



南方科技大学
SOUTHERN UNIVERSITY OF SCIENCE AND TECHNOLOGY



第三届全驱系统理论与应用会议

The 3rd Conference on Fully Actuated
System Theory and Applications

(FASTA 2024)

程序册 Final Program

主办单位

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

承办单位

南方科技大学系统设计与智能制造学院

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Southern University of Science and Technology

Technical Committee on Fully Actuated System Theory and Applications, Chinese Association of Automation

Hosts

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Shenzhen Key Laboratory of Control Theory and Intelligent Systems

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May 10-12, 2024, Shenzhen, China

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欢迎辞

第三届全驱系统理论与应用会议(The 3rd Conference on Fully Actuated System Theory and Applications, FASTA2024) 将于2024年5月10-12日在广东省深圳市海德酒店召开。会议总主席由中国科学院院士、南方科技大学段广仁教授担任, 会议程序委员会主席由中国自动化学会会士、南方科技大学付敏跃教授担任。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、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。会议收录的英文论文会后将提交 IEEE Xplore数据库。



段广仁院士
会议总主席



付敏跃教授
会议程序委员会主席

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! 本届会议由南方科技大学与中国自动化学会全驱系统理论与应用专业委员会共同主办, 南方科技大学系统设计与智能制造学院承办, IEEE工业电子协会、IEEE广州分会、哈尔滨工业大学(深圳)、清华大学深圳国际研究生院、深圳大学以及中山大学协办。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, 经过严格、认真的评审程序, 共有308篇(包括27篇长摘要)被会议录用。本次会议安排口头报告33组, 共241篇论文, 会议期间共安排8-10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60篇论文。

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Zhong-Ping Jiang教授(纽约大学, 美国), Guo-Ping Liu教授(南方科技大学, 中国), Michael V. Basin教授(新莱昂自治大学, 墨西哥)。本次会议组织了两个分会场报告, 分别邀请了南方科技大学的林志贇教授, 清华大学的游科友教授, 哈尔滨工业大学的邱剑彬教授, 东北大学的马丹教授、刘腾飞教授, 上海交通大学的杨博教授, 哈尔滨工业大学(深圳)的吴爱国教授, 以及北京理工大学的杨庆凯教授担任主讲嘉宾。为了进一步营造学术氛围, 鼓励更多青年科学工作者和学生投身于全驱系统控制理论与应用的研究, 进一步提高学术论文的质量和会议的影响力, 会议设立“FASTA优秀青年论文奖”和“FASTA最佳学生论文奖”, 分别有6篇论文入围, 旨在奖励优秀青年学者以推动学科高端人才培养, 进一步促进自动控制理论与应用的发展。

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本届全驱系统理论与应用会议的支持! 第三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 3rd Conference on Fully Actuated System Theory and Applications (FASTA2024) will be held on May 10-12, 2024 at Haide Hotel, Shenzhen, Guangdong. The General Chair of the conference is Professor Guangren Duan, an Academician of the Chinese Academy of Sciences from the Southern University of Science and Technology, and the Program Committee Chair is Professor Minyue Fu, a Fellow of the Chinese Association of Automation, from the Southern University of Science and Technology. The conference aims to provide an academic exchange platform for domestic and foreign experts, scholars, and engineering and technical personnel engaged in the research field related to the theory and applications of fully actuated systems, to better publicize the research results in the field of fully actuated system theory and applications, and to promote the development of research on fully actuated system theory and applications. The conference takes the form of plenary lectures, semi-plenary lectures, oral sessions, and poster sessions. The working languages of the conference are Chinese and English. The accepted English papers will be submitted to the IEEE Xplore database after the conference.



Guangren Duan
General Chair



Minyue Fu
Program
Committee Chair

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

The conference is co-sponsored by the Southern University of Science and Technology and the Technical Committee on Fully Actuated System Theory and Applications, CAA, hosted by the School of System Design and Intelligent Manufacturing, Southern University of Science and Technology, and co-organized by IEEE Industrial Electronics Society, IEEE Guangzhou Section, Harbin Institute of Technology (Shenzhen), Tsinghua Shenzhen International Graduate School, Shenzhen University, and Sun Yat-Sen University.

A total of 353 papers are submitted from 12 countries and regions, including China, France, Australia, Singapore, Canada, America, Japan, Switzerland, etc. After a strict and careful review process, 308 papers (including 27 extended abstracts) are accepted by the conference. During the conference, 8-10 conference rooms are assigned for 4 rounds of oral presentation, including 33 oral sessions that cover a total of 241 papers. Two poster sessions, including a total of 60 papers, are also scheduled during the conference.

We are honored to invite three internationally famous scholars to deliver Plenary Lectures. They are Professor Zhong-Ping Jiang (New York University, USA), Professor Guo-Ping Liu (Southern University of Science and Technology, China), and Professor Michael V. Basin (Autonomous University of Nuevo Leon, Mexico). We also organize 8 Semi-plenary Lectures and they are delivered by Prof. Zhiyun Lin from Southern University of Science and Technology, Prof. Keyou You from Tsinghua University, Prof. Jianbin Qiu from Harbin Institute of Technology, Prof. Dan Ma and Prof. Tengfei Liu from Northeastern University, Prof. Bo Yang from Shanghai Jiao Tong University, Prof. Ai-Guo Wu from Harbin Institute of Technology (Shenzhen), and Prof. Qingkai Yang from Beijing Institute of Technology. In order to create an academic atmosphere, encourage more young scientists and students to devote themselves to the research of fully actuated system control theory and applications, and further improve the quality of academic papers and the influence of the conference, the conference set up the "FASTA Outstanding Youth Paper Award" and "FASTA Best Student Paper Award", with 6 papers shortlisted respectively. The conference aims to reward outstanding young scholars to promote the cultivation of high-end talents in the discipline and further promote the development of automatic control 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 and the semi-plenary 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 3rd Conference on Fully Actuated System Theory and Applications!

Welcome to the 3rd Conference on Fully Actuated System Theory and Applications!

Guangren Duan
General Chair

Minyue Fu
Program Committee Chair

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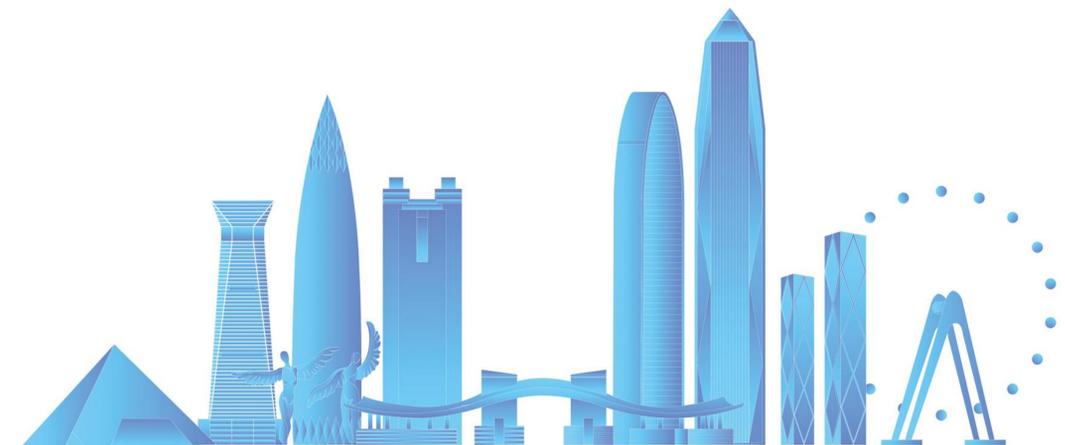
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会议程序总览 (Program at a Glance)

第三届全驱系统理论与应用会议

The 3rd Conference on Fully Actuated System Theory and Applications

中国·深圳 (Shenzhen, China) 2024.5.10-5.12

日期	时间	日程	会场
5月10日 (星期五)	8:00-22:00	报到注册	13F-海德酒店
May 10 (Friday)	20:00-21:00	中国自动化学会全驱系统理论与应用专业委员会工作会议	11F-川舟厅

日期	时间	日程	主持人	会场
5月10日 (星期五)	8:30-9:00	开幕式致辞		11F-海岚厅
	9:00-9:45	· 大会报告一: Small-Gain Theory for Stability and Control of Interconnected Systems · Speaker: Zhong-Ping Jiang · New York University, USA	丘立	11F-海岚厅
	9:45-10:30	· 大会报告二: High-order Fully Actuated Predictive Control for Networked Systems · Speaker: Guo-Ping Liu · Southern University of Science and Technology, China	郭雷	11F-海岚厅
5月11日 (星期六)	10:30-11:00	合影, 茶歇		11F-海逸厅
	11:00-11:45	· 大会报告三: Predefined-Time Convergent Continuous Controllers: Design and Applications · Speaker: Michael V. Basin · Autonomous University of Nuevo Leon, Mexico & Ningbo University of Technology, China	周东华	11F-海岚厅
May 11 (Saturday)	12:00	午餐自助		11F-海逸厅
	13:30-15:30	分组报告一, 张贴报告一, FASTA优秀青年论文奖评选		
	15:30-16:00	茶歇		11F-海逸厅
	16:00-18:00	分组报告二, 张贴报告一, FASTA优秀学生论文奖评选		
	18:00-19:30	晚餐自助		11F-海逸厅

日期	时间	日程	主持人	会场
5月11日 (星期五)	8:15-10:15 分会场报告 (一)	· 1. Control and Coordination of Unicycles: Exploring the Fully Actuated System Approach · Speaker: Zhiyun Lin · Southern University of Science and Technology, China	王龙	11F-海逸厅
		· 2. Output-Feedback Adaptive Boundary Control of Distributed Parameter Systems · Speaker: Jianbin Qiu · Harbin Institute of Technology, China	侯增广	
		· 3. Active Control of Thermoacoustic Systems · Speaker: Dan Ma · Northeastern University, China	刘德荣	
		· 4. Modeling and Control of Collision-Resilient Tensegrity Aerial Robots · Speaker: Qingkai Yang · Beijing Institute of Technology, China	周彬	
5月12日 (星期天)	8:15-10:15 分会场报告 (二)	· 1. Minimum Sample Data for Direct Data-driven Analysis and Adaptive LQR Design of Unknown Linear Systems · Speaker: Keyou You · Tsinghua University, China	申铁龙	11F-海容厅
		· 2. Small-Gain Methods for Safety-Critical Control · Speaker: Tengfei Liu · Northeastern University, China	刘万泉	
		· 3. Robust Energy Management and Operation of Integrated Energy Systems under Multiple Uncertainties · Speaker: Bo Yang · Shanghai Jiao Tong University, China	刘国平	
		· 4. High-order Fully Actuated Models for 2D Discrete Systems · Speaker: Ai-Guo Wu · Harbin Institute of Technology (Shenzhen), China	吴宗泽	
May 12 (Sunday)	10:15-10:45	茶歇		11F-海岚厅
	10:45-12:15	分组报告三, 张贴报告二		
	12:00	午餐自助		11F-海岚厅
	13:30-15:30	分组报告四, 张贴报告二		
	15:30-16:00	茶歇		11F-海逸厅
May 12 (Sunday)	16:00-17:00	闭幕式		11F-海岚厅
	17:00-20:00	晚宴		11F-海岚厅

组织机构 (Conference Committees)

- 主办单位:** 南方科技大学
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- 协办单位:** IEEE Guangzhou Section
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| 姜怀远 | 哈尔滨工业大学 | 孙慧杰 | 中山大学 | 张世杰 | 河南工业大学 |
| 靳水林 | 哈尔滨工业大学 | 唐漾 | 华东理工大学 | 张中才 | 曲阜师范大学 |
| 李彬 | 四川大学 | 万雄波 | 中国地质大学 | 赵博 | 北京师范大学 |
| 李朝艳 | 哈尔滨工业大学 | 王龙 | 北京大学 | 赵广磊 | 燕山大学 |
| 李慧平 | 西北工业大学 | 王鹏 | 上海交通大学 | 赵千川 | 清华大学 |
| 李萍 | 南方科技大学 | 王茜 | 杭州电子科技大学 | 郑凯 | 大连海事大学 |
| 李瑞 | 电子科技大学 | 王申全 | 长春工业大学 | 朱善迎 | 上海交通大学 |
| 李铁山 | 电子科技大学 | 王伟 | 山东大学 | 朱延正 | 山东科技大学 |
| 李雪芳 | 中山大学 | 王卓 | 北京航空航天大学 | 邹云 | 南京理工大学 |
| 李智斌 | 山东科技大学 | | | | |

