adaptive Fixed-Time Switching Threshold Control for Uncertain Nonlinear Systems with Unknown Control Coefficients

Yuxuan Liu Yanshan University
Zeyun Hu Yanshan University
Cuihua Zhang Yanshan University
Ying Zhang Yanshan University
Changchun Hua Yanshan University

SuA11-5 11:45-12:00

0462 Design of a Data-Driven Adaptive Controller based on FF-ITDL for High-Order Fully Actuated Systems

Yonghe Fu Yanshan University
Zhe Guan Yanshan University
Hao Yu Beijing Institute of Technology
Changchun Hua Yanshan University

SuA11-6 12:00-12:15

0479 3D Reconstruction and Pose Estimation of Non-cooperative Objects Based on Structure from Motion

Xinrui Huang Nanjing University of Science and Technology
Yiman Zhu Nanjing University of Science and Technology
Lu Wang Nanjing University of Science and Technology
Liaoxue Liu Nanjing University of Science and Technology
Yu Guo Nanjing University of Science and Technology

SuA12 三楼第三教室 10:45-12:15

Invited Session: Interval Estimation of Complex Systems

Chair: Xiaoling Wang Shanghai Jiao Tong University
Co-chair: Housheng Su Huazhong University of Science and Technology

SuA12-1 10:45-11:00

0648 Hybrid Dynamic Event-Triggered State Observer for Nonlinear Systems Satisfying Incremental Quadratic Constraints

Tao Su Soochow University
Yuan Sun Soochow University
Jun Huang Soochow University
Keya Huang Soochow University

SuA12-2 11:00-11:15

0649 Finite-Time Interval Observer Design for Four-Mecanum-Wheeled Mobile Vehicle

Jingyi Wu Soochow University
Jun Huang Soochow University
Yueyuan Zhang Soochow University

SuA12-3 11:15-11:30

0651 Nonblocking Supervisory Control with Finite-step Constraints in Agent-Task Systems

Kaifeng Li Nanjing University of Posts and Telecommunications
Xiaoling Wang Shanghai Jiao Tong University
Miaohong Luo Huazhong University of Science and Technology
Yali Wu Huazhong University of Science and Technology
Housheng Su Huazhong University of Science and Technology

SuA12-4 11:30-11:45

0679 Distributed Interval Observer Design over Directed Switching Topologies

Ning Cao Nanjing University of Posts and Telecommunications
Xiaoling Wang Shanghai Jiao Tong University

SuA12-5 11:45-12:00

0680 On distributed observer design of a descriptor system

Feixiong Li Nanjing University of Posts and Telecommunications
Xiaoling Wang Shanghai Jiao Tong University

SuA12-6 12:00-12:15

0683A Fixed-Time Distributed Optimization Algorithm Based on Dynamic Event-Triggered Strategy

Yu Xu Huazhong University of Science and Technology
Yong Wang Huazhong University of Science and Technology
Lihui Qian Huazhong University of Science and Technology
Housheng Su Huazhong University of Science and Technology

SuA13 四楼友谊厅 10:45-12:15

Invited Session: Intelligent Perception, Decision and Autonomous Control in Aerospace

Chair: Jianbin Qiu Harbin Institute of Technology
Co-Chair: Min Li Harbin Institute of Technology

SuA13-1 10:45-11:00

0113 Predefned-Time Adaptive Sliding Mode Control for Multi-Agent Systems

Shida Xun Hebei University of Technology
Jiayou Guan Hebei University of Technology
Zuojun Liu Hebei University of Technology
Wei Zhang Hebei University of Technology
Wenqiang Ji Hebei University of Technology
Qifu Qu China Aerospace Academy of Systems Science and Engineering

SuA13-2 11:00-11:15

0217 DDPGRU: Enhancing DDPG with a GRU-Based Actor Network for Capturing Temporal Dependencies in State Dynamics

Yi Zhou Harbin Institute of Technology
Chuanjun Guo Harbin Institute of Technology
Tianhao Zhang Harbin Institute of Technology
Zijing Li Harbin Institute of Technology
Jianbin Qiu Harbin Institute of Technology

SuA13-3 11:15-11:30

0218 Prescribed Performance Control for Attitude Tracking of Spacecraft via High-Order Fully Actuated System Approach and Extended State Observer

Dongyan Jin Harbin Institute of Technology
Tianhao Zhang Harbin Institute of Technology
Yichuan Fu Harbin Institute of Technology
Jianbin Qiu Harbin Institute of Technology

SuA13-4 11:30-11:45

0366 Turn-based Sequential Game under Impulsive Control with Perceptual Delay

Wanying Gao Beijing Institute of Control Engineering
Jianfa Wu Beijing Institute of Control Engineering
Chunling Wei Beijing Institute of Control Engineering

SuA13-5 11:45-12:00

0455 Lane-changing and Overtaking Trajectory Planning for Autonomous Vehicles Based on Control Barrier Functions

Jinfei Hu Shanghai Normal University, Tianhua College
Wenjie Mao Tongji University
Yiqun Liu Tongji University
Lifei Dai Tongji University
Changzhu Zhang Tongji University

SuA13-6 12:00-12:15

0796 Optimal Quantized Feedback Control for the Linear-Quadratic-Gaussian System with Input Delay

Xinyu Jiang Linyi University
Xincheng Liu Linyi University
Boqun Tan School of Automation and Electrical Engineering, Linyi University
Xianggang Zhao Linyi University
Huiling Chen Shandong university of Science and Technology
Xiao Liang Linyi University

Sunday , July 6 , 2025下午

SuB01 四楼牡丹厅 13:30-15:30

Invited Session: Fully Actuated System Theory and Applications Research Fund for Young Scholars ((Yanshan University)

Chair: Guopin Liu Electrical engineering
Co-Chair: Yafeng Li Institute of Electrical Engineering, Yanshan University

SuB01-1 13:30-13:45

0290 Stabilization of a fractional-order chaotic system based on fully actuated system approach

Yan-Qiao WEI Yanshan University
Fu Biao Sun School of Electrical Engineering, Yanshan University
Da-Yan LIU INSA Centre Val de Loire
Changchun Hua Yanshan University

SuB01-2 13:45-14:00

0435 Adaptive Task-space Robust Control for Hydraulic Excavators: A High-Order Fully Actuated System Approach

Bo Zhang Yanshan University
Changchun Hua Yanshan University
Jiafeng Zhou Yanshan University
Rui Meng Yanshan University
Yafeng Li Institute of Electrical Engineering, Yanshan University

SuB01-3 14:00-14:15

0436 Adaptive tracking control for hydraulic actuators Based on the Fully Actuated System Approaches

Jiafeng Zhou Yanshan University
Changchun Hua Yanshan University
Bo Zhang Yanshan University
Rui Meng Yanshan University
Yafeng Li Institute of Electrical Engineering, Yanshan University

SuB01-4 14:15-14:30

0538 Leader-Following Output Consensus for A Class of Lower-Triangular Multi-Agent Systems with Small Transmission Delays Based on Fully Actuated Approach

Shuaigang Feng Yanshan University
Yafeng Li Institute of Electrical Engineering, Yanshan University
Bo Zhang Yanshan University
Jiafeng Zhou Yanshan University

SuB01-5 14:30-14:45

0564 Prescribed Performance Control for Nonlinear Systems with Input Quantization: A Fully Actuated System Approach

Zihao Li Yanshan University
Guopin Liu Electrical engineering
Yu Zhang Yanshan University
Changchun Hua Yanshan University

SuB01-6 14:45-15:00

0700 Composite Learning-based Adaptive Finite-time Parameters Estimation and Control for High-order Fully Actuated Systems

Yu Zhang Yanshan University
Yixu Cai Yanshan University
Keli Pang Yanshan University
Guopin Liu Electrical engineering
Changchun Hua Yanshan University

SuB01-7 15:00-15:15

0368 Nonlinear Extended State Observer-based Closed-loop Control for Underactuated USV: High-order Fully Actuated System Approach

YanaYang Institute of Electrical Engineering
Long Chen Yanshan University
Xiaoshuang Zhou Yanshan University
Shu-zong Chen Yanshan University
Changchun Hua Yanshan University

SuB01-8 15:15-15:30

0560 Adaptive Variable-Period Event-Triggered Control for High-Order Fully Actuated Nonlinear Multi-Agent Systems

Hailong Cui Yanshan University
guanglei zhao Yanshan University
Weili Ding Yanshan University

SuB02 三楼第一会议室 13:30-15:30

Application of Fully Actuated System Theory in Motor Control and Optimization

Chair: Li Qiu Shenzhen University
Co-Chair: Ying Zhang Harbin Institute of Technology, Shenzhen

SuB02-1 13:30-13:45

0163 A Fully Actuated System Approach based Attitude Control for 3-DOF Helicopter

Jing Zhang Shandong University of Science and Technology
Ruijia Yang Shandong University of Science and Technology
Wendong Gai Shandong University of Science and Technology
Gang Jing ShanDong University of Science and Technology

SuB02-2 13:45-14:00

0340 Predictive Observer-Compensated High-Order Fully Actuated Tracking Control for Linear Switched Reluctance Machine

Yiyang Liu Shenzhen University
Yiting Ma Shenzhen university
Shishuo Chen Shenzhen University
Yucheng Wang Shenzhen University
Chenmei Song Shenzhen University
Li Qiu Shenzhen University
Feiqi Deng South China University of Technology

SuB02-3 14:00-14:15

0750 High-Order Fully Actuated Strict-Feedback System-Based Approach for Modeling and Tracking Control of Linear Switched Reluctance Machine

Yiting Ma Shenzhen university
Yiyang Liu Shenzhen University
Yucheng Wang Shenzhen University
Shishuo Chen Shenzhen University
Li Qiu Shenzhen University
Jun Wu Foshan University
Feiqi Deng South China University of Technology

SuB02-4 14:15-14:30

0804 Adaptive Prescribed-Time Force/Position Tracking Control for Flexible-Joint Robotic Manipulators

Zengwei Zheng Harbin Institute of Technology, Shenzhen
Jiahao Zhang Harbin Institute of Technology, Shenzhen
Ying Zhang Harbin Institute of Technology, Shenzhen

SuB02-5 14:30-14:45

0050 An Improved ADC Effectiveness Evaluation Method for On-Orbit Spacecraft Based on Anomaly Information

Zelong Yang China Academy of Space Technology (CAST)
Xiangyan Zhang China Academy of Space Technology (CAST)
Hongfei Li China Academy of Space Technology (CAST)
Peng Liu China Academy of Space Technology (CAST)
Hongbo Han China Academy of Space Technology (CAST)
Wei Qin China Academy of Space Technology (CAST)
Yunxiang Zhang China Academy of Space Technology (CAST)

SuB02-6 14:45-15:00

0220 Sensor Fault Diagnosis for Satellite Attitude Control System Based on WPE and OOA-BP Neural Network

Xin Yuan Sun Yat-sen University
Fangzhou Fu Sun Yat-sen University
Muye Yu Sun Yat-sen University
Zhen Qian Sun Yat-sen University