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 (<http://fasta2024.fasta.org.cn/index/lists?id=339>)。
- Oral Presentation: 15 minutes (including discussion).
Please refer to the final program or the conference website about the arrangement of oral presentations.
<http://fasta2024.fasta-en.org.cn/index/lists?id=339>

张贴报告 (Poster Presentations)

- 会议将为每篇张贴论文提供一块标准展板 (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 (<http://fasta2024.fasta.org.cn/index/lists?id=344>)
- 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:
<http://fasta2024.fasta-en.org.cn/index/lists?id=344>

会场交通及周边

夫子国际会议中心位于深圳市南山区中心位置, 周边路网完善, 轨道交通便利, 与香港及深圳城市重要功能区联系紧密, 区位优势优越。

详细地址: 深圳市南山区粤海街道后海滨路3368号鹏润达商业广场西座11楼。

抵达方式:

地点	直线距离/公里 (大约)
深圳宝安国际机场	25公里
深圳北站	20公里
深圳站	20公里
深圳东站	30公里
福田高铁站	15公里

• 深圳宝安国际机场至夫子国际会议中心

1. 出租车: 车程约60分钟, 费用约80元。
2. 地铁: 约35分钟: 乘11号线 (岗厦北方向) → 后海站 (F口)

• 深圳北站至夫子国际会议中心

1. 出租车: 车程约45分钟, 费用约60元。
2. 地铁: 约40分钟。
地铁4号线深圳北站上车 (福田口岸方向) → 市民中心站换乘2号线 (赤湾方向) → 福田站换乘11号线 (碧头方向) → 后海站 (F口)

• 深圳站至夫子国际会议中心

1. 出租车: 车程约40分钟, 费用约60元。
2. 地铁: 约40分钟。
罗湖地铁站 → 乘1号线 (机场东方向) → 车公庙站换乘11号线 (碧头方向) → 后海站 (F口)

• 深圳东站至夫子国际会议中心

1. 出租车: 车程约1小时20分钟, 费用约90元。
2. 地铁: 约40分钟。
布吉东 → 乘14号线 (岗厦北方向) → 岗厦北站换乘11号线 (碧头方向) → 后海站 (F口)

• 福田高铁站至夫子国际会议中心

1. 出租车: 车程约35分钟, 费用约50元。
2. 地铁: 约20分钟。
福田站 → 乘11号线 (碧头方向) → 后海站 (F口)

会场环境:



海逸厅



海岚厅



海容厅



川舟厅



川云厅



川凌厅



清泽厅



清宏厅



休闲区



清波厅

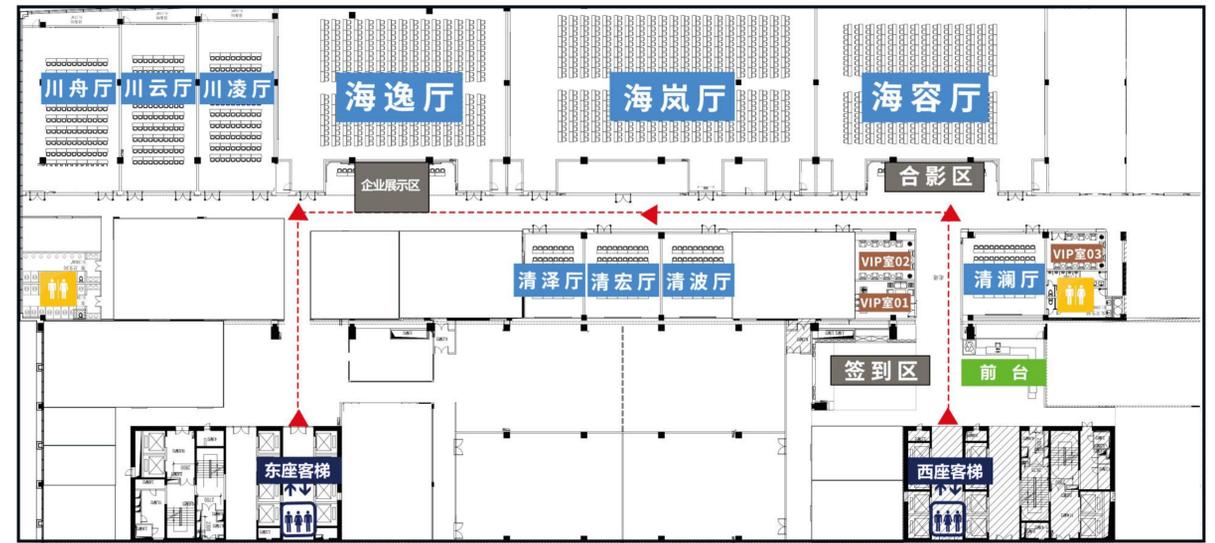


清澜厅



VIP厅

会场平面图:



会场周边:

夫子国际会议中心位于深圳市南山区中心位置后海总部基地, 后海滨路和海德三道交叉点。

10分钟连接深圳湾口岸;

25分钟瞬达福田CBD;

20分钟即至蛇口码头;

35分钟连通宝安国际机场。

地铁: 2号线/11号线—后海站F口

公交: 卓越后海中心站
B605 M209 M299 M467 M474



南方科技大学简介

南方科技大学(简称:南科大)坐落于风景优美的南海之滨,是深圳在中国高等教育改革发展的时代背景下创建的一所高起点、高定位的公办新型研究型大学。2010年12月南科大由教育部批准正式筹建,经过十余年的快速发展,2022年2月入选教育部第二轮“双一流”建设高校,成为全国最年轻的“双一流”建设高校之一,创造了中国高等教育发展史上的“新深圳速度”。南科大紧抓粤港澳大湾区发展的历史机遇,发扬“敢闯敢试、求真务实、改革创新、追求卓越”的创校精神,突出“创知、创新、创业”的办学特色,践行“明德求是、日新自强”的校训精神,致力于成为一所国际化高水平的研究型大学。

国际通行的人才制度

南科大肩负中国高等教育改革的使命,充分用好上级赋予学校的办学自主权,建立尊重学术规律的人才评价和管理机制。在全国高校中率先实行国际通行的“预聘长聘制”,采用学术委员会评审和国际同行评审机制,优化人才评价机制。实行“项目负责人(PI)制”,为教师提供具有竞争力的薪酬、充足的科研启动经费,独立的科研空间,支持教师独立组建科研团队开展科学探索,推动青年科研人才快速成长。成立教授委员会,组织教授参与学校治理和办学管理。邀请院系、教授代表参加学校战略研讨会、教师代表大会,面对面听取教授意见和建议,并逐一督促落实。科研部、教学工作部、人力资源部、研究生院等职能部门负责人均由资深教授担任,精准了解教师需求,为教师提供贴心服务。南科大面向学术前沿,国际人才学术交流活动频繁,国际交叉合作研究项目众多。

蓬勃广阔的发展平台

南科大面向世界科技前沿和国家重大需求,建立了以理、工、医为主,兼具商科和特色人文社科的学科体系。目前设置理学院、工学院、生命科学学院、医学院、商学院、人文社会科学学院、创新创业学院、创新创意设计学院等八大学院,建成34个院系及若干中心。仅用十余年时间,快速建成本硕博人才培养体系。2023年9月,入选第二批国家卓越工程师学院建设高校(全国24所高校之一)。获批成为国家工程硕博培养改革专项建设高校(全国30所高校之一)。现有在校学生11000余人,其中本科生5000余人,研究生6000余人。率先改革招生制度,采用“基于高考的综合评价录取模式”,以综合素质、创新能力为导向,根据综合成绩选拔培养具有学科特长和创新潜质的优秀学子。

学校聚焦前沿科技、注重学科交叉和融合,探索建立“基础学科+前沿应用平台+重大攻关任务+高端人才培养”协同创新模式,每个基础学科和重大平台由顶尖院士或诺奖级人才领衔,形成“学科-基地-团队-人才”一体化组织模式。其中,格拉布斯研究院、杰曼诺夫数学中心、斯发基斯可信自主系统研究院为深圳市诺贝尔奖科学家实验室。深度参与自由电子激光综合粒子设施、材料基因组等大科学装置建设,通过重大攻关任务培养造就战略科学家。同时,与龙头企业联合设立实验室,打造由龙头企业牵头、高校和科研院所支撑、各创新主体参与的创新联合体,支持科研人员在岗创业或企业兼职。在2023年最新自然指数排行榜中,南科大位列中国高校第13位。

追求卓越的事业伙伴

南科大灵活高效面向国际引才,汇聚了一支国际化、高水平、年轻化的教师队伍。截至目前,已签约引进教师1400余人,包括院士64人(签约引进与自主培养全职院士48人)、“国家自然科学基金杰出青年基金”获得者57人,教育部特聘教授38人。连续六年获深圳“人才伯乐奖”第一名。教师队伍中,45岁及以下教师占比约80%。教学科研系列教师90%以上具有海外工作经验,60%以上具有在世界排名前100名大学工作或学习的经历,高层次人才占教研系列50%以上。



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)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,副主任由中国自动化学会副理事长、清华大学周东华教授,南京理工大学邹云教授,山东大学冯俊娥教授,燕山大学华长春教授,哈尔滨工业大学(深圳)吴爱国教授,南方科技大学徐翔研究员担任,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。

物理上的全驱系统指的是有效控制输入数量等于受控自由度数量的一类控制系统。对这一物理概念进行数学层面的推广而得到的全驱系统模型与方法为控制系统的建模与设计提供了一条更加简单、有效的途径。全驱系统理论与应用的内容主要包括全驱系统的系统建模、控制、优化、学习、决策等系统理论与方法,在控制工程领域,特别是在航空、航天控制领域,全驱系统具有广泛的代表性,比如,航天器的轨道/姿态动力学系统经牛顿运动定律建模后天然地具备二阶全驱系统形式。随着世界航空、航天科技的快速发展,航空、航天飞行器结构日趋先进和复杂,由此带来了强耦合、强非线性和大不确定性等问题,同时对飞行器的性能也提出了越来越高的要求。航空、航天飞行器的性能不仅取决于系统的硬件配置,也取决于控制算法的优劣。在这种情形下,如何结合全驱系统理论与方法的优越性,针对航空、航天领域的迫切需求,提出先进且行之有效的飞行器控制方法,是一个具有挑战性的问题,也具有重要的实际参考价值。

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(筹)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。此次会议将采用大会报告、专题研讨会、分组报告和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。



Technical Program

Plenary Lectures

Plenary Lecture 1

5月11日 9:00-9:45 海岚厅
May 11, 9:00-9:45 Hailan Hall

Zhong-Ping Jiang
New York University, USA

Small-Gain Theory for Stability and Control of Interconnected Systems

Chair: Li Qiu, Southern University of Science and Technology, China

Abstract: The world is nonlinear and linked. Small-gain theory is one of the most important tools to tackle fundamentally challenging control problems for interconnected nonlinear systems. In this talk, I will first review our early work in nonlinear small-gain theorems and associated nonlinear control design. Then, I will present recent developments in network small-gain theorems for complex large-scale nonlinear systems, with applications to networked and event-triggered control under communications and computation constraints. Finally, I will discuss how small-gain methods can be integrated with reinforcement learning techniques to solve real-time decision-making problems when the system model is completely unknown. Autonomous driving and human motor control will be used to illustrate our recent research in learning-based control, a new direction in control theory.



Zhong-Ping Jiang received the M.Sc. degree in statistics from the University of Paris XI, France, in 1989, and the Ph.D. degree in automatic control and mathematics from ParisTech-Mines (formerly called the Ecole des Mines de Paris), France, in 1993, under the direction of Prof. Laurent Praly. Currently, he is a Professor of Electrical and Computer Engineering at the Tandon School of Engineering, New York University. His main research interests include stability theory, robust/adaptive/distributed nonlinear control, robust adaptive dynamic programming, reinforcement learning, and their applications to information, mechanical, and biological systems. In these fields, he has written six books and is the author/co-author of about 600 peer-reviewed journal and conference papers.

Prof. Jiang is a recipient of the prestigious Queen Elizabeth II Fellowship Award from the Australian Research Council, CAREER Award from the U.S. National Science Foundation, JSPS Invitation Fellowship from the Japan Society for the Promotion of Science, Distinguished Overseas Chinese Scholar Award from the NSF of China,

and several best paper awards. He has served as Deputy Editor-in-Chief, Senior Editor and Associate Editor for numerous journals. Prof. Jiang is a Fellow of the IEEE, IFAC, CAA, and AAIA, a foreign member of the Academia Europaea (Academy of Europe), and is among the Clarivate Analytics Highly Cited Researchers and Stanford's Top 2% Most Highly Cited Scientists. In 2022, he received the Excellence in Research Award from the NYU Tandon School of Engineering.

Plenary Lecture 2

5月11日 9:45-10:30 海岚厅
May 11, 9:45-10:30 Hailan Hall

Guo-Ping Liu

Southern University of Science and Technology, China

High-order Fully Actuated Predictive Control for Networked Systems

Chair: Lei Guo, Beihang University, China

Abstract: The rapid development of network technology accelerates the development of networked systems, such as the Internet of Things and industrial Internet systems. This talk mainly introduces the high-order fully actuated predictive control for networked systems. A generic high-order fully actuated model in the discrete-time domain is employed to describe the control problem of both networked linear and nonlinear systems with communication constraints. Based on this model, various high-order fully actuated predictive control schemes are discussed, which actively compensate for communication constraints and simultaneously achieve the required stability and performance. Those schemes greatly simplify the design of networked control systems with communication constraints and significantly make them have a similar control performance to networked systems without communication constraints. The closed-loop high-order fully actuated predictive control systems are analysed and the criteria on their stability are derived. Various simulations and experiments successfully demonstrate the effectiveness of the high-order fully actuated predictive control schemes.



Guo-Ping Liu received the BEng degree in industrial automation and MEng degree in control engineering from the Central South University of Technology in China and the PhD degree in control systems from the University of Manchester in the UK. He was a professor with the Institute of Automation in the Chinese Academy of Sciences, University of South Wales, Harbin Institute of Technology, and Wuhan University. He is now a chair professor with the Southern University of Science and Technology. Prof Liu's research interests include networked control systems, multi-objective optimal control and intelligent decision, nonlinear identification and intelligent control, and industrial advanced control applications. He was named a highly cited researcher by Thomson Reuters, Clarivate Analytics, and Elsevier, and was awarded the Alexander von Humboldt research fellowship. He received the second prize of Chinese National Science and Technology Awards twice. Prof. Liu was the general chair of the 2007 IEEE International Conference on Networking, Sensing and Control, 2011 International Conference on Intelligent Control and Information Processing, and 2012 UKACC International Conference on Control. He is a member of the Academy of Europe and a fellow of IEEE, IET, and CAA.

Plenary Lecture 3

5月11日 11:00-11:45 海岚厅
May 11, 11:00-11:45 Hailan Hall

Michael V. Basin

Autonomous University of Nuevo Leon, Mexico & Ningbo University of Technology, China

Predefined-Time Convergent Continuous Controllers: Design and Applications

Chair: Donghua Zhou, Tsinghua University, China

Abstract: This talk presents predefined-time convergent continuous controller design for scalar and multidimensional systems with incompletely measured states and matched/unmatched disturbances. The theoretical design principles are outlined and applied to stabilization problems for full-scale 4D permanent-magnet synchronous motor (PMSM) and brushed direct current (DC) motor systems. Three cases have been considered: disturbance-free, in presence of matched/unmatched deterministic disturbances satisfying Lipschitz condition, and in presence of both matched/unmatched stochastic white noises and deterministic disturbances satisfying Lipschitz condition. A predefined-time convergent observer is designed to reconstruct unmeasurable system states and provide the controller feedback. Numerical simulations are conducted to validate the obtained theoretical results in each of the three considered cases. The simulation results demonstrate that the employed values of the predefined-time convergent control inputs are applicable in practice and verify the algorithm efficiency in each considered case. Finally, some ideas for designing predefined-time convergent continuous controllers based on the concept of fully actuated systems are discussed.



Michael V. Basin received his Ph.D. degree in Physical and Mathematical Sciences with major in Automatic Control and System Analysis from the Moscow Aviation University (MAI) in 1992. He is currently Full Professor with the Autonomous University of Nuevo Leon, Mexico, and the Ningbo University of Technology, China. Starting from 1992, Dr. Basin published more than 400 research papers in international referred journals and conference proceedings. He is the author of the monograph "New Trends in Optimal Filtering and Control for Polynomial and Time-Delay Systems," published by Springer. His works are cited more than 8000 times (h-index = 48). Dr. Basin has supervised 17 doctoral and 10 master's theses. He has served as the Editor-in-Chief and serves as the Co-Editor-in-Chief of Journal of The Franklin Institute, the Senior Editor of IEEE/ASME Transactions on Mechatronics and IEEE Transactions on Systems, Man and Cybernetics: Systems, an Associate Editor of Automatica, IET-Control Theory and Applications, International Journal of Systems Science, Neural Networks. Dr. Basin was awarded a title of Highly Cited Researcher by Thomson Reuters, the publisher of Science Citation Index,

in 2009, and listed in "100 000 Leading Scientists in the World"; he is a regular member of the Mexican Academy of Sciences and a recipient of the Kimura Best Paper Award from Asian Control Association. Prof. Basin has been honored as a Fellow of Prominent Talent (Qian Ren) Program of Zhejiang Province, China. His research interests include optimal filtering and control problems, stochastic systems, time-delay systems, identification, sliding mode control and variable structure systems, applications to mechatronic and transportation systems.

Semi-plenary Sessions

Semi-plenary Session 1

5月12日 8:15-10:15 海逸厅
May 12, 8:15-10:15 Haiyi Hall

Speakers: Zhiyun Lin Southern University of Science and Technology, China
Jianbin Qiu Harbin Institute of Technology, China
Dan Ma Northeastern University, China
Qingkai Yang Beijing Institute of Technology, China



Speaker: Zhiyun Lin, Southern University of Science and Technology, China
Title: Control and Coordination of Unicycles: Exploring the Fully Actuated System Approach
Chair: Long Wang, Peking University, China

Abstract: The unicycle model serves as a simple yet powerful representation with wide implications in practical vehicle systems, encompassing differential drive robots, Ackermann-steered vehicles, among others. Simultaneously, it stands as a quintessential non-holonomic system, posing significant challenges in designing continuous stabilizing controllers. This talk aims to delve into existing efforts towards achieving stabilization and path-following control for the unicycle model, along with addressing coordination control for multiple unicycles. Furthermore, it explores the possibilities and intricacies associated with employing the fully actuated system approach, highlighting potential avenues and hurdles that need to be navigated.

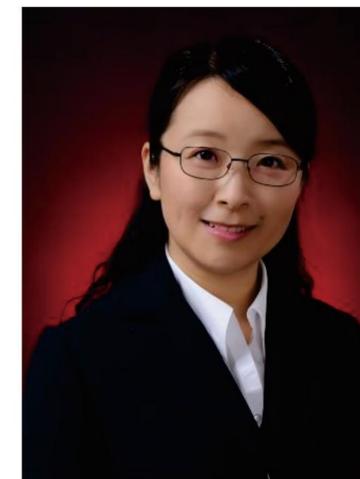
Zhiyun Lin is currently a professor of School of Systems Design and Intelligent Manufacturing, Southern University of Science and Technology. He received his PhD degree in Electrical and Computer Engineering from University of Toronto, Canada, in 2005, and then he worked as a Postdoc in University of Toronto from 2005 to 2007. He joined College of Electrical Engineering, Zhejiang University in 2007 as a research professor and then promoted to a tenured full professor in 2011. In 2017, he moved to Hangzhou Dianzi University and worked as the Director of Artificial Intelligence Institute. He joined Southern University of Science and Technology in 2021. He held visiting professor positions at The Australian National University, University of Cagliari (Italy), University of Newcastle (Australia), University of Technology Sydney, and Yale University. His research interests focus on multi-agent systems, distributed artificial intelligence, autonomous systems and swarm robots, and cyber-physical systems. He has authored and coauthored two monographs and over 230 peer-reviewed papers. From 2014 to 2023, he has been consecutively selected in the list of Mostly Cited Chinese Researchers by Elsevier. He is a Foreign Full Member of the Russian Academy of Engineering and a Fellow of IEEE, IET, and AAIA.



Speaker: Jianbin Qiu, Harbin Institute of Technology, China
Title: Output-Feedback Adaptive Boundary Control of Distributed Parameter Systems
Chair: Zengguang Hou, Institute of Automation, Chinese Academy of Sciences, China

Abstract: Distributed parameter systems, which are described by partial differential equations, widely exist in aerospace engineering, bioengineering, chemical engineering, and electrical engineering. Over the past decades, the control issues for distributed parameter systems have attracted considerable attention. In particular, the output-feedback adaptive control of distributed parameter systems is very challenging due to limited sensor measurements, unknown spatially varying parameters, and infinite-dimensional coupled dynamics. This talk will introduce some recent results on output-feedback adaptive boundary control for several classes of distributed parameter systems. The basic tools include observer canonical form, swapping identifier, and infinite-dimensional backstepping approach.

Jianbin Qiu received the B.Eng. and Ph.D. degrees in Mechanical and Electrical Engineering from the University of Science and Technology of China, Hefei, China, in 2004 and 2009, respectively. He also received the Ph.D. degree in Mechatronics Engineering from the City University of Hong Kong, Kowloon, Hong Kong, in 2009. He is currently a Full Professor at the School of Astronautics, Harbin Institute of Technology, Harbin, China. He was an Alexander von Humboldt Research Fellow at the Institute for Automatic Control and Complex Systems, University of Duisburg-Essen, Duisburg, Germany. His current research interests include intelligent and hybrid control systems, signal processing, and robotics. Prof. Qiu is a Fellow of IEEE and serves as the chair of the IEEE Industrial Electronics Society Harbin Chapter, China. He is an Associate Editor of IEEE Transactions on Fuzzy Systems, IEEE Transactions on Cybernetics, and IEEE Transactions on Industrial Informatics.



Speaker: Dan Ma, Northeastern University, China
Title: Active Control of Thermoacoustic Systems
Chair: Derong Liu, Southern University of Science and Technology, China

Abstract: Thermoacoustic instability is a physical process that takes place frequently in combustion systems, from aero-engines to land-based gas turbines. Thermoacoustic instability in combustors mainly results from interactions between unsteady heat release and acoustic field within a closed combustion chamber. In this talk, I shall present our recent study on the active control of unstable thermoacoustic systems, using Rijke tube, a classical, time-honored experimental platform in simulating thermoacoustic processes. For this system, we developed a first-order hyperbolic partial differential equation (PDE) model for one-dimensional compressible gas dynamics, combined with the Heckl heat release model, to describe the unstable thermoacoustic system in the tube. Two boundary feedback control strategies, including a boundary proportional control and a backstepping control with tunable parameters,

a boundary proportional control and a backstepping control with tunable parameters, are developed to achieve dual purposes: To decouple the interaction between the unsteady heat release and the acoustic field, and to stabilize the unstable thermoacoustic process. Interestingly, based on the Galerkin method, it is found that the thermoacoustic system in the Rijke tube constitutes an uncertain nonlinear high-order fully actuated system, which can be stabilized by employing feedback design approaches for fully actuated systems.

Dan Ma is a professor of Northeastern University, China. She was a Guest Professor with Department of Electrical Engineering, University of Notre Dame, South Bend, Indiana, USA, in 2012, and a Research Fellow with Department of Electrical Engineering, City University of Hong Kong, Hong Kong, China, in 2017. Her main research interests include switched systems, time-delay systems, robust control, and their applications to aero-engines. She was recognized by several awards, including the First Prize of Ministry of Education Natural Science Award, the Young Scientist Award of Chinese Association of Automation, and the Guan Zhao-Zhi Best Paper Award of the Chinese Control Conference. She also mentored students who won Best Student Paper Award and Best Poster Award in five different international conferences. She is currently an Associate Editor for International Journal of Robust and Nonlinear Control, and for IET Control Theory and Applications.