SuB02-7 15:00-15:15

0327 The switching control method of tandem dual-rotor cross-medium unmanned aerial vehicles based on the FAS method

张柏嘉 中山大学深圳校区
张锦绣 中山大学
孙慧杰 中山大学

SuB02-8 15:15-15:30

0448 A Comprehensive Comparison of Global Space Situational Awareness Data and Information Sharing Systems

Zelong Yang China Academy of Space Technology (CAST)
Xiangyan Zhang China Academy of Space Technology (CAST)
Hongfei Li China Academy of Space Technology (CAST)
Xiaochen Wang China Academy of Space Technology (CAST)
Mingjiang Zhang China Academy of Space Technology (CAST)
Hongbo Han China Academy of Space Technology (CAST)
Xi Chen China Academy of Space Technology (CAST)

SuB03 三楼第四会议室 13:30-15:30

Fully Actuated Theory-Based Control and its Application in Industrial Systems

Chair: Jianxing Liu Harbin Institute of Technology
Co-Chair: Xiaoning Shen Harbin Institute of Technology

SuB03-1 13:30-13:45

0152 Fixed-time adaptive sliding mode control based on super-twisting disturbance observer for uncertain nonlinear systems

Shouzhen Luan Shandong University of Science and Technology
Bo Meng Shandong University of Science and Technology
Wang Zhen Shandong University of Science and Technology

SuB03-2 13:45-14:00

0197 State-of-Health Estimation of Lithium Battery Based on PKO-Bagging-AdaBoost Ensemble Learning Algorithm

zhipeng Han Jiangnan University
ZeYang Chen Jiangnan University
Tinglong Pan Jiangnan University
Weilin Yang Jiangnan University
Dezhi Xu Jiangnan University
Yan Wang Jiangnan University

SuB03-3 14:00-14:15

0222 Fixed-time consensus control strategy for a class of nonlinear MAS

Ziqi Bai Qufu Normal University
Wenhai Qi Qufu Normal University

SuB03-4 14:15-14:30

0325 Designated-time stabilization of double-tank liquid level system

Mingxue Xu Qufu Normal University
Zong-Yao Sun Qufu Normal University
Jiaojiao Li Qufu Normal University
Qinghua Meng Hangzhou Dianzi University

SuB03-5 14:30-14:45

0457 A Deep Reinforcement Learning-Based Multi-UAV Global Path Planning

Xinru Li Beijing Information Science and Technology University
Xu Wang Beijing Information Science and Technology University
Junfang Fan Beijing Information Science and Technology University
Sixing Zhang Beijing Information Science and Technology University
Qianqian Li Beijing Information Science and Technology University

SuB03-6 14:45-15:00

0541 Obstacle Avoidance Formation Strategy for Unmanned Vehicles via Improved Grey Wolf Optimizer and Artificial Potential Field Method

Haoyi Zhang	Chongqing Technology and Business University
Huiyan Zhang	Chongqing Technology and Business University
Wenting He	Chongqing Technology and Business University
Xiaoli Chen	Chongqing Technology and Business University

SuB03-7 15:00-15:15

0542 Optimal Tracking Control for Wheeled Mobile Robot via Adaptive Dynamic Programming With Concurrent Learning

Jun Gou	Chongqing Technology and Business University
Pengda Liu	Chongqing Technology and Business University
Huichao Wang	Chongqing Technology and Business University
Ju Chen	Chongqing Technology and Business University

SuB03-8 15:15-15:30

0172 High Order Fully Actuated Modelling and Control of an Unmanned Vehicle

Jiamin Liu	Shenzhen Technology University
Xiaoxu Liu	Shenzhen Technology University
Tan Zhang	Shenzhen Technology University

SuB04 三楼第五会议室 13:30-15:30

全驱系统理论在制导飞行器中的应用

Chair: Jun-fang Fan	Beijing Information Science & Technology University
Co-Chair: Wei Wang	Beijing Institute of Technology

SuB04-1 13:30-13:45

0251 Robust Optimal Control for Roll Angle Based on Fully Actuated System Approach

Shiwei Chen	Beijing Institute of Technology
Wei Wang	Beijing Institute of Technology
Zejun Zhu	Beijing Institute of Technology
Jun-fang FAN	Beijing Information Science & Technology University

SuB04-2 13:45-14:00

0285 Analytical Trajectory Prediction for Intercepting Aerial Vehicles Using Proportional Navigation Guidance Law

Xin Zhao	Beijing Institute of Technology
Jiang WANG	Beijing Institute of Technology
Yaning Wang	Institute of Electronics and System engineering
Zichao Liu	Beijing Institute of Technology
Hongyan Li	Beijing Institute of Technology
yinhan wang	Beijing Institute of Technology

SuB04-3 14:00-14:15

0348 Adaptive Second-Order Disturbance Observer-Based 3D Integrated Guidance and Control Design Using Fully Actuated System Approach

Hongyan Zhang	Beijing Institute of Technology
Wei Wang	Beijing Institute of Technology
Shiwei Chen	Beijing Institute of Technology

SuB04-4 14:15-14:30

0387 Adaptive Sliding Mode Guidance Law with Three-Dimensional Terminal Line-of-Sight Angle Constraint

Yuguang Ji	School of Automation
Yi Ji	Beijing Institute of Technology
Jun-fang FAN	Beijing Information Science & Technology University
Yafeng Li	Beijing Information Science & Technology University
Sixing Zhang	Beijing Information Science & Technology University

SuB04-5 14:30-14:45

0397 Three Dimensional Adaptive Sliding Mode Guidance Law Based On Finite Time Prescribed Performance

Hongyu Wang	Beijing Information Science & Technology University
Yi Ji	Beijing Institute of Technology
Jun-fang FAN	Beijing Information Science & Technology University

SuB04-6 14:45-15:00

0416 轻量化地图引导的三维实时路径规划方法研究

顾程毓	北京信息科技大学
徐小斌	北京信息科技大学
范军芳	北京信息科技大学
高志浩	北京信息科技大学

SuB04-7 15:00-15:15

0433 Roll-Stabilized Fully Actuated Control of Guided Projectiles with Practical Actuator Constraints

Binyuan Wang	Beijing Information Science & Technology University
Jun-fang FAN	Beijing Information Science & Technology University
Fangyi Quan	Beijing Information Science & Technology University

SuB04-8 15:15-15:30

0473 JKAN-YOLO:一种无人机航拍小目标检测方法

李倩倩	北京信息科技大学
范军芳	北京信息科技大学
李鑫茹	北京信息科技大学

SuB05 三楼第六会议室 13:30-15:30

全驱系统理论视角下的大数据分析

Chair: 杨　懿	北京航空航天大学/鹏城实验室
Co-Chair: 赵　亮	大连理工大学

SuB05-1 13:30-13:45

0234 Feature Clustering and Fault-Tolerant Control of Multimodal Missing Data in a Fully Actuated System

Lishan Ye	Tsinghua University
Shubin Ma	Dalian University of Technology
Yifan Guo	Dalian Technology of University
Liang Zhao	Dalian University of Technology
Yi Yang	Beihang University

SuB05-2 13:45-14:00

0339 Fully Actuated System-Based Deep Learning Method for Blast Furnace Fault Diagnosis

杨　懿	Beihang University
王铭浩	Beihang University
李燕京	Beihang University
岑寒玉	Beihang University
赵　亮	Dalian University of Technology

SuB05-3 14:00-14:15

0407 基于多频域全驱系统的时间序列预测

刘致远	大连理工大学
姚天宇	大连理工大学
林　睿	大连理工大学
严凯宸	大连理工大学
王铭浩	北京航空航天大学
杨　懿	北京航空航天大学
赵　亮	大连理工大学

SuB05-4 14:15-14:30

0418 Big Data Analysis from the Perspective of Fully Actuated System

Liang Zhao	Dalian University of Technology
Yifan Guo	Dalian University of Technology
Rui Lin	Dalian University of Technology
Yi Yang	Beihang University

SuB05-5 14:30-14:45

0425 FAME: A Multi-Encoder Time Series Forecasting Model Based on Fully Actuated System Theory

Chengzhan Sui	Dalian University of Technology
Rui Lin	Dalian University of Technology
JIaoyuan Liang	Dalian University of Technology
Jie Liu	Dalian University of Technology
Liang Zhao	Dalian University of Technology

SuB05-6 14:45-15:00

0175 Sliding Mode-Based Control for Autonomous Vehicles Subject to Bandwidth-Limited Encoding-Decoding Protocols

Mingming Zhang	University of Shanghai for Science and Technology

SuB05-7 15:00-15:15

0195 Fault Diagnosis of Lithium Battery Packs Based on Hybrid Attention-Enhanced CNN-GRU Model

Lingzhi Wang	Jiangnan University
ZeYang Chen	Jiangnan University
Tinglong Pan	Jiangnan University
Weilin Yang	Jiangnan University
Dezhi Xu	Southeast University
Dongnian Jiang	Lanzhou University of Technology

SuB05-8 15:15-15:30

0574 A Hybrid-Modulated Switched-Capacitor Multilevel Inverter with ZVS for Reduced Switching Losses

Ankai Liu	Nanjing University of Science and Technology
Jia Yao	Nanjing University of Science and Technology

SuB06 三楼第七会议室 13:30-15:30

Distributed Parameter Systems: Theory and Applications

Chair: Xiang Xu	Southern University of Science and Technology
Co-Chair: Ji Wang	Xiamen University

SuB06-1 13:30-13:45

0228 State feedback stabilization for a class of nonlinear PDE-ODE cascade systems

Xiang Xu	Southern University of Science and Technology
Tao Wu	Southern University of Science and Technology

SuB06-2 13:45-14:00

0266 Output regulation for an unstable wave equation with output delay and one measurement only

Shen Wang	Tianjin University
Zhong-Jie Han	Tianjin University
Shuangxi Huang	Shandong Normal University
Zhi-Xue Zhao	Tianjin Normal University

SuB06-3 14:00-14:15

0321 Event-triggered delay-compensated boundary control of reaction-diffusion PDEs with actuator dynamics

Hongpeng Yuan	Xiamen University
Ji Wang	Xiamen University

SuB06-4 14:15-14:30

0508 Distributed Secondary Control for Multi-Bus DC Microgrids via a Fully Actuated System Approach

Peng Li	Tianjin University
Sijie Zhang	Nantong University
Zhiqiang Zuo	Tianjin University
Yijing Wang	Tianjin University

SuB06-5 14:30-14:45

0524 Finite-time stabilization for a chaos wave equation with disturbance

MengYuan Lou	Central South University
Hua-Cheng Zhou	Central South University

SuB06-6 14:45-15:00

0584 Extremum and Nash Equilibrium Seeking with Parabolic Reaction-Advection-Diffusion PDEs

Zheng Yang	Southern University of Science and Technology
Xiang Xu	Southern University of Science and Technology