Speaker: Qingkai Yang, Beijing Institute of Technology, China
Title: Modeling and Control of Collision-Resilient Tensegrity Aerial Robots
Chair: Bin Zhou, Harbin Institute of Technology, China

Abstract: Adaptive UAVs have been widely applied in various fields due to their high maneuverability and flexibility. However, when facing tasks with multiple constraints and limitations, such as post-disaster emergency rescue and exploration in high-risk areas, UAVs reveal shortcomings in terms of safety and operational range. In response to the demands for deformability, impact resistance, and cross-domain operations posed by such special tasks, this talk introduces a new class of collision-resilient tensegrity aerial robots. First, we discuss six-bar tensegrity robots, including their dynamic modeling and control methods. By employing the port-Hamiltonian framework, the challenge of modeling intricate environmental interactions is overcome. Based on the developed model, we present closed-form analytical control laws using the form-finding approach. Furthermore, as an extension of pure tensegrity robots, we introduce modeling and control methods tailored for tensegrity aerial robots, which demonstrate nonholonomic and underactuated attributes.

Qingkai Yang is a professor of the Beijing Institute of Technology. He obtained dual doctoral degrees from the University of Groningen in the Netherlands and the Beijing Institute of Technology in 2018. His current research mainly focuses on multi-agent cooperative motion control, new concept robot design, modeling, and control. He has published over 40 articles in journals such as Automatica, IEEE Transactions on Automatic Control, IEEE Robotics and Automation Letters, etc. He has authored 1 monograph and holds more than 30 authorized invention patents. He received the Excellent Ph.D. Dissertation Award from the Chinese Association of Automation in 2020, and was granted the National Key R&D Program in 2022. He won the First Prize of Natural Science Award from The Ministry of Education of China and the Chinese Association of Automation, respectively, in 2022. He was honored for the National High-Level Talent Special Support Programs (10,000 Talents Program) - Young Talents in 2023. He serves as a committee member of the Control Theory Committee of the Chinese Association of Automation (TCCT) Multi-Agent Control Group and the Nonlinear Systems and Control Group, as well as a member of the Unmanned Systems Committee of the Chinese Society of Command and Control. He served as a Guest Editor for Electronics and a youth editor for Unmanned Systems Technology.

Semi-plenary Session 2

5月12日 8:15-10:15 海容厅
 May 12, 8:15-10:15 Hairong Hall

Speakers: Keyou You Tsinghua University, China
 Tengfei Liu Northeastern University, China
 Bo Yang Shanghai Jiao Tong University, China
 Ai-Guo Wu Harbin Institute of Technology (Shenzhen), China



Speaker: Keyou You, Tsinghua University, China
Title: Minimum Sample Data for Direct Data-driven Analysis and Adaptive LQR Design of Unknown Linear Systems
Chair: Tielong Shen, Sophia University, Japan

Abstract: For Modern control theory has been firmly rooted in the state-space model, and then adopts system identification (SysId) followed by model-based control design methods. In this talk, we are motivated by two questions that possibly promote rethinking of this foundation: (a) whether SysId is indispensable to control design, and (b) if not, can we address it in a direct data-driven fashion (bypassing the SysId step)? In particular, via a new concept of sufficient richness of input sectional data, we first establish the necessary and sufficient condition for the minimum sample data for property ID (system analysis) of unknown linear

systems. Specifically, the input sectional data is sufficiently rich for property ID if and only if it spans a linear subspace that contains a property dependent minimum linear subspace, any vector basis of which can also be easily used to form the minimum excitation input. Interestingly, we show that many structural properties can be identified with the minimum input that is however unable to complete SysId. Then, we propose an optimal data-enabled LQR formulation in the sense of achieving minimum regret of the quadratic cost, and design a novel data-enabled policy optimization (DeePO) method using only a batch of online persistently exciting (PE) data. Finally, we numerically validate the theoretical results and demonstrate the computational and sample efficiency of our method.

Keyou You received the B.S. degree in Statistical Science from Sun Yat-sen University, Guangzhou, China, in 2007 and the Ph.D. degree in Electrical and Electronic Engineering from Nanyang Technological University (NTU), Singapore, in 2012. After briefly working as a Research Fellow at NTU, he joined Tsinghua University in Beijing, China where he is now a Full Professor in the Department of Automation. He held visiting positions at Politecnico di Torino, Hong Kong University of Science and Technology, University of Melbourne and etc. Prof. You's research interests focus on the intersections between control, optimization and learning as well as their applications in autonomous systems. He received the Guan Zhaozhi award at the 29th Chinese Control Conference in 2010 and the ACA (Asian Control Association) Temasek Young Educator Award in 2019. He received the National Science Funds for Excellent Young Scholars in 2017, and for Distinguished Young Scholars in 2023. Currently, he is an Associate Editor for Automatica, IEEE Transactions on Control of Network Systems, and IEEE Transactions on Cybernetics.



Speaker: Tengfei Liu, Northeastern University, China
Title: Small-Gain Methods for Safety-Critical Control
Chair: Wanquan Liu, Sun Yat-Sen University, China

Abstract: Most of This talk introduces some recent results with refined small-gain techniques to handle the interaction between optimization and control algorithms for safety-critical systems. In particular, the talk will discuss how safety-critical control problems can be solved for nonlinear systems involving dynamic uncertainties, with refined nonlinear small-gain techniques as tools. Based on the preliminary results introduced in this talk, we expect further advancement of the interconnected systems tools and new robust algorithms for safety-critical systems.

Tengfei Liu received the B.E. degree in automation, in 2005, the M.E. degree in control theory and control engineering, in 2007, both from South China University of Technology, Guangzhou, China, and the Ph.D. degree in engineering from RSISE, the Australian National University, Canberra, Australia, in 2011. From 2011 to 2013, he was a Postdoc with faculty fellowship at Polytechnic Institute of New York University. Since 2014, he has been a Faculty Member with State Key Laboratory of Synthetical Automation for Process Industries at Northeastern University. Dr. Tengfei Liu has served as an associate editor for IEEE Transactions on Automatic Control, Systems and Control Letters, and Science China: Information Sciences. His research interests include stability and control of interconnected nonlinear systems.



Speaker: Bo Yang, Shanghai Jiao Tong University, China
Title: Robust Energy Management and Operation of Integrated Energy Systems under Multiple Uncertainties
Chair: Guo-Ping Liu, Southern University of Science and Technology, China

Abstract: Integrated energy station (IES) systems coupling diverse energy sectors can facilitate the low-carbon and sustainable transition by integrating massive wind-solar power and energy conversion technologies. With the increasing diversification of new energy carriers and demand, how to plan energy infrastructure with uncertain prior knowledge has become the primary issue. Secondly, in the face of various uncertainties and extreme weather, it is further necessary to consider how to manage multiple energies and harden infrastructure, in order to improve renewable energy utilization and enhance the resilience of the energy system. Thirdly, for system operation, we need to identify faults as accurate as possible to take appropriate maintenance subsequently. Considering these issues, the talk will present some recent results in the framework of distributionally robust optimization and data-driven method. At last, the talk will introduce the design of energy management platform to support flexible and efficient system operation.

Bo Yang received the PhD degree in electrical engineering from City University of Hong Kong, Hong Kong, in 2009. He held visiting positions with KTH, Sweden and New York University, USA. He is currently a full professor with Shanghai Jiao Tong University, Shanghai, China. His research interests include optimization and control for energy networks and Internet of Things. He has been the principal investigator in several research projects, including the National Science Fund for Distinguished Young Scholars and National Key Research and Development Program of China.



Speaker: Ai-Guo Wu, Harbin Institute of Technology (Shenzhen), China
Title: High-order Fully Actuated Models for 2D Discrete Systems
Chair: Zongze Wu, Shenzhen University, China

Abstract: The concept of full actuation is generalised to 2D discrete systems, and linear and nonlinear high-order fully actuated (HOFA) 2D Roesser and Fornasini-Marchesini models are presented. By taking advantage of the feature of full actuation, control laws can be designed such that the closed-loop systems for nonlinear 2D discrete systems are linear shift-invariant 2D discrete systems. Based on such a great advantage, a basic framework is presented for HOFA approaches of 2D discrete systems. As examples of this HOFA approach, a simple nonlinear 2D Roesser system and a class of strict feedback Fornasini-Marchesini 2D systems are investigated. Firstly, these two systems are transformed into high-order fully actuated 2D systems, and then control laws are designed by applying the property of full actuation. These two examples illustrate that the fully-actuated system approach can also be an effective tool to deal with nonlinear 2D systems.

Ai-Guo Wu received the B.Eng. degree in automation, the M.Eng. degree in navigation, guidance, and control, and the Ph.D. degree in control science and engineering from the Harbin Institute of Technology, Harbin, China, in 2002, 2004, and 2008, respectively. In 2008, he joined the Shenzhen Graduate School, Harbin Institute of Technology, Shenzhen, China, as an Assistant Professor, where he was promoted to a Professor in 2012. From 2009 to 2011, he was a Research Fellow with the Department of Manufacturing Engineering and Engineering Management, City University of Hong Kong, Hong Kong. From 2013 to 2014, he was a Visiting Professor with the Department of Electrical, Electronic, and Computer Engineering, The University of Western Australia, Perth, WA, Australia. Since 2018, he has been a Professor with the Harbin Institute of Technology (Shenzhen). He has authored or coauthored one English monograph and over 120 SCI journal articles. He was supported by the Program for New Century Excellent Talents in University in 2011 and the National Natural Science Foundation of China for Excellent Young Scholars in 2018. His current research interests include fully actuated systems theory, spacecraft control and time-delay systems. Prof. Wu received the National Natural Science Award (Second Prize) in China in 2015 and the National Excellent Doctoral Dissertation Award from the Academic Degrees Committee of the State Council and the Ministry of Education of China in 2011. Since 2007, he has been a Reviewer of American Mathematical Review. He was an Outstanding Reviewer of the IEEE TRANSACTIONS ON AUTOMATIC CONTROL in 2010. He has been serving as a Regional Editor for Nonlinear Dynamics and Systems Theory since 2015 and an International Subject Editor for Applied Mathematical Modeling since 2017.

PL 1 **May 11, 9:00-9:45**
Plenary Lecture 1 **海岚厅**

Speaker: Zhong-Ping Jiang New York University, USA
Title: Small-Gain Theory for Stability and Control of Interconnected Systems
Chair: Li Qiu Southern University of Science and Technology, China

PL 2 **May 11, 9:45-10:30**
Plenary Lecture 2 **海岚厅**

Speaker: Guo-Ping Liu Southern University of Science and Technology, China
Title: High-order Fully Actuated Predictive Control for Networked Systems
Chair: Lei Guo Beihang University, China

PL 3 **May 11, 11:00-11:45**
Plenary Lecture 3 **海岚厅**

Speaker: Michael V. Basin Autonomous University of Nuevo Leon, Mexico & Ningbo University of Technology, China
Title: Predefined-Time Convergent Continuous Controllers: Design and Applications
Chair: Donghua Zhou Tsinghua University, China

Semi-plenary Session 1 **May 12, 8:15-10:15**
海逸厅

SP1-1 8:15-8:45
Speaker: Zhiyun Lin Southern University of Science and Technology, China
Title: Control and Coordination of Unicycles: Exploring the Fully Actuated System Approach
Chair: Long Wang Peking University, China

SP1-2 8:45-9:15
Speaker: Jianbin Qiu Harbin Institute of Technology, China
Title: Output-Feedback Adaptive Boundary Control of Distributed Parameter Systems
Chair: Zengguang Hou Institute of Automation, Chinese Academy of Sciences, China

SP1-3 9:15-9:45
Speaker: Dan Ma Northeastern University, China
Title: Active Control of Thermoacoustic Systems
Chair: Derong Liu Southern University of Science and Technology, China

SP1-4 9:45-10:15
Speaker: Qingkai Yang Beijing Institute of Technology, China
Title: Modeling and Control of Collision-Resilient Tensegrity Aerial Robots
Chair: Bin Zhou Harbin Institute of Technology, China

Semi-plenary Session 2 **May 12, 8:15-10:15**
海容厅

SP2-1 8:15-8:45
Speaker: Keyou You Tsinghua University, China
Title: Minimum Sample Data for Direct Data-driven Analysis and Adaptive LQR Design of Unknown Linear Systems
Chair: Tielong Shen Sophia University, Japan

SP2-2 8:45-9:15
Speaker: Tengfei Liu Northeastern University, China
Title: Small-Gain Methods for Safety-Critical Control
Chair: Wanquan Liu Sun Yat-Sen University, China

SP2-3 9:15-9:45
Speaker: Bo Yang Shanghai Jiao Tong University, China
Title: Robust Energy Management and Operation of Integrated Energy Systems under Multiple Uncertainties
Chair: Guo-Ping Liu Southern University of Science and Technology, China