SuB06-7 15:00-15:15

0689 Event-triggered Output-feedback Control of the 1-D Parabolic PDE Systems with Spatially-varying Coefficient

Runsheng Guo	Jiangnan University
Junchen Bao	Harbin Institute of Technology
Bingke Zhou	Jiangnan University

SuB06-8 15:15-15:30

0417 Robust Estimation of FDI Attacks in Cyber-Physical Systems: A Composite Hierarchical Approach

Lewei Dong	Nanjing University of Science and Technology
Dan Zhang	Yanshan University
Zhengcai Li	Nanjing University of Chinese Medicine
Yuqing Chen	Nanjing University of Science and Technology
Xiaokai Zhai	Suzhou University of Science and Technology

SuB07 三楼第八会议室 13:30-15:30

Intelligent Game-Theoretic Collaborative Planning, Decision-Making, and Control for Spacecraft Swarms in Complex Mission Environments

Chair: Fei Han	Shanghai Aerospace Control Technology Research Institute
Co-Chair: Zhu Qinghua	Shanghai Aerospace Control Technology Institute
Yabin Gao	Harbin Institute of Technology

SuB07-1 13:30-13:45

0322 Equivalent Dynamic Modeling of Super-Long Radar Antenna

Xiaoxuan Yan	Shanghai Aerospace Control Technology Institute
Lulu Tian	Shanghai Aerospace Control Technology Institute
Jing Huang	Shanghai Aerospace Control Technology Institute
Dongfang Zhu	Shanghai Aerospace Control Technology Institute

SuB07-2 13:45-14:00

0571 Distributed optical frequency domain measurement system based on common single-mode optical fiber

Lulu Tian	Shanghai Aerospace Control Technology Institute
Xiaoxuan Yan	Shanghai Aerospace Control Technology Institute

SuB07-3 14:00-14:15

0656 The Intelligent Decision-Making and Planning of Multi-Satellite Game under A Single Fault

ShengYang Liu Shanghai Aerospace Control Technology Institute
Fei Han Shanghai Aerospace Control Technology Research Institute
Haolong Feng Shanghai Aerospace Control Technology Institute
Ting Song Shanghai Institute of Spaceflight Control Technology

SuB07-4 14:15-14:30

0772 A Task Allocation Algorithm of Spacecraft Cluster Space Game

Haolong Feng Shanghai Aerospace Control Technology Institute
Fei Han Shanghai Aerospace Control Technology Research Institute
ShengYang Liu Shanghai Aerospace Control Technology Institute
Lei Ning Shanghai Institute of Spaceflight Control Technology
Ting Song Shanghai Institute of Spaceflight Control Technology

SuB07-5 14:30-14:45

0361 Path Planning for Spacecraft Obstacle Avoidance Based on Improved Sparrow Search Algorithm

Han Wu Shanghai Aerospace Control Technology Research Institute
Fei Han Shanghai Aerospace Control Technology Research Institute

SuB07-6 14:45-15:00

0438 A Novel Multi- level Cooperative Control Method for Agile Satellite with Non-contact Actuation

Jing Huang Shanghai Aerospace Control Technology Institute
Xiaoxuan Yan Shanghai Aerospace Control Technology Institute
Lujun Sun Shanghai Aerospace Control Technology Institute
XiaoGuang Huang Shanghai hangtiankongzhijishuyanjiusuo
Dong Yuan Lv Shanghai Aerospace Control Technology Institute

SuB07-7 15:00-15:15

0443 Equivalent plate dynamic modeling and response analysis of truss structures for control-oriented applications

Jie Sun Shanghai Aerospace Control Technology Institute
Jun Sun Shanghai Aerospace Control Technology Institute
Dongfang Zhu Shanghai Institute of Spaceflight Control Technology

SuB07-8 15:15-15:30

0490 Repetitive locking control and mechanical characteristics analysis of high-speed magnetically suspended rotor

Qichao Lv Shanghai Institute of Spaceflight Control Technology
Fei Ni Tongji University
Dong Yuan Lv Shanghai Aerospace Control Technology Institute
XiaoGuang Huang Shanghai hangtiankongzhijishuyanjiusuo
Chen Xi Shanghai Aerospace Control Engineering Research Institute

SuB08 三楼第一教室 13:30-15:30

Intelligent Control Theory and Application in Fully Actuated Systems and Complex Systems

Chair: Huanyu Zhao Huaiyin Institute of Technology
Co-Chair: Wei Liu Huaiyin Institute of Technology
Yi Zeng Harbin Institute of Technology

SuB08-1 13:30-13:45

0023 Adaptive Iteration Differential Private Federated Learning with Gradient-Guide Synthetic Data

Chengzu Liu Nanjing University of Science and Technology
XuYang Xing Nanjing University of Science and Technology
Deming Yuan Nanjing University of Science and Technology

SuB08-2 13:45-14:00

0519 Intermediate-variable-based Non-fragile Estimation for Persistent Dwell-time Switched Systems

Shiyu Jiao Huaiyin Institute of Technology
Yifan Yang Huaiyin Institute of Technology
Jiaheng Zhang Huaiyin Institute of Technology
Huanyu Zhao Huaiyin Institute of Technology
Wei Liu Huaiyin Institute of Technology
Pengcheng Zhang Huaiyin Institute of Technology

SuB08-3 14:00-14:15

0527 Prescribed-time affine formation control for Nonholonomic constrained robots

JiYe Tang Jiangsu University of Science and Technology
Jianzhen Li Jiangsu University of Science and Technology
Junyi Zhou Jiangsu University of Science and Technology
Guicai Liu Jiangsu University of Science and Technology
Ning Qiao Jiangsu University of Science and Technology

SuB08-4 14:15-14:30

0539 Consensus for Second-Order Integrator Agents with Switching Topologies and Delays

Chang-jiang Li Jiangsu University of Science and Technology
Zhaoping Du Jiangsu University of Science and Technology
Jianzhen Li Jiangsu University of Science and Technology
Shuxia Ye Jiangsu University of science and Technology
Xueying Sun Jiangsu University of Science and Technology
HengJie Xu Jiangsu University of Science and Technology
Qi Fu Jiangsu University of Science and Technology

SuB08-5 14:30-14:45

0026 Event-Triggered Adaptive Tracking for Nonlinear Systems Based on Fully Actuated System Theory

Yunfei Qiu Jiangsu University

SuB08-6 14:45-15:00

0051 Finite-Time Tracking Control for Wheeled Mobile Robots with Uncalibrated Parameter and Disturbances

Guosheng Zhang Hohai University
Zheyi Zhu Hohai Universty
Md Mahmudul Hasan Hohai University
Shang Shi Nanjing University of Posts and Telecommunications

SuB08-7 15:00-15:15

0120 Finite Time Preassigned Performance Control of Non-strict Feedback Systems with Asymmetric State Constraints

Yifan Yang Huaiyin Institute of Technology
Wei Tang Huaiyin Institute of Technology
Wei Liu Huaiyin Institute of Technology
Huanyu Zhao Huaiyin Institute of Technology

SuB08-8 15:15-15:30

0294 Fixed-Time Adaptive Neural Control for Constrained Stochastic Nonlinear Systems with Unknown Covariance Noise

Zhicheng Wei Nanjing University of Science and Technology
Huifang Min Nanjing University of Science and Technology

SuB09 三楼第二教室 13:30-15:30

Unmanned System Control Based on High-Order Fully Actuated System Approaches

Chair: Xuefei Yang Harbin Institute of Technology
Co-Chair: Kai Zhang Harbin Institute of Technology
Jiahui Wang Hebei University of Technology

SuB09-1 13:30-13:45

0241 Event-triggered mechanism based finite-time and prescribed-time control
Zhang Kai Harbin Institute of Technology

SuB09-2 13:45-14:00

0257 Analysis of Evolutionary Game Dynamics with Both Ally and Enemy Strategies
Kefei Chen Wuhan University of Science and Technology
Qingsong Liu Wuhan University of Science and Technology

SuB09-3 14:00-14:15

0512 Fully Distributed Consensus of Discrete-time Periodic Linear Multi-agent Systems with Input Saturation
Kai Zhang Harbin Institute of Technology
Zhanpeng Feng Harbin Institute of Technology

SuB09-4 14:15-14:30

0529 Review and Frontier Exploration of Active SLAM
Shoudu Du Southeast University
Hongru Li Southeast University
Xuefei Yang Harbin Institute of Technology
Xin Gong Southeast University

SuB09-5 14:30-14:45

0530 Safe Reinforcement Learning with Constraints: A Survey
Zhengyu Chen Southeast University
Hongru Li Southeast University
Xuefei Yang Harbin Institute of Technology
Xin Gong Southeast University

SuB09-6 14:45-15:00

0580 Finite-Time Stabilization of Circular Orbit Rendezvous by Impulsive Control
Wenbo Fu China University of Mining and Technology
Weiwei Luo China University of Mining and Technology
Song Zhu China University of Mining and Technology
Li Hongru China Academy of Aerospace Standardization and Product

SuB09-7 15:00-15:15

0603 Adaptive Control for High-Order Strict-Feedback System Based on Fully Actuated System Approach
Wenhui Ning Qufu Normal University
Zhongcai Zhang Qufu Normal University

SuB09-8 15:15-15:30

0687 Design of Strongly Stabilizing Controllers for Underactuated Systems: an Example of the Cart--Pendulum System
Yuanbo Chen Southeast University
Xin Xin Southeast University
Ziyu Wang Southeast University

SuB10 三楼第三教室 13:30-15:30

Advances in Control Design and Analysis of Underactuated Robotic Systems

Chair: Xin Xin Southeast University
Co-Chair: Xhongcai Zhang Qufu Normal University
Guangtao Ran Harbin Institute of Technology

SuB10-1 13:30-13:45

0261 Robust stabilizing control of underactuated cart-pendulum system using fixed-time hierarchical sliding mode method
Junyao Yu Linyi University
Shuli Gong Linyi University
Ancai Zhang Linyi University
Quan Yuan Linyi University
Gui Xincheng Company of Wuhan Zhixia Intelligent Technology

SuB10-2 13:45-14:00

0821 Safe Tracking Control of an Underactuated Suspended Backpack via BLF-Based Backstepping and a Disturbance Observer
Yuanyuan Yuan Huazhong University of Science and Technology
Yu Cao Huazhong University of Science and Technology
Yifei Guo Huazhong University of Science and Technology
Jian Huang Huazhong University of Science and Technology

SuB10-3 14:00-14:15

0263 Coupled Sliding Mode Control of Autonomous Vehicle Platoons Based on Disturbance Observer and Modified Multi-Power Reaching Law
Kangxin Sun Qufu Normal University
Qiyi Xu Qufu Normal University
Zhihua Wang Qufu Normal University