SP2-4 9:45-10:15
Speaker: Ai-Guo Wu Harbin Institute of Technology (Shenzhen), China
Title: High-order Fully Actuated Models for 2D Discrete Systems
Chair: Zongze Wu Shenzhen University, China

Saturday, May 11, 2024

SaA01 海容厅 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 Aeronautics and Astronautics
Co-Chair: Jing Zhu Nanjing University of Aeronautics and Astronautics

ISaA01-1 13:30-13:45

0413 - Intelligent Decision-Making for Maintenance Assurance Throughout the Lifetime of Helicopter Swarms
Yanan Wang Nanjing University of Aeronautics and Astronautics
Ke Zhang Nanjing University of Aeronautics and Astronautics
Bin Jiang Nanjing University of Aeronautics and Astronautics

ISaA01-2 13:45-14:00

0252 - Fault-Tolerant Pursuit-Evasion Games for Quadrotor Helicopters Based on a Fully-actuated System Approach
Jianfeng Xu Nanjing University of Aeronautics and Astronautics
Yuhang Xu Nanjing University of Aeronautics and Astronautics
Bin Jiang Nanjing University of Aeronautics and Astronautics

ISaA01-3 14:00-14:15

0243 - Sliding Mode Control for Helicopter Systems Based on Fully Actuated Method
Yankai Li Xi'an University of Technology
Jinyu Xu Xi'an University of Technology
Xiaohui Xue Xi'an University of Technology
Yingmin Yi Xi'an University of Technology
Shuyi Shao Nanjing University of Aeronautics and Astronautics

ISaA01-4 14:15-14:30

0162-Tracking Control of Unmanned Surface Vessels Based on Fully Actuated System Approaches
Zijing Li Nanjing University of Aeronautics and Astronautics
Jing Zhu Nanjing University of Aeronautics and Astronautics
Xiangping Zhai Nanjing University of Aeronautics and Astronautics
Hongwei Zhang Harbin Institute of Technology (Shenzhen)

ISaA01-5 14:30-14:45

0119 - Neural Observer-Based Intelligent Fault-Tolerant Control of Multi-Helicopters Under Actuator Faults: A Fully Actuated System Approach
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

ISaA01-6 14:45-15:00

0118 - Design of Hypersonic Vehicle Tracking Controller Based on High-Order Fully Actuated System Theory
Yirong Zhou Nanjing University of Aeronautics and Astronautics
Ruiyun Qi Nanjing University of Aeronautics and Astronautics

ISaA01-7 15:00-15:15

0040 - Practical Prescribed Time Fault-Tolerant Tracking Control for A Quadrotor UAV: A Solution Based on FASA
Yonghao Ma Nanjing University of Aeronautics and Astronautics
Bin Jiang Nanjing University of Aeronautics and Astronautics
Ke Zhang Nanjing University of Aeronautics and Astronautics

ISaA01-8 15:15-15:30

0399 - Multi-Agent Clusters Flocking Control via High-Order Fully Actuated System Approach
Qimin Hou Harbin Institute of Technology
Zhenhuan Wang Harbin Institute of Technology
Yabin Gao Harbin Institute of Technology
Hanjun Shang Harbin Institute of Technology
Jiyuan Kuang Shandong University
Zhuang Liu Harbin Institute of Technology

SaA02 川舟厅 13:30-15:30

FASTA Outstanding Youth Paper Award

ISaA02-1 13:30-13:50

0021 - Neural-Network-Based Fault-Tolerant Control for Unknown High-Order Fully Actuated Systems
Miao Cai Tsinghua University
Xiao He Tsinghua University
Donghua Zhou Tsinghua University

ISaA02-2 13:50-14:10

0239 - Global Prescribed-Time Control Fully Actuated Nonlinear Systems
Pengju Ning Yanshan University
Changchun Hua Yanshan University
Hao Li Yanshan University

ISaA02-3 14:10-14:30

0045 - Multidimensional Fault Characterization Model Based Fault Identification for New Type Dissimilar Redundant Actuation System
Jun Wang Beihang University
Jian Huang Beijing Automation Control Equipment Institute
Weikang Li Northwestern Polytechnical University
Yongxing Feng Beijing Automation Control Equipment Institute

ISaA02-4 14:30-14:50

0224 - Dynamic Event-triggered Model-Free Adaptive Heading Consensus Tracking Control for Unmanned Surface Vehicles
Huarong Zhao Jiangnan University
Jinjun Shan York University
Xing Li Dongguan University of Technology
Linbo Xie Jiangnan University

ISaA02-5 14:50-15:10

0289 - Practical Prescribed Time Control for Space Manipulators Based on Fully Actuated System Approach
Guangtai Tian Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology
Weizhen Liu Southern University of Science and Technology
Mehdi Golestani Southern University of Science and Technology
He Kong Southern University of Science and Technology

SaA03 川云厅 13:30-15:30

Invited Session: Stochastic Control and Applications

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

I SaA03-1 13:30-13:45

0154 - Observer-Based Sliding Mode Control for Internal Oxygen Supply of PEM Fuel Cell

Li Liu Wuhan University of Technology
Jisen Li Wuhan University of Technology
Dongqi Zhao Wuhan University of Technology
Qihong Chen Wuhan University of Technology

I SaA03-2 13:45-14:00

0140 - Model Predictive Control for Dual Controllers System with Multiple Erasure Channels

Xueyang Li Shandong University
Yu Chen Shandong University

I SaA03-3 14:00-14:15

0138 - Minimum-Variance Recursive State Estimation for 2-D Shift-Varying Systems with Multi-Channel Delays and Energy Harvesting Constraints

Yu Chen Shandong University
Xueyang Li Shandong University

I SaA03-4 14:15-14:30

0114 - Stabilization of a Class of Time-Delay Stochastic PDE Systems

Xiaomin Xue Shandong University
Juanjuan Xu Shandong University
Xueli Hu Shandong University
Huanshui Zhang Shandong University & Shandong University of Science and Technology

I SaA03-5 14:30-14:45

0094 - Two-Player Zero-Sum Game with Terminal State Constraint

Yue Sun Shandong University
Wei Wang Shandong University
Juanjuan Xu Shandong University

I SaA03-6 14:45-15:00

0249 - Method of Spacecraft Cluster Orbital Pursuit-Evasion Game Based on the Hierarchical Theory Structure

Haolong Feng Shanghai Institute of Spaceflight Control Technology
Songtai Wu Shanghai Institute of Spaceflight Control Technology
Shengyang Liu Shanghai Institute of Spaceflight Control Technology
Ting Song Shanghai Institute of Spaceflight Control Technology
Fei Han Shanghai Institute of Spaceflight Control Technology

I SaA03-7 15:00-15:15

0222 - A Novel Particle Filter Based on One-Step Smoothing for Nonlinear System with Missing Measurements

Zhenrong Yang Guangxi University
Xing Zhang Guangxi University
Yushan Xiao Guangxi University

I SaA03-8 15:15-15:30

0351 - Finite-Time Controller Design for Continuous-Time T-S Fuzzy Systems With Partly Measurable Premise Variables

Shanfeng Zhang Southwest Jiaotong University
Kai Zhang Sichuan University
Yue Wu Southwest Jiaotong University
Siyuan Chen Southwest Jiaotong University
Yang Wang Dalian Maritime University

SaA04 川凌厅 13:30-15:30

Invited Session: Multi-Scale Dynamic System Analysis and Control

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

I SaA04-1 13:30-13:45

0268 - Fault-Tolerant Model Predictive Load Frequency Control for Power Systems with Electrolytic Aluminum Load Under New Event-triggered Mechanism

Shisen Zhou China University of Geosciences
Ziqian Wang China University of Geosciences
Xiongbo Wan China University of Geosciences

I SaA04-2 13:45-14:00

0315 - Adaptive Deep Neural Network Sliding Mode Control for UAVs

Zhang Chen East China University of Science and Technology
Jing Xu East China University of Science and Technology
Fanbiao Li Central South University
Yugang Niu East China University of Science and Technology

I SaA04-3 14:00-14:15

0358 - Event-Triggered Output Formation for the Heterogeneous Multi-Agent Systems Subject to Cyber Attacks

Linna Zhou China University of Mining and Technology
Hongmei Ye China University of Mining and Technology
Lei Ma China University of Mining and Technology
Chunyu Yang China University of Mining and Technology

I SaA04-4 14:15-14:30

0363 - State-Observer Parametric Design for Quadrotor with Suspended Payloads System Based on Fully-Actuated System Methodology

Bing Yan Nanjing University of Science and Technology
Chenxiao Cai Nanjing University of Science and Technology

I SaA04-5 14:30-14:45

0393 - Adaptive Event-Triggered Fault Detection of Nonlinear Lipschitz Systems in Finite Frequency Domain

Peng Cheng Nanjing University of Science and Technology
Chenxiao Cai Nanjing University of Science and Technology
Jinrong Liu University of Macau

I SaA04-6 14:45-15:00

0411 - Adaptive Neural Network Sliding Mode Vibration Control for Clamped Beam Systems with Input Saturation and Model Uncertainties

Shilun Li Harbin Institute of Technology
Xiaohan Lin Harbin Institute of Technology
Jun Wang Shanghai Institute of Aerospace Systems Engineering
Chuankun Qu Shanghai Institute of Aerospace Systems Engineering

I SaA04-7 15:00-15:15

0274 - Modeling, Simulation and Experiment of an Origami Robot with a Coupled Bar-Hinge Mechanism

Junpeng Mai Southern University of Science and Technology
Hanzhao Shao Southern University of Science and Technology
Shaojie Liu Southern University of Science and Technology
Yuanzhuo Zhang Southern University of Science and Technology
Liangming Chen Southern University of Science and Technology
Huijuan Feng Southern University of Science and Technology

I SaA04-8 15:15-15:30

0396 - Air Supply Control for PEM Fuel Cells Under Hamiltonian Framework: A Segmentation Approach

Lalitesh Kumar Zhejiang University
Jian Chen Zhejiang University
Xinyu Li Zhejiang University
Zhongliang Li Aix-Marseille University

SaA05 清澜厅 13:30-15:30

Invited Session: Recent Advances on Distributed Control of Multi-Agent Systems

Chair: Zhongkui Li Peking University
Co-Chair: Yuezuo Lv Beijing Institute of Technology

I SaA05-1 13:30-13:45
0141 - Specified-Time Dynamic Target Autonomous Surrounding Formation for Multi-Agent Network: A General Exploring Relationship
Haoliang Xue Northwestern Polytechnical University
Yuan Zhou Northwestern Polytechnical University
Yu Zhao Northwestern Polytechnical University

I SaA05-2 13:45-14:00
0151 - Localized Data-Driven Consensus Control of Multi-Agent Systems
Zeze Chang Peking University
Zhongkui Li Peking University

I SaA05-3 14:00-14:15
0232 - Fully Distributed Adaptive State Estimation and Consensus Control of Multi-Agent Systems: A Reduced-Order Observer-Based Approach
Jiazhu Huang Beijing Institute of Technology
Yan Li Beijing Institute of Technology
Yuezuo Lv Beijing Institute of Technology
Jialing Zhou Nanjing University of Science and Technology

I SaA05-4 14:15-14:30
0263 - Distributed Entire State Estimation and Consensus Control for Lipschitz Nonlinear Multi-Agent Systems
Yan Li Beijing Institute of Technology
Jiazhu Huang Beijing Institute of Technology
Yuezuo Lv Beijing Institute of Technology
Jialing Zhou Nanjing University of Science and Technology

I SaA05-5 14:30-14:45
0196 - Formation Control of Discrete-Time Multi-Agent Systems Based on Distributed Filter Observer
Huanli Gao South China University of Technology
Wei Li South China University of Technology
Ming Qiu South China University of Technology
He Cai South China University of Technology

I SaA05-6 14:45-15:00
0241 - Distributed Secondary Control for DC Microgrids Leveraging a Fully Actuated System Approach
Xiaoran Dai Wuhan University
Guoping Liu Southern University of Science and Technology
Wenshan Hu Wuhan University
Zhongcheng Lei Wuhan University
Hong Zhou Wuhan University
Jun Zhang Wuhan University

I SaA05-7 15:00-15:15
0213 - Intention Recognition Algorithm for Multi-Agent Systems Based on High-Order Fully Actuated System Approach
Qinlong Du Harbin Institute of Technology
Xin Huo Harbin Institute of Technology
Dianle Zhou National University of Defense Technology
Kai Zheng Dalian Maritime University
Rongmei Li Harbin Institute of Technology