SuB10-4 14:15-14:30

0271 Event-Triggered Fault-Tolerant Control and Synchronous Disturbance Suppression For Multi-Agent Systems with Switching Topologies
Dongxin Ren Linyi University
Guochen Pang Linyi University
Xiangyong Chen Linyi University
Xiaojian Mu Linyi University
Jianlong Qiu Linyi University
Jinde Cao Southeast University

SuB10-5 14:30-14:45

0319 Tracking Control for n-Link Flexible-Joint Robots with Output Constraints and Disturbances: An FAS Approach
Nan Jiang Qufu Normal University
Zhongcai Zhang Qufu Normal University
Yang Gao Southeast University
Yuqiang Wu Qufu Normal University

SuB10-6 14:45-15:00

0408 Robot Path Optimization Based on Improved Ant Colony Optimization
Xu Guo Nanjing Institute of Technology
Anqi Xu Nanjing Institute of Technology
Wenlong Ji Nanjing Institute of Technology
Siquan Li Nanjing Institute of Engineering
Yanling Shang Anyang Normal University
Fangzheng Gao Nanjing Institute of Technology

SuB10-7 15:00-15:15

0463 An Tightly-Coupled VIO Algorithm with Backend Pose Graph Optimization for Outdoor Applications

Wenlong Ji Nanjing Institute of Technology
Xu Guo Nanjing Institute of Technology
Anqi Xu Nanjing Institute of Technology
Siquan Li Nanjing Institute of Engineering
Yanling Shang Anyang Normal University
Fangzheng Gao Nanjing Institute of Technology

SuB10-8 15:15-15:30

0481 Fixed-time robust stabilization control of underactuated bridge crane system with matched disturbance

Weicheng Lan Linyi University
Ancai Zhang Linyi University
Junyao Yu Linyi University
Guochen Pang Linyi University
Jianlong Qiu Linyi University

SuB11 四楼茉莉厅 + 蔷薇厅 13:30-15:30

Development on Industrial Artificial Intelligence and Intelligent Manufacturing

Chair: Da-Wei Zhang Southern University of Science and Technology
Co-Chair: Xiubo Wang Northeastern University at Qinhuangdao
Hao Yu Beijing Institute of Technology

SuB11-1 13:30-13:45

0268 A Hybrid Transfomer-BiLSTM-Att Framework for Dynamic Prediction of Thickness Deviation in Cold-Rolled Aluminum Plates

Yaning Xiao Southern University of Science and Technology
Guoping Liu Southern University of Science and Technology

SuB11-2 13:45-14:00

0274 Fault Diagnosis of Motors via Multivariable Time Sequenc Features Fusion of Electrical Signals

Xingguan Tan Southern University of Science and Technology
Guoping Liu Southern University of Science and Technology

SuB11-3 14:00-14:15

0291 KC-BiGRUAtt: A Clustering-Enhanced Deep Framework for Machinery Remaining Useful Life Prediction

Xiangxian Wang Southern University of Science and Technology
Guoping Liu Southern University of Science and Technology

SuB11-4 14:15-14:30

0297 FeatureFuser-LLM: Multi-Scale Feature Fusion with Adaptive Positional Encoding for LLM-Based Time Series Forecasting

Yiping Gan Southern University of Science and Technology
Guoping Liu Southern University of Science and Technology

SuB11-5 14:30-14:45

0309 Design and Implementation of An Interactive Monitoring System with Cloud-Edge Collaboration for Smart Manufacturing

Bowei Zhang Southern University of Science and Technology
Guoping Liu Southern University of Science and Technology
Kunjie Li none

SuB11-6 14:45-15:00

0160 Ultra-High Frequency Localization Method for Transformer Partial Discharge Based on TDOA and WLS-FA

Yunlong Du North China Electric Power University
Xiuyu Duan North China Electric Power University
Dai Jiahui North China Electric Power University
Xingkai Yu North China Electric Power University

SuB11-7 15:00-15:15

0162 Coordinate-Free Distributed Localization and Circumnavigation for Nonholonomic Vehicles Without Position Information

Yao Zou University of Science and Technology Beijing

SuB11-8 15:15-15:30

0664 Trigonometric-Type Sliding Mode Attitude Control for Rigid Spacecraft with Arbitrary Convergence Time

Yu-Tian Xu Harbin Institute of Technology (Shenzhen)
Ai-Guo Wu Harbin Institute of Technology (Shenzhen)

SuB12 四楼荷花厅 13:30-15:30

New Developments in Robustness and Control of Unmanned Autonomous Systems

Chair: Jian Hou Zhejiang Sci-Tech University
Co-Chair: Lili Wang Lili Wang Zhejiang University
Yunkai Lv East China University of Science and Technology

SuB12-1 13:30-13:45

0324 Energy-efficient Path Planning of Data Collection in Multi-UAV-assisted WSN

Jing GUO Foshan University
Binting Wei Foshan University
Feihang QIU Foshan University
Xu ZHANG Southern University of Science and Technology

SuB12-2 13:45-14:00

0380 GNN-based Distributed Consensus Control for Heterogeneous Multi-Agent Systems with Linear and Fully Actuated Nonlinear Model

ZhiYu Wang Southern University of Science and Technology
Zhiyun Lin Southern University of Science and Technology

SuB12-3 14:00-14:15

0581 An Efficient Algebraic Model Predictive Control (AMPC) for Unmanned Surface Vessels Path Following

Wei Li Hangzhou City University
Bai Jie Zhejiang University of Technology
Han Zhou Zhejiang University of Technology
Zhiyun Lin Southern University of Science and Technology

SuB12-4 14:15-14:30

0755 An Intelligent Cable Arrangement Detection Algorithm via Improved CNN Architecture and Edge Rectification Technology

Mengdie Zhang Hangzhou Applied Acoustics Research Institute
Yanjun Lin China State Shipbuilding Corporation
Junlei Wang Hangzhou Applied Acoustics Research Institute
LinJie Ruan Zhejiang Sci-Tech University

SuB12-5 14:30-14:45

0537 Research on key-point detection of space target based on lightweight-HRNet

Jinzhen Mu Shanghai Aerospace Control Technology Institute

SuB12-6 14:45-15:00

0543 Research on Control of Magnetic Suspension Rotor System under Moving Base Based on Disturbance Observer
XiaoGuang Huangshanghaihangtiankongzhijishuyanjiusuo

Chen Xi Shanghai Aerospace Control Engineering Research Institute
Qichao Lv Shanghai Institute of Spaceflight Control Technology
Dong Yuan Lv Shanghai Aerospace Control Technology Institute

SuB12-7 15:00-15:15

0545 A Knowledge-Driven Generation Method of Legged Control Strategy for Space Climbing Robots

Zhexuan Chen	Shanghai Aerospace Control Technology Institute
Senchun Yao	Shanghai Aerospace Control Technology Institute
Xuanhui Xu	Shanghai Aerospace Control Technology Institute
Yuchao Yan	Shanghai Aerospace Control Technology Institute
Xinpeng Di	Shanghai Aerospace Control Technology Institute

SuB12-8 15:15-15:30

0559 Multi-Constraint Trajectory Tracking Control for Spacecraft Based on an Integrated Decision-Control Architecture

Tan Longyu	Shanghai Aerospace Control Technology Research Institute
Yizhen Meng	Shanghai Institute of Aerospace Control Technology
Jing Huang	Shanghai Aerospace Control Technology Institute
Liu Jingxi	Shanghai Aerospace Control Technology Research Institute

SuB13 四楼友谊厅 13:30-15:30

Robotic Actuation, Sensing, Control and Human-Robot Interaction

Chair: Yang Yang	Nanjing University of Information Science and Technology
Co-Chair: Dapeng Chen	School of Automation
Yanning Guo	Harbin Institute ofTechnology

SuB13-1 13:30-13:45

0158 Application of Fully-Actuated System Approach in Flexible-Joint Robot Systems and Active Suspension Systems

Chengyuan Yan	Liaocheng University
Guoliang Chen	Beijing Institute of Technology
Mengkai Zhu	Liaocheng University
Mingyin Tang	Liaocheng University
Tianjiao Liu	Liaocheng University

SuB13-2 13:45-14:00

0105 Malicious Covariance Regulation with Deception Attacks in Remote State Estimation

Jing Zhou	University of Alberta
Lu Liu	City University of Hong Kong

SuB13-3 14:00-14:15

0183 Distributed Drive Electric Vehicles Lateral Stability Strategy

Yuexi Liu	Southeast University
Che Su	Southeast University
Ding Yueheng	Southeast University
Xu Dezhi	Southeast University
Hua Wei	Southeast University
Wenfei Yu	Southeast University

SuB13-4 14:15-14:30

0841 A Flexible Job Shop Scheduling Method via a Hybrid Dual Attention Network and Mamba Approach

Chenmeng Li	Henan University of Science and Technology
Xuhui Zhao	Henan University of Science and Technology
Jiamei Feng	Henan University of Science and Technology
Meiyi Yang	Henan University of Science and Technology
Xinlu Wang	Henan University of Science and Technology
Huimin Gao	Henan University of Science and Technology
Mingchuan Zhang	Henan University of Science and Technology

SuB13-5 14:30-14:45

0834 Prediction of unmanned system pose based on VMD-WHHO-BLS

Zijian Xue	Nanjing University of Information Science and Technology
Quanbo Ge	Tongji University

SuB13-6 14:45-15:00

0699 Adaptive Target Threat Assessment Algorithm Based on BLS and Variational Bayesian

Tao Lv	Nanjing University of Information Science and Technology
Yuhang Chen	Nanjing University of Information Science and Technology
Quanbo Ge	Tongji University

SuB13-7 15:00-15:15

0842 An Intelligent Low-Power Water Quality Monitoring System with Dynamic Adaptation

Shifan Song	Nanjing University of Information Science and Technology
Lin Ding	Shanghai Jiao Tong University
Quanbo Ge	Tongji University

SuB13-8 15:15-15:30

0602 Transformation of Multi-Input Linear Time-Varying Systems into High-Order Fully Actuated Systems

Jiacheng Dong	Harbin Institute of Technology
Bin Zhou	Harbin Institute of Technology
Ruiqing Zhang	Harbin Institute of Technology

张贴报告 Poster Session 1:

July 5, Saturday
三楼钟山厅序厅

0405 A Composite Adaptive Control Approach for a Class of Uncertain Fully Actuated Systems
Wushan Jia — Harbin Institute of Technology, Shenzhen
Xiaochen Xie — Harbin Institute of Technology, Shenzhen
Huijun Gao — Harbin Institute of Technology

0025 Weighted Multi-Game Approach to Multi-QUAV Formation Control
Fangyu Cai — Anhui Polytechnic University
Yiqing Huang — Anhui Polytechnic University
Heming Huang — Anhui Polytechnic University

0193 Distributed Secondary Frequency Control of Islanded Microgrid Considering Power Constraints
Jie Zhu — Nanjing University of Science and Technology
Yuping Zhang — Nanjing University of Science and Technology
Yunyun Xie — Nanjing University of Science and Technology
Sheng Cai — Nanjing University of Science and Technology
Jiahua Liu — Nanjing NARI Information and Communication Technology Co., Ltd.
Huizhong Shi — Nanjing NARl Information and Communication Technology Co., Ltd.