I SaA05-8 15:15-15:30
0028 - H_∞ Consensus Control for High-Order Fully Actuated Multi-Agent Systems with External Disturbances
Qinghao Zhang Shanghai Jiao Tong University
Junguo Lu Shanghai Jiao Tong University

SaA06 清波厅 13:30-15:30

Invited Session: Model and Control of High-Order Fully Actuated Systems

Chair: Zhaoyan Li Harbin Institute of Technology
Co-Chair: Kai Zhang Harbin Institute of Technology

I SaA06-1 13:30-13:45
0117 - Fully Distributed Global Consensus of Double-Integrator Multiagent Systems by Observer-Based Bounded Linear Protocols
Kai Zhang Harbin Institute of Technology
Mingjun Cai Harbin Institute of Technology
Chuanchuan Xu Harbin Institute of Technology

I SaA06-2 13:45-14:00
0124 - Robust Prescribed-Time Global Control For the Elliptical Orbital Rendezvous System: A Fully Actuated System Approach
Shunli Li Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology

I SaA06-3 14:00-14:15
0291 - Bias-Policy Iteration Based Adaptive Dynamic Programming for Linear Fully Actuated Systems
Huaiyuan Jiang Harbin Institute of Technology
Xuefei Yang Harbin Institute of Technology
Chuanchuan Xu Harbin Institute of Technology
Kangkang Zhang Harbin Institute of Technology

I SaA06-4 14:15-14:30
0182 - Differentiator-Based Adaptive H_∞ Tracking Control of Fully Actuated Systems
Yuxin Feng Guangdong University of Technology
Zhiqiang Li Guangdong University of Technology
Yang Liu Qingdao University of Science and Technology
Zhaoshui He Guangdong University of Technology
Hongyi Li Guangdong University of Technology

I SaA06-5 14:30-14:45
0123 - Observer-Based Control for Fully Actuated Systems with Time-Varying Delays: A Fully Actuated System Approach
Zhijun Chen Harbin Institute of Technology
Shiyu Zhang Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology

I SaA06-6 14:45-15:00
0218 - Event-Triggered Fuzzy Adaptive Fault-Tolerant Control of High-Order Nonlinear Systems: A Fully Actuated System Approach
Qingyi Zhao University of Science and Technology Liaoning
Yang Cui University of Science and Technology Liaoning

I SaA06-7 15:00-15:15
0215 - Tracking Control of Motion Control Systems with Disturbance Observer Based on High-Order Fully Actuated System Approach
Rongmei Li Harbin Institute of Technology
Xin Huo Harbin Institute of Technology
Aijing Wu Harbin Institute of Technology
Weizhen Liu Southern University of Science and Technology

I SaA06-8 15:15-15:30
0031 - Unwinding-Free Attitude Control via Fully Actuated System Approach
Fuzheng Xiao Harbin Institute of Technology
Liqun Chen Harbin Institute of Technology (Shenzhen)

SaA07 清宏厅 13:30-15:30

Invited Session: Optimal Control and Networked Systems

Chair: Hongxia Wang Shandong University of Science and Technology
Co-Chair: Liping Zhang Shandong University of Science and Technology

ISaA07-1 13:30-13:45

0130 - High Probability Convergence of Clipped Distributed Dual Averaging with Heavy-Tailed Noises

Yanfu Qin Shandong University of Science and Technology
Kaihong Lu Shandong University of Science and Technology
Hongxia Wang Shandong University of Science and Technology

ISaA07-2 13:45-14:00

0132 - Mean-Square Output Consensus for Heterogeneous Multi-Agent Systems with Packet Loss Channels

Liping Zhang Shandong University of Science and Technology
Huanshui Zhang Shandong University & Shandong University of Science and Technology
Xiaozeng Xu Shandong University of Science and Technology

ISaA07-3 14:00-14:15

0134 - Sampled-Data Control for Continuous-Time Switched Affine Systems

Xiaozeng Xu Shandong University of Science and Technology
Liping Zhang Shandong University of Science and Technology
Huanshui Zhang Shandong University & Shandong University of Science and Technology

ISaA07-4 14:15-14:30

0397 - Trajectory Tracking of Differential Driven AGV Based on Kalman Filter and Model Predictive Control

Zhihao Xu Shandong University of Science and Technology
Yue Jiang Shandong University of Science and Technology
Kai Peng Northwestern Polytechnical University
Hongxia Wang Shandong University of Science and Technology

ISaA07-5 14:30-14:45

0112 - Optimal Spatial-Temporal Triangulation for Bearing-Only Cooperative Target State Estimation

Canlun Zheng Westlake University
Shiyu Zhao Westlake University

ISaA07-6 14:45-15:00

0223 - Research on Fixed-Time Convergence of Multi-Missile Cooperative Terminal Guidance Law

Jiakuo Lin Northwestern Polytechnical University
Pengfei Cheng Xi'an Modern Control Technology Research Institute
Yujie Si Harbin Institute of Technology
Changqing Wang Northwestern Polytechnical University
Yong Guo Northwestern Polytechnical University

ISaA07-7 15:00-15:15

0352 - Robust Attitude Control of a Tilt Trirotor in VTOL Mode

Zemin Lin Guangdong University of Technology
Shikang Lian Guangdong University of Technology
Wei Meng Guangdong University of Technology

SaA08 清泽厅 13:30-15:30

Invited Session: New Developments of Intelligent Control for Complex Nonlinear Systems

Chair: Wenqiang Ji Hebei University of Technology
Co-Chair: Jianbin Qiu Harbin Institute of Technology

ISaA08-1 13:30-13:45

0166 - State-of-Health Estimation of Lithium-Ion Batteries Based on CNN-LSTM-Attention

Dong Ding Anhui University
Songheng Mao Anhui University
Yuan Fan Anhui University

ISaA08-2 13:45-14:00

0335 - Output Feedback Predictive Steering Control in Autonomous Driving: An Interval Type-2 T-S Fuzzy-Model-Based Approach

Jinfei Hu Shanghai Normal University
Shengsi Ding Tongji University
Changzhu Zhang Tongji University

ISaA08-3 14:00-14:15

0343 - Adaptive Attitude Tracking Control of Spacecraft Based on High-Order Fully Actuated System Approach

Dongyan Jin Harbin Institute of Technology
Mingyu Hou Harbin Institute of Technology
Tong Wang Harbin Institute of Technology
Jianbin Qiu Harbin Institute of Technology

ISaA08-4 14:15-14:30

0345 - A New BRB-Based Fault Diagnosis Method for Leader-Following Multi-Agent Systems with Communication Interferences

Ziyi Wang Hebei University of Technology
Wenqiang Ji Hebei University of Technology
Ruohan Yang Northwestern Polytechnical University

ISaA08-5 14:30-14:45

0355 - High-Order Fully-Actuated System Approach Based Fault-Tolerant Attitude Tracking Control via Extended State Observer

Shixiang Jia Harbin Institute of Technology
Yang Jin Shanghai Institute of Aerospace Systems Engineering
Tong Wang Harbin Institute of Technology
Jianbin Qiu Harbin Institute of Technology

ISaA08-6 14:45-15:00

0356 - A Projection-Based Binary Classification Method for Fault Detection of T-S Fuzzy Systems With Multiplicative Faults

Haili Zhang University of Science and Technology Beijing
Linlin Li University of Science and Technology Beijing
Qianxiang Yu University of Science and Technology Beijing

ISaA08-7 15:00-15:15

0143 - Tracking Ability of High-Order Fully Actuated Iterative Learning Control

Zeyi Zhang Renmin University of China
Hao Jiang Renmin University of China
Dong Shen Renmin University of China

ISaA08-8 15:15-15:30

0227 - Observability Analysis for Space Target Sequential-Image Relative Navigation System with Fully-Actuated System Control

Bowen Hou National University of Defense Technology
Dayi Wang China Academy of Space Technology
Tianshu Dong Beijing Institute of Spacecraft System Engineering
Jiongqi Wang National University of Defense Technology

Saturday, May 11, 2024

SaB01 海容厅 16:00-18:00

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

Chair: Yongyuan Yu Shandong University

Co-chair: Lantao Xing Shandong University

ISaB01-1 16:00-16:15

0105 - Finite-Time Stability Analysis of Switched Systems Under Time-Dependent Switchings

Jie Wu Shandong University

Rongni Yang Shandong University

ISaB01-2 16:15-16:30

0066 - Simplified Double-Vector Finite Control Set Model Predictive Control for LCL-filtered T-type Inverters with Active Damping

Bei Liu Shandong University

Xiangyang Xing Shandong University

Chang Liu Shandong University

ISaB01-3 16:30-16:45

0063 - An Improved Model Predictive Control with Neutral-point Voltage Balancing and Common-mode Voltage Suppression for Three-Level T-type Converters

Xiaomin Han Shandong University

Hongliang Zhang Aotai Electric Company Ltd.

Yuying Ma Shandong University

Huiqing Wu Shandong University

ISaB01-4 16:45-17:00

0056 - On Full-Actuation of Linear Boolean Control Networks

Yuanpeng Ding Shandong University

Jun-e Feng Shandong University

Yongyuan Yu Shandong University

ISaB01-5 17:00-17:15

0048 - Coordinated Control for Incomplete Controllable Systems Over Finite Fields

Ao Qin Shandong University

Zhe Gao Shandong University

Jun-e Feng Shandong University

ISaB01-6 17:15-17:30

0024 - Static Output Feedback Control Design for Nonlinear Descriptor Systems with Actuator Saturation

Yabo Zhang Shandong University

Liyang Sun Shandong University

ISaB01-7 17:30-17:45

0022 - Adaptive Neural Network Control for Uncertain Strict-Feedback Nonlinear Systems with Unknown Control Coefficients: A Fully Actuated System Approach

Yueyao Ye Shandong University

Debao Fan Shandong University

Xianfu Zhang Shandong University

ISaB01-8 17:45-18:00

0404 - Adaptive Neural-Networks Control for Uncertain Second-Order Fully Actuated Strict-Feedback Systems Without Over-Parametrization

Wennian Qi Harbin Institute of Technology

Ai-Guo Wu Harbin Institute of Technology

Jie Zhang Harbin Institute of Technology

SaB02 川舟厅 16:00-18:00

FASTA Best Student Paper Award

ISaB02-1 16:00-16:20

0168 - Adaptive Iterative Learning Control for Permanent Magnet Synchronous Motors with Uncertainties

Yang Ke Sun Yat-Sen University

Xuefang Li Sun Yat-Sen University

ISaB02-2 16:20-16:40

0177 - A Fully Actuated System Approach for Interval Observer Design and Fault Detection

Weijie Ren Southern University of Science and Technology

Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology

He Kong Southern University of Science and Technology

ISaB02-3 16:40-17:00

0381 - Fully Actuated Behavioral Control for Multiple Omnidirectional Mobile Robots System with Uncertain Dynamics

Zhibin Mo Sun Yat-Sen University

Wanquan Liu Sun Yat-Sen University

Yuyao Wu Sun Yat-Sen University

Huijie Sun Sun Yat-Sen University

ISaB02-4 17:00-17:20

0172 - Robust H^∞ Synchronization for Networked Re-Entrant Manufacturing Systems

Chenguang Liu Beihang University

Qing Gao Beihang University

Wei Wang Beihang University

Jinhu Lu Chinese Academy of Sciences

ISaB02-5 17:20-17:40

0368 - A Fully Actuated System Approach to Control of the 3D Cubli: Theory and Experiments

Zhijie Liu Southern University of Science and Technology

Fuxing Yao Southern University of Science and Technology

Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology

He Kong Southern University of Science and Technology

ISaB02-6 17:40-18:00

0017 - Actuator Faults Tolerance for Stochastic High-order Fully Actuated Systems

Xueqing Liu Tsinghua University

Sheng Li China University of Petroleum (East China)

Donghua Zhou Tsinghua University

SaB03 川云厅 16:00-18:00

Invited Session: Nonlinear Control of Aerospace Vehicles

Chair: Guangbin Cai Xi'an Research Institute of High Technology
Co-Chair: Mingzhe Hou Harbin Institute of Technology

- ISaB03-1 16:00-16:15**
0380 - Fully Actuated Control for Directional Accuracy in Multiaxis Antennas utilizing Sliding Mode and STESO Observers
Feng Gao Harbin Institute of Technology
Jiayang Li Harbin Institute of Technology
Heng Deng Harbin Institute of Technology
Guanghui Sun Harbin Institute of Technology
- ISaB03-2 16:15-16:30**
0357 - A Research on Rapid Assessment of Cross-Domain Perceptual Fidelity for Practical Applications
Wenguang Tao Northwestern Polytechnical University
Xiaotian Wang Northwestern Polytechnical University
Tian Yan Northwestern Polytechnical University
Guodong Li Northwestern Polytechnical University
Qingjie Zeng Xi'an Modern Control Technology Research Institute
Ruitao Lu Rocket Force University of Engineering
- ISaB03-3 16:30-16:45**
0278 - Input Saturation Control of Manipulator Based on Fully Actuated System Approach
Yongqiang Xiao Rocket Force University of Engineering
Guangbin Cai Xi'an Research Institute of High Technology
Mingzhe Hou Harbin Institute of Technology
Xunliang Yan Northwestern Polytechnical University
- ISaB03-4 16:45-17:00**
0245 - Attitude Control of Hypersonic Vehicle Based on Reinforcement Learning
Jingwen Liu Rocket Force University of Engineering
Hongdong Fan Rocket Force University of Engineering
Yonghua Fan Northwestern Polytechnical University
Guangbin Cai Xi'an Research Institute of High Technology
- ISaB03-5 17:00-17:15**
0173 - Predefined-Time Based Tracking Control and Formation Control for Hypersonic Flight Vehicles
Dinghua Wang University of Science and Technology Beijing
Jie Wang University of Science and Technology Beijing
Jicheng Yuan University of Science and Technology Beijing
- ISaB03-6 17:15-17:30**
0203 - Traffic Signal Control for Large-Scale Road Networks Based on Deep Reinforcement with PSR
Zhicheng Zhou Southeast University
Hui Zhang Southeast University
Ya Zhang Southeast University
- ISaB03-7 17:30-17:45**
0129 - Fixed-Time Funnel Sliding Mode Control for Dual-Motor Driving System
Jiameng Wu Jiangnan University
Chenglin Liu Jiangnan University
- ISaB03-8 17:45-18:00**
0122 - Integral Adaptive Sliding Mode Control for Vehicle Platoon with Disturbance Observer
Xin Yang Jiangnan University
Chenglin Liu Jiangnan University

SaB04 川凌厅 16:00-18:00

Invited Session: New Developments in Optimization and Control of Unmanned Autonomous Systems

Chair: Jian Hou Zhejiang Sci-Tech University
Co-Chair: Ronghao Zheng Zhejiang University

- ISaB04-1 16:00-16:15**
0382 - Relative-Based Finite-Time Formation Stabilization for Multi-Agent Systems via Asynchronous Event-Triggered Approach
Fan Luan Wuhan Institute of Shipbuilding Technology
Yanjun Lin China State Shipbuilding Corporation
- ISaB04-2 16:15-16:30**
0362 - Dual Filtering Based Decentralized Learning Against Byzantine Attack
Jiansong Qing Shaoxing Jianyuan Electric Power Group Co., Ltd
Lizong Zhang Shaoxing Jianyuan Electric Power Group Co., Ltd
Dongcheng Zhou Shaoxing Jianyuan Electric Power Group Co., Ltd
Jianjun Wan Shaoxing Jianyuan Electric Power Group Co., Ltd
Wei Zhen Shaoxing Jianyuan Electric Power Group Co., Ltd
Qiang He Shaoxing Jianyuan Electric Power Group Co., Ltd
Yanjun Lin China State Shipbuilding Corporation
- ISaB04-3 16:30-16:45**
0292 - Distributed Air-Assisted Coverage Control for Sensing-Limited Multi-Robot Systems in Time-Varying Environment
Hang Zhang Zhejiang University
Ronghao Zheng Zhejiang University
Lingxia Lu Zhejiang University
Senlin Zhang Zhejiang University
Meiqin Liu Zhejiang University
- ISaB04-4 16:45-17:00**
0273 - Energy-Aware Trajectory Optimization for UAV-enabled Wireless Powered WSN
Feihang Qiu Foshan University
Jing Guo Foshan University
Huineng Diao Foshan University
Xu Zhang Southern University of Science and Technology
- ISaB04-5 17:00-17:15**
0037 - 一种固定时间的二阶多智能体系统分布式最优一致性算法
时侠圣 安徽大学
隋天举 大连理工大学
- ISaB04-6 17:15-17:30**
0198 - Safety Deep Reinforcement Learning Approach to Voltage Control in Flexible Network Topologies
Yaoming Deng City University of Hong Kong
Zaiyue Yang Southern University of Science and Technology
- ISaB04-7 17:30-17:45**
0195 - ADMM-Based Privacy-Preserving Peer-to-Peer Energy Trading Negotiation Mechanism
Zhenwei Guo Hangzhou Innovation Institute of BUAA
Jijian Zhu Beihang University
Haoran Li Hangzhou Innovation Institute of BUAA
Haibin Zheng Hangzhou Innovation Institute of BUAA
Yujue Wang Hangzhou Innovation Institute of BUAA
- ISaB04-8 17:45-18:00**
0186 - Enhancing Frequency Emergency Control with Battery Energy Storage Systems in Low-Inertia Power Grid
Yuxin Weng Zhejiang University
Guangchao Geng Zhejiang University
Quanyuan Jiang Zhejiang University
Heng Wang State Grid Xinjiang Electric Power Co., Ltd.

SaB05 清澜厅 16:00-18:00

Invited Session: New Developments in Fully Actuated System Approach with its Application in Aerospace Vehicles

Chair: Bin Li Sichuan University
Co-Chair: Mingrui Hao Harbin Institute of Technology

- ISaB05-1 16:00-16:15**
0271 - Fault-Tolerant Attitude Tracking Control of Combined Spacecraft with Actuator Saturation Based on Fully-Actuated System Approach
Xiuwei Huang Ji Hua Laboratory
Peng Yang Ji Hua Laboratory
Zhen Liu Ji Hua Laboratory
Li An Ji Hua Laboratory
Hao Wang Ji Hua Laboratory
- ISaB05-2 16:15-16:30**
0261 - An FASA Based Fixed-Time Sliding Mode Control for Robotic Manipulator
Yu Zhang Northeastern University at Qinhuangdao
Fanwei Meng Northeastern University at Qinhuangdao
Bin Li Sichuan University
- ISaB05-3 16:30-16:45**
0294 - Prescribed-Time Stabilization of Switched Nonholonomic Systems with Asymmetric Constraints
Siqian Li Nanjing Institute of Engineering
Xujing Mao The Kings School
Yanling Shang Anyang Normal University
Fangzheng Gao Nanjing Institute of Technology
Jiacai Huang Nanjing Institute of Technology
- ISaB05-4 16:45-17:00**
0167 - Output Tracking Based on Reduced-Order Observer for Fully Actuated Systems
Hong Jiang Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology
- ISaB05-5 17:00-17:15**
0156 - Adaptive Fixed-Time Control for High-Order Fully Actuated System with Input Saturation
Ping Wang Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology
- ISaB05-6 17:15-17:30**
0135 - Longitudinal Active Load Relief Control of Launcher Based on Fully-Actuated System Approach
Feng Zhang China Academy of Launch Vehicle Technology
Haipeng Chen China Academy of Launch Vehicle Technology
Shengbao Wu China Academy of Launch Vehicle Technology
- ISaB05-7 17:30-17:45**
0115 - Sliding-Mode Disturbance Observer-Based HOFA Predictive Control of Spacecraft Flying-Around
Dawei Zhang Harbin Institute of Technology
Guoping Liu Southern University of Science and Technology
- ISaB05-8 17:45-18:00**
0369 - Stabilization Control of Second-Order Nonholonomic System with High-Order Fully Actuated System Approach
Qi Pan Nanjing University of Aeronautics and Astronautics
Xiuhui Peng Nanjing University of Aeronautics and Astronautics
Xueyan Wang Nanjing University of Aeronautics and Astronautics

SaB06 清波厅 16:00-18:00

Invited Session: Robust and Adaptive Control of Nonlinear Fully Actuated Systems with Applications

Chair: Wanquan Liu Sun Yat-Sen University
Co-Chair: Huijie Sun Sun Yat-Sen University

- ISaB06-1 16:00-16:15**
0288 - Adaptive Tracking Control for State-Constrained Fully Actuated Systems and Its Application to Overhead Cranes: Theory and Experiment
Yang Gao Southeast University
Zhongcai Zhang Qufu Normal University
Peng Huang Qufu Normal University
Yuqiang Wu Qufu Normal University
- ISaB06-2 16:15-16:30**
0375 - Adaptive Iterative Learning Control for Underactuated Systems with Unknown Input Distribution Matrices: Ensuring Input Continuity
Mali Yin Sun Yat-Sen University
Xuefang Li Sun Yat-Sen University
- ISaB06-3 16:30-16:45**
0373 - Predictor-Based Sliding Mode Control for Systems with Input Delays
Xinyu Zhang Jiangsu University of Science and Technology
Yu Wang Harbin Institute of Technology
Jun Hao Tianjin University
- ISaB06-4 16:45-17:00**
0364 - High Precision Trajectory Tracking Control for a Kind of Novel Cable-Driven Space Manipulator
Xiangxiang Zou Sun Yat-Sen University
Deshan Meng Sun Yat-Sen University
Huijie Sun Sun Yat-Sen University
Yuyao Wu Sun Yat-Sen University
Lining Tan Xi'an Research Institute of High Technology
- ISaB06-5 17:00-17:15**
0244 - A Multi-Scale Adaptive Label Assignment Neural Network Architecture for Brake Disc Surface Defect Detection
Shaoquan Wang Tianjin University
Guoshan Zhang Tianjin University
Bin Guan Tianjin University
- ISaB06-6 17:15-17:30**
0276 - A Learning Controller for Periodic Disturbance Rejection of Uncertain Nonholonomic Systems
Li Liu Shandong Jianzhu University
Yan Zhao Shandong Jianzhu University
Jiangbo Yu Shandong Jianzhu University
Chunxiao Wang Qufu Normal University
Xiao Yu University of Science and Technology Beijing
- ISaB06-7 17:30-17:45**
0109 - Preview Tracking Control of the SIR Model with Saturation Incidence Rate
Chenqi Wang Shenyang University of Technology
Yuan Li Shenyang University of Technology
Yi Zhang Shenyang University of Technology
- ISaB06-8 17:45-18:00**
0353 - Adaptive Dynamic Programming-based Self-triggered Optimal Control for Nonzero-sum Games of Nonlinear Systems with Constrained State
Gan Zhi Northeastern University
Hanguang Su Northeastern University
Rui Wang Northeastern University
Dazhong Ma Northeastern University

SaB07 清宏厅 16:00-18:00
Invited Session: Reachable Set Estimation and Control of Complex Systems

Chair: Zhiguang Feng Harbin Engineering University
Co-Chair: Yukang Cui Shenzhen University

- ISaB07-1 16:00-16:15**
0349 - The Reachable Set Estimation for Continuous-time Delayed Nonlinear Switched Systems with Impulsive Perturbation
Qingzheng Guo Harbin Engineering University
Zhiguang Feng Harbin Engineering University
- ISaB07-2 16:15-16:30**
0341 - Intelligent Warehouse Multi-robot Scheduling System Based on Improved A* algorithm
Ao Wang Harbin Engineering University
- ISaB07-3 16:30-16:45**
0309 - Reachable Set Estimation of Singular Markovian Jump Systems via State Decomposition Method
Qingxiang Wang Harbin Engineering University
Guowei Zhao Harbin Engineering University
Zhiguang Feng Harbin Engineering University
- ISaB07-4 16:45-17:00**
0225 - Identification Algorithm of Industrial Dryers Based on Subspace
Ning Ding Yan'an University
Jianwei Ma Yan'an University
Jiangrong Li Yan'an University
- ISaB07-5 17:00-17:15**
0212 - Extended Dissipative Sliding Mode Control for T-S Fuzzy Polynomial Singular System
Jiarui Liu Yan'an University
Jiangrong Li Yan'an University
Jiming Zhu Yan'an University
- ISaB07-6 17:15-17:30**
0331 - Incorporating Steering Constraints in AGV Path Planning Through Graph Augmentation
Liming Zhang Hangzhou Dianzi University
Zhimin Han Hangzhou Dianzi University
Bo Wang Hangzhou Dianzi University
Zhiyun Lin Southern University of Science and Technology
Xiangdong Xu Wenzhou Institute of Industry and Science
- ISaB07-7 17:30-17:45**
0297 - Adaptive Tracking Control for Random High-Order Fully Actuated Systems with Unknown Drift Nonlinearity and Diffusion Coefficient
Yunqi Chen Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology
- ISaB07-8 17:45-18:00**
0260 - Gait Stability Control of Quadruped Robot by Composite Nonlinear Feedback and Model Predictive Control
Jiang Xu Xiamen University
Xiafu Peng Xiamen University
Xiao Yu Xiamen University
Weiyao Lan Xiamen University