0136 Further results on the fully actuated system approach to control of overhead cranes
Fuxing Yao — Southern University of Science and Technology
Zhijie Liu — Southern University of Science and Technology
Liangming Chen — Southern University of Science and Technology
Tianqi Yue — Southern University of Science and Technology
He Kong — Southern University of Science and Technology

0493 Predefined-Time Tracking Control of Robotic Manipulator: A Fully Actuated System Approach
Ji-Hao Zhang — China University of Geosciences
Qian Chen — China University of Geosciences
Yi-Fan Li — China University of Geosciences
Ming-Feng Ge — China University of Geosciences
Zhi-Wei Liu — Huazhong University of Science and Technology

0498 A Predefined-Time Consensus Algorithm for Unmanned Vehicles Based on the Fully Actuated System Approach
Bingxin Qiu — China University of Geosciences
Yi-Fan Li — China University of Geosciences
Zhi-Wei Liu — Huazhong University of Science and Technology
Ming-Feng Ge — China University of Geosciences

0526 Tracking Control of Manipulators with Unknown Disturbances: A Novel Fully Actuated System Method
Jiawei Gao — China University of Geosciences
Yi-Fan Li — China University of Geosciences
Qian Chen — China University of Geosciences
Ming-Feng Ge — China University of Geosciences
Zhi-Wei Liu — Huazhong University of Science and Technology

0611 An FASA-Based Predefined-Time Tracking Control for Marine Surface Vehicles
Xing Zheng — China University of Geosciences
Yi-Fan Li — China University of Geosciences
Qian Chen — China University of Geosciences
Teng-Fei Ding — China University of Geosciences
Ming-Feng Ge — China University of Geosciences

0488 Nash Equilibrium Seeking for Networked Marine Surface Vehicles based on Fully Actuated System Approach
Yi-Fan Li — China University of Geosciences
Zhi-Wei Liu — Huazhong University of Science and Technology
Ming-Feng Ge — China University of Geosciences

0732 基于有源阻尼的电流源型PWM整流器的控制策略研究
陈思雨 — 南京理工大学
赵志宏 — 南京理工大学
董　亮 — 南京理工大学
徐逸杨 — 南京理工大学

0486 STTransformer: A Physics-Informed Spatial-Temporal Transformer for Ship Trajectory Prediction
Bingzhuo Liu — Nanjing University of Science and Technology
Panlong Wu — Nanjing University of Science and Technology
Chunhao Liu — Nanjing University of Science and Technology
Shan He — Nanjing University of Science and Technology

0221 Model reduction for fractional-order port-Hamiltonian systems in the Loewner framework
Zixi Guan — Southeast University
Rui Chen — Southeast University
Jinhua Zhang — Southeast University
Yiheng Wei — Southeast University

0262 An Advanced Future Point Prediction Approach for Gliding Targets Leveraging Pose Estimation
Shoufeng Wang — Jiangsu Automation Research Institute
Panlong Wu — Nanjing University of Science and Technology
Yue Zhao — Jiangsu Automation Research Institute
Baobao Wang — Jiangsu Automation Research Institute

0369 Exponential State Estimation of Delayed Fuzzy Quaternion-Valued Inertial Neural Networks
Xufeng Gao — Shandong University of Science and Technology
Ziye Zhang — Shandong University of Science and Technology

0374 High-Performance Motion Control for Omnidirectional Assistive Wheelchairs Using Robust Fractional-Order Non-Singular Fast Terminal Sliding Mode Control to Enhance Riding Comfort
Amar Mubarak — Nanjing University of Science and Technology
Yang Tian — Nanjing University of Science and Technology
Haoping Wang — Nanjing University of Science and Technology
Modawy Abdalla — Nyala University

0382 Discrete-time optimal disturbance rejection control for Buck converter
Jinfeng Zou — Shandong University of Science and Technology
Junjie Han — Shandong University of Science and Technology
Youyi Wang — Nanyang Technological University
Huanshui Zhang — Shandong University/ Shandong University of Science and Technology

0384 Buck Converter Control based on Optimal Control Algorithm Model Predictive Control
Junjie Han — Shandong University of Science and Technology
Jinfeng Zou — Shandong University of Science and Technology
Youyi Wang — Nanyang Technological University
Huanshui Zhang — Shandong University/ Shandong University of Science and Technology

0413 Nonovershooting tracking control for strict-feedback MIMO nonlinear systems
Zhijia Zhu — Anhui University
Suyin Liao — Anhui University
Fujin Jia — Anhui University

0429 Non-Fragile Set-Membership Filtering Approach for Localization of Automatic Guided Vehicles with Control Input Constraint
Zhengzhao Wang — Harbin University of Science and Technology
Ning Yang — Harbin University of Science and Technology
Yuhang Song — Harbin University of Science and Technology
Tianhao Lv — Harbin University of Science and Technology

0437 Research on Train Localization Method Enhanced by LiDAR and Visual Geometric Constraints

Licong Fu Nanjing University of Science and Technology
Xin Chen Nanjing University of Science and Technology

0594 A Wheelset Size Measurement System Based on Multi-Line Structured Light

Qiuyang Li Nanjing University of Science and Technology
Yong Zhang Nanjing University of Science and Technology
Chucheng Shi Nanjing University of Science and Technology
Yihang Jian Nanjing University of Science and Technology
Hui Wang Nanjing University of Science and Technology

0607 Trajectory Tracking of AGV with Control Constraints Based on MPC and Optimal Control Algorithm

Guosheng Zhao Shandong University of Science and Technology
Chuanzhi Lv Shandong University of Science and Technology
Hongxia Wang Shandong University of Science and Technology

0619 Decentralized Event-Triggered Impulsive Control for a class of Graph-Interconnected Nonlinear Systems

Xiaojuan Xue Taiyuan University of Technology
Zhengtao Ding University of Manchester
Dan Zhang Yanshan University

0622 Numerical computation for Nabla fractional order systems via time-frequency domain joint technique

Jinhua Zhang Southeast University
Zixi Guan Southeast University
Rui Chen Southeast University
Yiheng Wei Southeast University

0673 Sliding Mode Control of Three-Phase Voltage Inverter Based on Improved Generalized Proportional Integral Observer

Xinyu Liu Qufu Normal University
Jianchao Zhao Qufu Normal University
ChengYong Ren Qufu Normal University
YingXue Lai Qufu Normal University
Yunlong Liu Qufu Normal University

0810 Research on Multi-Constraint Cooperative Guidance Law Based on Sliding Mode Control

Zhaoyuan Chen Science and Technology on Complex System Control and Intelligent Agent Cooperation Laboratory
Mingrui Hao Harbin Institute of Technology
Keyuan Yue Beijing Institute of Mechanical and Electrical Engineering

0814 Model Free Extended State Observer Based Sliding Mode Prescribed Time Control for Series Elastic Actuator-Based Manipulator

Huilin Dai Nanjing University of Science and Technology
Haoping Wang Nanjing University of Science and Technology
Yang Tian Nanjing University of Science and Technology
Liuchang Zhang Nanjing University of Science and Technology

0161 Attack-Resilient Control of False Data Injection Attacks Based on Virtual Layer Network

Qiuzhen Jiang Nanjing University of Science and Technology
Xiaoyu Wu Nanjing University of Science and Technology

0186 Distributed Secondary Voltage Control Considering Reactive Power Constraints

Dandan Zhu State Grid Jiangsu Electric Power Co.,Ltd. Electric Power Science Research institute
Qian Zhou State Grid Jiangsu Electric Power Co.,Ltd. Electric Power Science Research Institute
Xian Xu State Grid Jiangsu Electric Power Co.,Ltd. Electric Power Science Research Institute
Yongyong Jia State Grid Jiangsu Electric Power Co.,Ltd. Electric Power Science Research institute

0255 Multi-Agents Formation Obstacle Avoidance Control Based on Improved Artificial Potential Functions

Jian Wang Hohai University
Jun Zhou Hohai University

0289 Adaptive Full Actuation Control for Autonomous Vehicle Platoons

Tianqun Ren Southwest Jiaotong University
Fei Yan Southwest Jiaotong University
Guoxiang Gu Louisiana State University

0544 Fixed-Time Projective Synchronization of Multi-layer Neural Networks in the Presence of Denial-of-Service Attacks

Taifeng Zhan Nanjing University of Science and Technology
Kun Ma Liaocheng University
Yijun Zhang Nanjing University of Science and Technology

0549 SNR-Adaptive Weighted Metropolis Consensus Filtering Algorithm for Distributed Target Tracking

Lingqi Kong Nanjing University of Science and Technology
Panlong Wu Nanjing University of Science and Technology
Xingxiu Li Nanjing University of Science and Technology
Shan He Nanjing University of Science and Technology
Xiaolong Cui Nanjing University of Science and Technology

0586 Sample-data output consensus for heterogeneous linear multi-agent systems with time-varying communication delays

Haopeng Guo Southern University of Science and Technology
Tao Wu Southern University of Science and Technology
Xiang Xu Southern University of Science and Technology

0652 Approximate Optimal Control for Nonlinear Multi-Agent Cooperative Pursuit-Evasion Games Using Single-Network ADP

Zhongyu Zhang Nanjing University of Science and Technology
Guoqing Qi Nanjing University of Science and Technology
Yinya Li Nanjing University of Science and Technology
Andong Sheng Nanjing University of Science and Technology

0691 A Study of Multi-UAV Cooperative Pursuit Based on PointNet-MATD3

Yijing Ding Nanjing University of Science and Technology
Guoqing Qi Nanjing University of Science and Technology
Yinya Li Nanjing University of Science and Technology
Andong Sheng Nanjing University of Science and Technology

0708 Adaptive Event-Triggered Consensus for Unknown Nonlinear Multi-agent Systems with Limited Bandwidth

Ying Quan Nanjing University of Science and Technology
Haoping Wang Nanjing University of Science and Technology
Yang Tian Nanjing University of Science and Technology

0742 Optimal Control Strategies in Multi-Pursuit-Multi-Evasion Differential Games with Communication Graphs

Lin Chen Nanjing University of Science and Technology
Guoqing Qi Nanjing University of Science and Technology
Yinya Li Nanjing University of Science and Technology
Andong Sheng Nanjing University of Science and Technology

0811 Fixed-Time Quadrotors Formation Control via Dynamic Surface Control with Disturbance Observer and Neural Networks

Dun Ao Beijing University of Technology
Xin Zhang Beijing University of Technology
Yao Xiao Beijing University of Technology

0837 Fixed-Time Distributed Average-tracking of Second-order Multiagent Systems via Event-triggered Control

Yuanjun Yu Jiangnan University
Xin Huang Jiangnan University
Cheng-Lin Liu Jiangnan University

0465 Stability analysis of T-S fuzzy systems by using integral-type event-trigger scheme

Zichen Guo Shandong University of Science and Technology
Yingjie Fan Shandong University of Science and Technology
Zhen Wang Shandong University of Science and Technology

0033 Fully-actuated System Approaches based Fault-tolerant Attitude Control via Intermediate Variable Estimator
Shiyu Han Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology

0127 The Strategy of Master Controller Automatically Downloading three Slave Controller Software
Yang Gao Ningbo Geely Royal Engine Components Co.,Ltd
Zhengxing Dai Zhejiang Geely Powertrain Research Institute
Ruiyue Zeng Ningbo Geely Royal Engine Components Co.,Ltd
Huanhuan Gong Ningbo Geely Royal Engine Components Co.,Ltd
Ribiao Liu Ningbo Geely Royal Engine Components Co.,Ltd
Ruiguang Wang Zhejiang Geely Powertrain Research Institute
Jiangfeng Liu Ningbo Geely Royal Engine Components Co.,Ltd
Yiqiang Liu Agricultural University of Hebei

0237 Robust Fault-Tolerant Attitude Control for Hypersonic Vehicles Based on Fast Terminal Sliding Mode
Cheng Li Nanjing University of Science and Technology
Chuan Zhou Nanjing University of Science and Technology
Jian Guo Nanjing University of Science and Technology
Yifei Wu Nanjing University of Science and Technology
Zhiqiang Jia Beijing Aerospace Automatic Control Institute

0258 Fault-Tolerant Formation Control for Stochastic Multi-agent Systems With Noise and Channel Interference
Anning Liu Nanjing Tech University
Jiantao Shi Nanjing Tech University

0302 Fault-Tolerant Strategy for Excitation Windings in Hybrid Axial Field Flux-Switching Motor Based on Multi-Vector Model Predictive Current Control
彭向前 南京理工大学自动化学院
徐 妲 南京理工大学自动化学院
梁振长 南京理工大学自动化学院

0403 Pantograph-Catenary Marginal Index Method Using ICEEMDAN-SPWVD for Railway Hard Spot Diagnosis
Ga Ming Nanjing University of Science and Technology
Yingshun Liu Nanjing University of Science and Technology
Zhongxuan Xu CRRC Qingdao
JiangLong Chen Nanjing University of Science and Technology
Huichuan Jiang Nanjing University of Science and Technology
Yunxiao Fu CRRC Academy

0440 AHP-entropy Weight Based Railway Passenger Station Operation Safety Assessment Model
Peiyu Xu Nanjing University of Science and Technology
Yikai Wu Nanjing University of Science and Technology
Aiguo Lei Nanjing University of Science and Technology

0659 Electrical Performance Analysis and System Simulation of Multi-phase Permanent Magnet Synchronous Motor Fault-tolerant Control System
Chunyu Hou Nanjing University of Science and Technology
Yang Gao Nanjing Univercity of Science and Technology

0716 Research on Switch Machine Fault Diagnosis Based on VMD-1DCNN-BiLSTM
XinYue Kong Nanjing University of Science and Technology
Xin Chen School of Automation, Nanjing University of Science and Technology

0749 H∞ fault-tolerant tracking control of autonomous underwater vehicles based on HOFAS theory
Shaoheng Wu Guangzhou University
Limin Wang Guangzhou University
Deyu Zeng Hainan Normal University

0734 Free Piston Linear Generator Rectification Strategy Based on Active Disturbance Rejection Control and Sequential Model Predictive Control
Haoyang Du Beijing Institute of Technology

0164 Data-driven Finite-time Control for Discrete-time Nolinear Systems
Zhiqing Liu Qingdao University of Science and Technology
Ronghu Chi Qingdao University of Science and Technology
Yang Liu Qingdao University of Science and Technology

0318 P2P Trading of Multi-VPPs with Integrated PV Energy Storage Systems based on Multi-Agent Rollout
Haoxiang Zou Nanjing University of Science and Technology
Min Wang Nanjing University of Science and Technology
Yong Qiu Nanjing University of Science and Technology
Shu Zheng Nari group corporation
Qilong Huang Nanjing University of Science and Technology
Lizi Luo Nanjing University of Science and Technology

0487 Generating Planar Multi-Scroll Attractors from a 3D Chaotic System via Switching Control
Changchun Sun Shenyang Jianzhu University
Hao Zhang Shenyang Jianzhu University

0355 Design and Implementation of Distributed Radar Multi-Source Data Fusion Software Based on Qt
张 喆 南京理工大学
李银伢 南京理工大学自动化学院
戚国庆 南京理工大学自动化学院

0497 Resilience Assessment of Multimodal Transportation Networks: A Hypergraph-Based Modeling Framework
Mengmeng Yin Nanjing University of Science and Technology
Kun Tang Nanjing University of Science and Technology
Jinhong Ding Nanjing University of Science and Technology
Tangyi Guo Nanjing University of Science and Technology

0696 BEVFusion-Based Multimodal Perception Optimization: Dynamic Spatial Adaptation and Edge-Aware Enhancement for Autonomous Driving
Jiajun Guo Nanjing University of Science and Technology
Liang Shan Nanjing University of Science and Technology
Enhui Ma Nanjing University of Science and Technology
Dongzhe Hu Nanjing University of Science and Technology
Zhidong Qi Nanjing University of Science and Technology

0717 Dynamic Decoupled Event-triggered Nonlinear State Estimation for Sensor Networks with Incomplete Measurements
Yuan Liang Nanjing Institute of Technology
Ye Chen Nanjing Institute of Technology
Sujuan Chen Nanjing Institute of Technology
Chunyan Zhang Nanjing Institute of Technology
Yinya Li Nanjing University of Science and Technology
Guoqing Qi Nanjing University of Science and Technology

0783 Distributed IMU Pose Estimation of Hyper-Redundant Manipulator Based on ESKF
Cheng Zhu Nanjing University of Science and Technology
Liaoxue Liu Nanjing University of Science and Technology
Lisong Xu Nanjing University of Science and Technology
Jian Guo Nanjing University of Science and Technology

0797 Sequential covariance intersection-based distributed nonlinear state estimation under denial of service
Tianhong Huang Southwest Jiaotong University
Yinping Ma Nanjing University of Science and Technology

0118 Defective insulator detection algorithm based on improved YOLO v7 lightweight model
Jinhui Han Nanjing University of Science and Technology
Haifeng Jiang Nanjing University of Science and Technology
Xiang Zhang Nanjing University of Science and Technology
Weiwei Lv Nanjing University of Science and Technology

0199 Research on Fish School Quantity Detection Algorithm Based on HyperC2Net+MANet Improved YOLO11
Yaqing Li Nanjing University of Science and Technology
Yun Zhu Nanjing University of Science and Technology
Feng Zhou Xiamen Ocean Vocational College
Maochun Wei Xiamen Ocean Vocational College
Jialuo Chen Nanjing University of Science and Technology

0206 Subway Pantograph Arcing Detection Based on YOLOv10-CSEC

Peng Zhou Nanjing University of Science and Technology
Yunxiao Fu CRRC Academy
Zongyi Xing Nanjing University of Science and Technology
Sheng Li Nanjing University of Science and Technology
Ning Liu Nanjing University of Science and Technology

0219 MST-BILSTM: An improved Bi-LSTM method based on multi-scale Spatio-Temporal feature fusion and attention mechanism for ECG recognition

Minghao Ma Nanjing University of Science and Technology
Wang Lingling Nanjing University of Science and Technology
Yanqi Zhao Nanjing University of Science and Technology
Lili Wang Nanjing University of Science and Technology

0250 Energy Management Strategy of PEMFC Hybrid Power Supply System Based on Q-Learning

徐俊嵩 南京理工大学
戚志东 南京理工大学
周　杰 南京理工大学
沈朝阳 南京理工大学
柏理音 南京理工大学
曹忠博 南京理工大学

0307 A traffic road small target detection algorithm based on improved YOLOv8n

蔡奕暄 南京林业大学
林嗣茂 南京理工大学
范家瑞 南京理工大学

0347 End-to-end model for vision-language navigation based on pre-trained model

Mingyi Wu Nanjing University of Science and Technology
Bin Feng Nanjing University of Science and Technology
Weihua Fan Nanjing University of Science and Technology
Yifei Feng Nanjing University of Science and Technology

0404 An Improved YOLOv8 Algorithm for Infrared Recognition of Train Running Gear Components

Chucheng Shi Nanjing University of Science and Technology
Yong Zhang Nanjing University of Science and Technology
Qiuyang Li Nanjing University of Science and Technology
Hui Wang Nanjing University of Science and Technology
Yihang Jian Nanjing University of Science and Technology

0432 Multi-Agent Deep Reinforcement Learning for Regional Traffic Signal Control: A Topology-Aware Approach

Shan Wang NanJing University of Science and Technology
Zhuping Zhou NanJing University of Science and Technology
Zixu Wang Nanjing University of Science and Technology

0467 Learning Higher-Order Migration Patterns: A Hypergraph Approach to Urban Mobility Prediction

Jinhong Ding Nanjing University of Science and Technology
Kun Tang Nanjing University of Science and Technology
Mengmeng Yin Nanjing University of Science and Technology
Tangyi Guo Nanjing University of Science and Technology

0468 Fasteners Object Detection for Low-light Metro Undercarriage Environments

熊　孜 南京理工大学
詹鸿运 南京理工大学
刘辽雪 南京理工大学
郭　毓 南京理工大学

0472 Short-Term Passenger Flow Prediction for Subway Based on Bi-LSTM and Random Forest

Xinru Liu Nanjing University of Science and Technology
Peiyu Xu Nanjing University of Science and Technology

0491 Improved DQN path planning method based on Transformer

Yifei Feng Nanjing University of Science and Technology
Bin Feng Nanjing University of Science and Technology
Weihua Fan Nanjing University of Science and Technology
Mingyi Wu Nanjing University of Science and Technology

0536 Trajectory Prediction Algorithm for Multi-agent Systems Based on HOFA-Informed Neural Networks

Qinlong Du Harbin Institute of Technology
Xin Huo Harbin Institute of Technology
Qianning Liu Harbin Institute of Technology
Baohan Mi Harbin Institute of Technology

0606 Ghost-YOLO: A Lightweight Traffic Sign Detection Framework via GhostNetV3

Xiaosong Chu Nanjing University of Science and Technology
Zhuping Zhou NanJing University of Science and Technology
Wangping Liao Nanjing University of Science and Technology
Xianshi Pan Nanjing University of Science and Technology

0610 Research on Laser Warning Angle Prediction Based on Deep Neural Networks

ChenLin Niu North University of China
Xiao Li North University of China
Xinwen Chen North University of China
Yaqi Wang North University of China
Shuai Yang North University of China
Rui Zhang North University of China
Zhibin Wang North University of China
Shun Liu North University of China

0690 Dual Cross-Lingual Alignment for Multilingual Dialogue Generation

Jining Huang China Mobile Guangdong
Nanchang Lu China Mobile Guangdong
Guangming Chen China Mobile Guangdong
Dayang Liu China Mobile Guangdong
Baodong Wu China Mobile Guangdong
Xiaoming Liang China Mobile Guangdong
Zebo Huang China Mobile GBA (Greater Bay Area) Innovation Institute
Xiaoguang Jia China Mobile Guangdong
Zihui Miao China Mobile GBA (Greater Bay Area) Innovation Institute

0695 Excitation-Oriented Forgetting Recursive Least Squares

Lukai Bin Harbin Institute of Technology, Shenzhen
Juncheng Xu Harbin Institute of Technology, Shenzhen
Jiangang Li Harbin Institute of Technology, Shenzhen

0714 Leveraging Knowledge Graph and Large Language Model Synergies for Intelligent Fault Analysis in Urban Rail Transit Signaling Systems

宿天丰 南京理工大学
马辰婧 南京理工大学
陈　新 南京理工大学
王晓函 南京理工大学

0715 A Deep Learning Framework for Rail Station Passenger Flow Prediction with Temporal Knowledge Graph Embedding

Xiaohan Wang Nanjing University of Science and Technology
Xin Chen Nanjing University of Science and Technology
Licong Fu Nanjing University of Science and Technology

张贴报告 Poster Session 2:

July 6, Sunday
三楼钟山厅序厅

0754 Knowledge Graph and Deep Learning-based Fault Diagnosis for Urban Rail Signal Systems
Xinyi Nian — Nanjing University of Science and Technology
Zhuping Zhou — Nanjing University of Science and Technology

0765 SDMStega:Robust Steganography based on Stable Diffusion Model and Spread Spectrum Technology
Longlong Guo — Nanjing University of Science and Technology
Yao-bin Mao — Nanjing University of Science and Technology

0777 Risk Prediction of Traffic Accidents based on Temporal Knowledge Graphs and Enhanced Multi-Graph Attention Networks
Ruihao Liu — Nanjing University of Science and Technology
Tangyi Guo — Nanjing University of Science and Technology
Yifan Chen — Nanjing University of Science and Technology

0793 Pedestrian Detection in Urban Rail Transit Based on Deep Learning
Shuaibo Yu — Nanjing University of Science and Technology
Liu He — Nanjing University of Science and Technology
Wei Zhou — Nanjing University of Science and Technology

0032 Active Power Decoupling Control Based on Fully-Actuated System Approach For Single-Stage AC-DC Converters
Yadong Wei — South China University of Technology
Bo Zhang — South China University of Technolog

0495 A High-Order Fully Actuated System Approach to Control of the 2D Cubli
Zongbiao Weng — Southern University of Science and Technology
He Kong — Southern University of Science and Technology

0646 Adaptive Neural Heading Control for Roll Reduction of FLNG in Multi-directional Sea Conditions
Yueyi Chen — Technology Center for Offshore and Marine Singapore
Xiaoling Liang — National University of Singapore
Hongchao Wang — University of Science and Technology
Xiangbo Liu — Technology Center for Offshore
Ching Theng Liong — Technology Center for Offshore and Marine Singapore
Bernard Voon Ee HOW — Singapore Institute of Technology
Dan Bao — Nanjing University of Science and Technology
Shuzhi Sam Ge — National University of Singapore

0024 Solving Trajectory Tracking of High-Order Fully Actuated Systems by Iterative Learning Control
Zeyi Zhang — Renmin University of China
Hao Jiang — Renmin University of China
Dong Shen — Renmin University of China

0047 Data-driven High-order Fully Actuated Iterative Learning Control for Unknown Nonaffine Nonlinear Systems
Na Lin — Qingdao University of Science & Technology
Ronghu Chi — Qingdao University of Science & Technology

0194 Anti-Disturbance Hierarchical Sliding Mode Controller for Deep-Sea Cranes with Adaptive Control and Neural Network Compensation
Qian Zuo — Hebei University of Technology
Shujie Wu — Hebei University of Technology
Yuzhe Qian — Hebei University of Technology

0298 Efficient Federal Learning in USV-AUVs Collaborative Networks
Liang Gan — Nanjing University of Science and Technology
Yanqi Zhao — Nanjing University of Science and Technology
Minghao Ma — Nanjing University of Science and Technology
Lili Wang — Nanjing University of Science and Technology

0328 Neural Network-Based Adaptive Control for Uncertain Nonlinear Systems with Input Quantization
Shuo Wang — Southwest Jiaotong University
Yan Fei — Southwest Jiaotong University
Guoxiang Gu — Louisiana State University

0396 Adaptive Sliding Mode Control for Multi-Segment Cable-Driven Continuum Manipulators
Yang Lu — Nanjing University of Science and Technology
Lu Wang — Nanjing University of Science and Technology
Jian Guo — Nanjing University of Science and Technology

0520 A PSO-Neural Network Hybrid Algorithm for Optimal Jamming Resource Allocation
Xu Yu — Nanjing University of Science and Technology
Xingxiu Li — Nanjing University of Science and Technology
Shan He — Nanjing University of Science and Technology
Panlong Wu — Nanjing University of Science and Technology

0568 Collaborative Optimal Control Strategy for Complex Distribution Networks with Large-scale Wind and Solar Integration
Kun Wang — Nanjing University of Science and Technology
Cheng Wang — Jiangsu Province Power Transmission and Transformation Co., Ltd
Hechun Pu — Nanjing University of Science and Technology
Shiqi Liu — Nanjing University of Science and Technology
Wei Liu — Nanjing University of Science and Technology

0569 Optimal Dispatch-control of an Integrated Energy System Based on Adaptive Model Predictive Control
Hechun Pu — Nanjing University of Science and Technology
Zhenqiang Jin — Jiangsu Province Power Transmission and Transformation Co., Ltd
Kun Wang — Nanjing University of Science and Technology
Guangqiang Lv — Nanjing University of Science and Technology
Junfang Zhang — Nanjing University of Science and Technology

0621 Discrete-time optimal disturbance rejection control for Buck converter
Wei Liu — Nanjing University of Science And Technology
Peng Zhang — Nanjing University of Science and Technology

0623 Adaptive Clamping Force Control of Electromechanical Brake System Based on High-Order Fully Actuated System Approaches
Wenzhuang Wang — Yanshan University
Jizhe Wang — Yanshan University
Yuchen Wang — Yanshan University
Wenhao Shi — Yanshan University
Yahui Zhang — Yanshan University

0698 Neural Network Learning Control for Friction Compensation with Enhanced Generalizability
Yibin Huang — Harbin Institute of Technology (Shenzhen)
Wentao Xie — Harbin Institute of Technology (Shenzhen)
Jiangang Li — Harbin Institute of Technology (Shenzhen)

0787 Noncooperative Game Based on Iteration Learning for Nonlinear Optimal Regulation
Yating Liu — Nanjing University of Science and Technology
Guoqing Qi — Nanjing University of Science and Technology
Yinya Li — Nanjing University of Science and Technology
Andong Sheng — Nanjing University of Science and Technology

0813 Model-free Adaptive Control Strategy for Three-phase Two-level Voltage Source Inverters
Xuchao Hu — Jiangnan University
Cheng-Lin Liu — Jiangnan University

0041 Design of a New Pump-Suction Surface Cleaning Robot
Yuyang Zhang — Nanjing University of Science and Technology
Wencheng Zou — Nanjing University of Science and Technology
Sheng Li — Nanjing University of Science and Technology

0081 Fully Actuated System Approach for Vehicle Lateral Control
Ruihe Shi — Harbin Institute of Technology
Guangren Duan — Harbin Institute of Technology

0292 Motion Planning Method of Continuum Manipulator based on Multi Objective Optimization

Zihe Wang Nanjing University of Science and Technology
Liaoxue Liu Nanjing University of Science and Technology
Lu Wang Nanjing University of Science and Technology
Yu Guo Nanjing University of Science and Technology

0434 Application of Fuzzy Adaptive High-Order Fully Actuated Control Strategy in SbW for Angle Tracking

Zhenghui Geng Yanshan University
Yuchen Wang Yanshan University
Linghuan Zheng YanShan University
Xin Ren Yanshan University
Yahui Zhang Yanshan University

0494 Teleoperation System Design for Live Working Robot Based on Position-Velocity Mapping

Chenhao Wang Nanjing University of Science and Technology
Zihe Wang Nanjing University of Science and Technology
Liaoxue Liu Nanjing University of Science and Technology
Yu Guo Nanjing University of Science and Technology

0554 Sliding Mode Control for Flexible Joint Space Robot Via Nonlinear Integration

Yongkang Zhang Nanjing University of Science and Technology
Lu Wang Nanjing University of Science and Technology
Liaoxue Liu Nanjing University of Science and Technology
Yu Guo Nanjing University of Science and Technology

0620 Attitude Control of Rigid Spacecraft Based on the Theory of Nonlinear Negative Imaginary Systems

Wenqi Yu Beijing Institute of Technology
Zhuoyue Song Beijing Institute of Technology
Yijin Wang Beijing Institute of Technology
Huifang Li Beijing Institute of Technology

0624 Adaptive control for Active Rear-Wheel Steering System Based on High-order Fully Actuated System Coordinated with Fully Actuated Sliding Mode Control for Traction Control System

Kaiyang Feng Yanshan University
Zhaonan Li Yanshan University
Jizhe Wang Feng Yanshan University
Yuchen Wang Yanshan University
Kun Ma Yanshan University
Yahui Zhang Yanshan University

0634 A DRL-based path following and obstacle avoidance method for USV in water areas with environmental disturbances

Weilong Zhang Nanjing University of Science and Technology
Liang Shan Nanjing University of Science and Technology
Lu Chang Nanjing University of Science and Technology
Jianhu Yan Nanjing University of Science and Technology
Piaoyang Chen Nanjing University of Science and Technology
Yuewei Dai Nanjing University of Science and Technology

0709 Improved complete coverage path planning algorithm for Wall climbing robot

Dongzhe Hu Nanjing University of Science and Technology
Yi Qu Nanjing University of Science and Technology
Piaoyang Chen Nanjing University of Science and Technology
Jiajun Guo Nanjing University of Science and Technology
Liang Shan Nanjing University of Science and Technology

0748 Path planning based on Fusion of Improved A* and DWA Algorithm

Piaoyang Chen Nanjing University of Science and Technology
Liang Shan Nanjing University of Science and Technology
Dongzhe Hu Nanjing University of Science and Technology
Jinlong Zhang Nanjing University of Science and Technology
Jun Li Nanjing University of Science and Technology

0753 Research on the unmanned tank cooperative maneuvering strategy based on deep reinforcement learning

Ye Wu Nanjing University of Science and Technology
Xianchun Zhang Nanjing University of Science and Technology
Xiufeng Chen Nanjing University of Science and Technology

0795 Integrated Hierarchical Control for Quadrotor-Slung Payload System

EnHui Ma Nanjing University of Science and Technology
Liang Shan Nanjing University of Science and Technology
Piaoyang Chen Nanjing University of Science and Technology
Jinlong Zhang Nanjing University of Science and Technology
Chenglin Liu Nanjing University of Science and Technology

0826 NESO Based Ultra-Local Model Predictive Control for Autonomous Vehicle Path Tracking and Roll Stability

Tianlin Ju Nanjing University of Science and Technology
Haoping Wang Nanjing University of Science and Technology
Yang Tian Nanjing University of Science and Technology
Yixin Han Nanjing University of Science and Technology
Sofiane Ahmed Ali Evry Val-d'Essonne University, Universite Paris-Saclay
Vicenç Puig Technical University of Catalonia

0832 Inverse Kinematics Solution for Rope-driven Continuum Robot Based on Gray Wolf Optimization Algorithm

Yixuan Wang Nanjing University of Science and Technology
Haoxuan Shi Nanjing University of Science and Technology
Yu Xia Nanjing University of Science and Technology
Songyu Wang
Wenhao Zhu Nanjing University of Science and Technology
Yu Guo Nanjing University of Science and Technology

0847 Fixed-time feedback control design of input-delay spacecraft rendezvous system based on fully actuated system theory

Baowen Zhang Guangxi Normal University
Qianqian Lu Guangxi Normal University
Mengjie Chen Guangxi Normal University

0140 A Novel Seven-Level Inverter Based on Switching Capacitor

Xinyu Zhang Nanjing University of Science and Technology
Guangqiang Lv Nanjing University of Science and Technology
Qianxi Yang Nanjing University of Science and Technology

0265 QEMU-Based Simulation of On-Board GNC System

Chen Gong Shanghai Academy of Spaceflight Technology
Hao Yu Shanghai Academy of Spaceflight Technology

0343 电网对称故障下构网型变流器自适应限流策略

董　亮 南京理工大学
赵志宏 南京理工大学
徐逸杨 南京理工大学
陈思雨 南京理工大学

0496 Research and Application of Software Reuse Technology in Satellite Control System

Gengpai Hua Shanghai Aerospace Control Technology Institute
Cheng Gong Shanghai Aerospace Control Technology Institute
Yong Huang Shanghai Aerospace Control Technology Institute

0658 Motion Control of Complex Gantry Dual-Drive Platform Based on Fully Actuated System Theory

Hao Fan Shanghai Jiao Tong University
Guangyu Wei Southeast University
Chaochen Gu Shanghai Jiao Tong University

0733 考虑电流限幅的构网型变流器直流侧电压控制策略研究

徐逸杨 南京理工大学
赵志宏 南京理工大学
陈思雨 南京理工大学
董　亮 南京理工大学

0846 Design and Implementation of Oilfield Wireless Data Manager
WenDian Zhang Changchun Automobile Industry higher College

0406 Research on seat optimization strategy and passenger choice behavior of high-speed rail operators based on evolutionary game theory
Xingzhao Li Nanjing University of Science and Technology
Jiaqi Pan Nanjing University of Science and Technology

0304 Modeling predictive control for the LCL grid-connected inverter fully- actuated system
Yanyu Zhao Harbin Institute of Technology
Xuemei Zheng Harbin Institute of Technology
Xingyu Zhang Harbin Institute of Techonlogy

0790 Manipulability-Guided MPC with Repulsive Potential Fields for Mobile Manipulator Whole-Body Control
Jinlong Zhang Nanjing University of Science and Technology
Liang Shan Nanjing University of Science and Technology
Enhui Ma Nanjing Univercity of Science and Technology
Piaoyang Chen Nanjing Univercity of Science and Technology
Weixi Wang Nanjing Univercity of Science and Technology

0196 Zero-Velocity Detection Algorithm for Inertial Pedestrian Navigation Based on PSO-DBSCAN Clustering
Yuxing An Nanjing University of Science and Technology
Lingke Zhou Nanjing Univercity of Science and Technology
Sheng Li Nanjing Univercity of Science and Technology

0247 Emergency Return Method of Lunar Rover Based on Rut Tracking
Bo Zheng Shanghai Aerospace Control Technology Institute
Tao Hu Shanghai Aerospace Control Technology Institute
Fei Huang Shanghai Aerospace Control Technology Institute
Zhouyuan Qian Shanghai Aerospace Control Technology Institute
Hanmo Zhang Shanghai Aerospace Control Technology Institute
Tao Cao Shanghai Aerospace Control Technology Institute

0248 A System Ensuring the Effectiveness of Lunar Rover in Highly Bumpy Environments
Tao Hu Shanghai Aerospace Control Technology Institute
Bo Zheng Shanghai Aerospace Control Technology Institute
Fei Huang Shanghai Aerospace Control Technology Institute
Zhouyuan Qian Shanghai Aerospace Control Technology Institute
Hanmo Zhang Shanghai Aerospace Control Technology Institute
Tao Cao Shanghai Aerospace Control Technology Institute
Liang He Shanghai Aerospace Control Technology Institute

0412 Satellite Integrated Navigation Algorithm Based On AREKF
Hao Yu Shanghai Aerospace Control Technology Institute
Cheng Gong Shanghai Aerospace Control Technology Institute
Chunyang Liu Shanghai Aerospace Control Technology Institute
Yong Huang Shanghai Aerospace Control Technology Institute
Wenjing Zhang Shanghai Aerospace Control Technology Institute

0464 An Adaptive Proportional Navigation Algorithm Based on BADS under Solar Illumination Constraint
Changhao Gao Nanjing University of Science and Technology
Xingxiu Li Nanjing University of Science and Technology
Chaojie Zhang Nanjing University of Science and Technology
Shan He Nanjing University of Science and Technology
Panlong Wu Nanjing University of Science and Technology

0565 A cooperative guidance method based on trust region strategy optimization learning under terminal impact angle constraint
Ge Lan Harbin Institute of Technology
Xiao Jun Ban Harbin Institute of Technology

0573 Group Target Fine Tracking Algorithm Based on Velocity Correction via Collaborative Relationships
Shuai Ke Nanjing University of Science and Technology
Guoqing Qi Nanjing University of Science and Technology
Yinya Li Nanjing University of Science and Technology
Andong Sheng Nanjing University of Science and Technology

0582 State Estimation and Trajectory Prediction of Near Space Hypersonic Vehicles
Congrao Wang Harbin Institute of Technology
Bowei Yan Harbin Institute of Technology
Xiao Jun Ban Harbin Institute of Technology
Di Zhou Harbin Institute of Technology

0774 Online Allan Variance Noise Coefficient Estimation Method Based on Iterative Least Squares
Zhangyi Wu Nanjing University of Science and Technology
Yuanyuan Sun Beijing Institute of Electronic Engineering
Bo Zhang Nanjing University of Science and Technology
Xiang Xu Nanjing University of Science and Technology

0809 Variational Bayesian Kalman Filtering Algorithm for GPS/INS Integrated Navigation System
Yiren Wang Nanjing University of Science and Technology
Yuanyuan Sun China Aerospace Science and Industry Corporation Limited
Zhangyi Wu Nanjing University of Science and Technology
Xiang Xu Nanjing University of Science and Technology

0825 考虑电流限幅的构网型变流器直流侧电压控制策略研究
武云丽 北京控制工程研究所

0685 Predictor-Based Load Frequency Control for Large-Scale Networked Control Power Systems
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0209 Switch-Free Prescribed-Time Control for Attitude Consensus of Multiple Spacecraft: A Fully Actuated System Approach
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0840 Pred-ID: Future Event Prediction Based on Event Type Schema Mining by Graph Induction and Deduction
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0423 Continuous Safety-Critical Control of Euler-Lagrange Systems Subject to Multiple Obstacles and Velocity Constraints
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0600 Observer Design and Attitude Control for Dumbbell-shaped Spacecraft Using a Fully-actuated System Approach
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0631 Adaptive Control of Fully-Actuated Cable-Driven Parallel Robots for Mars Rover Landing Simulation
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0635 Practical Finite-Time Sliding Mode Control of Stochastic Systems via Output Feedback
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0637 Disturbance Observer-Based Sliding Mode Control of PMSM via High-Order Fully Actuated System Approaches

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Juxing Tian	Clean Energy Company
Xinpo Lin	Harbin Institute of Technology
Zhuang Liu	Harbin Institute of Technology
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0677 Predefined-Time Control for Nonplanar Hexarotor UAVs Based on High-Order Fully Actuated System Theory

Ruizhi Tong	Harbin Institute of Technology
Runze WANG	Harbin Institute of Technology
Yankui Shi	Harbin Institute of Technology
Hongzhen Li	Harbin Institute of Technology
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0843 Fully Actuated System Approach to Tracking Control of Fixed-Wing Unmanned Aerial Vehicles

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Jiahui Wang	Harbin Institute of Technology
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0858 Fixed-Time Fuzzy Sliding Mode Control of Nonlinear Systems with Stochastic Processes

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0043 Model-based dynamic periodic event-triggered control for nonlinear networked control systems with transmission delays

Wangjiang Li	China Three Gorges University
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0076 Prescribed-Time Active Fault-Tolerant Control for Bipartite Average Tracking of Multiagent Systems With Matrix-Weighted Signed Network

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0557 Planetary Landing Site Selection Using Multi-Modal Information Fusion

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Sihan Wang	Shanghai Institute of Satellite Engineering
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Yanning Guo	Harbin Institute of Technology
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0830 Frilled Lizard Optimization based Fuzzy PD Control for Lower Limb Exoskeleton Rehabilitation Robots

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0819 Target Tracking Through Dynamic Feature Fusion and Adaptive Attention Optimization in Dynamic Marine Environments

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0823 Anti-Saturation Quantization Control for Quadrotor Attitude: Dynamic Surface-Based RBF Adaptive Approach

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0850 Biometric-based lightweight V2I authentication and key exchange protocol

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Moli Zhang	Henan University of Science and Technology
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0851 Graph-text Adversarial Distillation Model for Document-level Joint Relation Extraction

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Jiamei Feng	Henan University of Science and Technology
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0503 Practical Prescribed-time Tracking Control for Underactuated WMR: A Fully Actuated System Approach

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0678 Distribute Nash equilibrium seeking for networked agent games with time-varying communication constraints

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Tingting Yu	Heilongjiang University
Xin Wang	Heilongjiang University

0450 Incomplete Multiview Clustering Based on Fully Actuated System Theory

Yangqianhui Zhang	Zhejiang University
Kexuan Wang	Dalian University of Technology
Ziyue Wang	Dalian University of Technology
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0812 Fuzzy Variable Droop Control Strategy for Wind Power Participation in First Primary Frequency Regulation Considering Source-Load Fluctuation Characteristics

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0357 Model-Free Output Regulation of Unknown Systems Under Denial-of-Service, Replay, and Deception Attacks

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0745 A Bone-Muscle Integrate Modular Actuator Based on 3D Printing

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0775 A Novel Z-Axis Silicon Micro-Accelerometer Based on Mode-Localization Effect

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