SaB08 清泽厅 16:00-18:00
Invited Session: Towards Next-Gen Power and Energy Systems

Chair: Pengcheng You Peking University
Co-Chair: Endong Liu Zhejiang University

- ISaB08-1 16:00-16:15**
0378 - Pricing Frequency Ancillary Services for Low-Inertia Power Systems under Model Nonconvexity
Zhihao Li Tsinghua Shenzhen International Graduate School
Yinliang Xu Tsinghua-Berkeley Shenzhen Institute
- ISaB08-2 16:15-16:30**
0270 - Attitude Control of a Three-Cable-Driven Parallel Robot for Full-Mode Chattering Wind Tunnel Tests
Lei Zhan Xiamen University
Lin Qi Xiamen University
Weiyao Lan Xiamen University
- ISaB08-3 16:30-16:45**
0248 - Optimizing Hybrid Energy Storage in Offshore Wind Farms with a Focus on Extending Storage Life
Yuwei Chen PowerChina Huadong Engineering Corporation Limited
- ISaB08-4 16:45-17:00**
0229 - Optimization Strategy for Wind-Solar Complementary Energy Storage Capacity Leveraging Photovoltaic Virtual Energy Storage
Jiahua Ni Zhejiang University
Yuwei Chen PowerChina Huadong Engineering Corporation Limited
Wang Tong Hangzhou City University
Wei Jin PowerChina Huadong Engineering Corporation Limited
- ISaB08-5 17:00-17:15**
0221 - Mitigation of Distribution Transformer Overloading with Rolling-Horizon Optimization of Vehicle-to-Grid Resource
Lin Xia State Grid Zhejiang Electric Power Company
Xiao Hong State Grid Hangzhou Electric Power Supply Company
Xiaowei Sun State Grid Hangzhou Electric Power Supply Company
Qingxue Li State Grid Hangzhou Electric Power Supply Company
Hao Wu State Grid Hangzhou Electric Power Supply Company
Yingning Huo Zhejiang University
Guangchao Geng Zhejiang University
- ISaB08-6 17:15-17:30**
0208 - Operational Flexibility Enhancement with Aggregated Electric Vehicles based on Virtual Energy Storage Model
Shiwei Chen Hangzhou Electric Power Equipment Manufacturing Co., Ltd
Hongfei Lang Zhejiang Rongda Electric Power Engineering Co.,Ltd
Muchun Wan Zhejiang University
Junjun Du Zhejiang Rongda Electric Power Engineering Co.,Ltd
Feng Bao Hangzhou Electric Power Equipment Manufacturing Co., Ltd
Guangchao Geng Zhejiang University
- ISaB08-7 17:30-17:45**
0205 - A Prioritized Replay Safe Soft-Actor Critic (PR-sSAC) Deep Reinforcement Learning for Real-Time Energy Dispatch of Integrated Energy Systems
Tobi Alabi Centre for Advances in Reliability and Safety
Zaiyue Yang Southern University of Science and Technology
- ISaB08-8 17:45-18:00**
0204 - Robust Operation of Distribution Systems with Uncertain Renewable Generation via Energy Sharing
Meng Yang The Chinese University of Hong Kong
Yue Chen The Chinese University of Hong Kong

Sunday, May 12, 2024

SuA01 海逸厅 10:45-12:15

Invited Session: New Developments in Fully Actuated Systems and Robotic Systems

Chair: Wei Sun Liaocheng University
Co-Chair: Ning Sun Nankai University

I SuA01-1 10:45-11:00
0374 - Development and Verification of Semi-physical In-loop Real-time Control Experimental Platform for Harsh Sea Condition Floating Body Salvage
Xiaoning Zhao Tongji University
Yougang Sun Tongji University
Zhiqiang Xu Chinese Academy of Fishery Sciences
Zhenyu He Tongji University

I SuA01-2 11:00-11:15
0283 - Fuzzy-based Dynamic Event-triggered Control for Uncertain Nonlinear Systems
Yaxin An Qingdao University
Yongchao Liu Qingdao University

I SuA01-3 11:15-11:30
0180 - Fully-Actuated System Approach for Underactuated Robot Control With Dynamic Compensation and State Observation
Tong Yang Nankai University
Menghua Zhang Shandong University
Wei Sun Liaocheng University
Qingxiang Wu Nankai University
Ning Sun Nankai University

I SuA01-4 11:30-11:45
0146 - Fully Actuated System Approach-Based Adaptive Event-Triggered Control for Nonlinear Switched Systems
Chengyuan Yan Liaocheng University
Jianwei Xia Liaocheng University
Wei Sun Liaocheng University

I SuA01-5 11:45-12:00
0133 - Synchronization for Singular Neural Networks with Finite Time Characteristic under Event-Triggered Scheme
Yifan Wu Liaocheng University
Jingjuan Zhu Liaocheng University
Yujing Pang Liaocheng University
Yanran Fu Liaocheng University
Mengjuan Hao Liaocheng University
Yanan Meng Liaocheng University
Guangming Zhuang Liaocheng University

I SuA01-6 12:00-12:15
0032 - Adaptive Stabilization Control for Fully Actuated Systems with Unknown Measurement Sensitivity
Xueqi Wu Liaocheng University
Wei Sun Liaocheng University

SuA02 海容厅 10:45-12:15

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: Xianwei Li Shanghai Jiao Tong University

I SuA02-1 10:45-11:00
0392 - High-order Fully-actuated Controller Design for a Dual-Quadrotor Suspension System
Zhipeng Jiang Shanghai Jiao Tong University
Xianwei Li Shanghai Jiao Tong University

I SuA02-2 11:00-11:15
0387 - Safe Control for Second-Order Fully-Actuated Systems
Jianing Zhao Shanghai Jiao Tong University
Xiang Yin Shanghai Jiao Tong University

I SuA02-3 11:15-11:30
0339 - Adaptive Coverage Path Planning of Marine Vehicles with Multi-Sensor
Zheng Zhang Shanghai Jiao Tong University
Peng Wang Shanghai Jiao Tong University

I SuA02-4 11:30-11:45
0286 - Wave Motion Compensation Controller Design for a Catamaran Upper Platform in the Presence of External Disturbances
Junyu Shen Shanghai Jiao Tong University
Rongji Yin Shanghai Jiao Tong University
Rijie Zeng Shanghai Jiao Tong University
Zhihuan Hu Shanghai Jiao Tong University
Weidong Zhang Shanghai Jiao Tong University
Jinhui Lu National Engineering Research Center of Ship and Shipping Control System
Wei Xie Shanghai Jiao Tong University

I SuA02-5 11:45-12:00
0194 - Integrated Guidance and Control Design Subject to Actuator Saturation Based on Fully Actuated System Approach
Lin Yang Shanghai Jiao Tong University
Yuanlong Li Shanghai Jiao Tong University

I SuA02-6 12:00-12:15
0184 - A Differentiable QP-based Learning Framework for Safety-Critical Control of Fully Actuated AUVs
Yongchao Jiang Shanghai Jiao Tong University
Chenggang Wang Shanghai Jiao Tong University
Ziqi He Shanghai Jiao Tong University
Lei Song Shanghai Jiao Tong University

SuA03 川舟厅 10:45-12:15

Invited Session: Fault-Tolerant Control of Fully Actuated Systems

Chair: Limin Wang Guangzhou University
Co-Chair: Miao Cai Tsinghua University

I SuA03-1 10:45-11:00
0346 - Fault Estimation and Fault-Tolerant Compensation Tracking Control for Autonomous Underwater Vehicles
Deyu Zeng Hainan Normal University
Limin Wang Liaoning Petrochemical University
Shouyan Chen Guangzhou University

I SuA03-2 11:00-11:15
0074 - Adaptive Dynamic Event-Triggered Tracking Control for Uncertain High-Order Fully Actuated Systems
Zhaoyang Li China University of Petroleum (East China)
Zhongyu Chen China University of Petroleum (East China)
Yichun Niu Shandong University of Science and Technology
Li Sheng China University of Petroleum (East China)

I SuA03-3 11:15-11:30
0044 - Fault-Tolerant Control for Uncertain Sub-Fully Actuated Systems
Mengtong Gong Tsinghua University
Li Sheng China University of Petroleum (East China)
Donghua Zhou Tsinghua University

I SuA03-4 11:30-11:45
0365 - High-Order Sliding Mode Control for Flexible Servo Systems using Fully Actuated System Approaches
Yuzhong Wang Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology
Ping Li Southern University of Science and Technology

I SuA03-5 11:45-12:00
0189 - Adaptive Control for Fully Actuated Systems with Input Quantization
Lin Liu Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology

I SuA03-6 12:00-12:15
0188 - Explicit Solution to Quasi-Polynomial Matrix Right Coprime Factorization with Application in Establishment of Time-Delay Fully Actuated System
Xujie Zhang Harbin Institute of Technology (Shenzhen)
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology

SuA04 川云厅 10:45-12:15

Invited Session: Recent Advances in Control and State Estimation for Cyber-Physical Systems

Chair: Lei Zou Brunel University London
Co-Chair: Shiping Gao Donghua University

I SuA04-1 10:45-11:00
0389 - A Real-time Event-Based Learning Approach for Input-Output Sensitivity Analysis
Xingjing She University of Electronic Science and Technology of China
Hang Geng Northwestern Polytechnical University
Xuan Gou University of Electronic Science and Technology of China
Kai Chen University of Electronic Science and Technology of China

I SuA04-2 11:00-11:15
0340 - Coding-Decoding-Based Sliding Mode Control for Discrete Uncertain T-S Fuzzy Systems with Time-Varying Delays
Zhiyuan Zuo Harbin University of Science and Technology
Jun Hu Harbin University of Science and Technology
Hongxu Zhang Harbin University of Science and Technology
Na Lin Harbin University of Science and Technology
Aozhan Zhou Harbin University of Science and Technology

I SuA04-3 11:15-11:30
0206 - Finite-Horizon Security-Guaranteed Non-fragile H-infinite Estimation under Integral Measurements
Zongjie Luo Northeast Petroleum University
Wang Yanqin Northeast Petroleum University
Dongyan Dai Northeast Petroleum University
Nan Hou Artificial Intelligence Energy Research Institute
Weijian Li Northeast Petroleum University

I SuA04-4 11:30-11:45
0199 - Event-triggered Bounded Synchronization Control for Heterogeneous Complex Networks
Zhentao Wang Harbin University of Science and Technology
Ling Huang Harbin University of Science and Technology
Yunfei Wang Harbin University of Science and Technology
Bing Li Harbin University of Science and Technology

I SuA04-5 11:45-12:00
0321 - Robust Model Predictive Control for Trajectory Tracking of Robotic Manipulators Based on Fully Actuated System Approach
Yiheng Yang Sichuan University
Kai Zhang Sichuan University
Zihua Chen Beijing Institute of Control Engineering
Bin Li Sichuan University

I SuA04-6 12:00-12:15
0400 - Fault Detection Based on Operational State Recognition for Wind Turbine Gearbox

Wei Lin Zhejiang Zheneng Jiaxing Offshore Wind Power Co., Ltd
Jinzhou Dou Zhejiang Zheneng Jiaxing Offshore Wind Power Co., Ltd
Linsong Yuan Zhejiang Zheneng Jiaxing Offshore Wind Power Co., Ltd
Kai Zhang Zhejiang University

SuA05 川凌厅 10:45-12:15

Invited Session: Learning-Based Intelligent Control Strategy and Industrial Electric System

Chair: Liheng Chen Harbin Engineering University
Co-Chair: Depeng Zeng Harbin Engineering University

I SuA05-1 10:45-11:00
0312 - Research on Unmanned Surface Vessel Intrusion Evasion Strategy Based on Deep Reinforcement Learning
Changmao Wu Harbin Engineering University
Liheng Chen Harbin Engineering University

I SuA05-2 11:00-11:15
0311 - Fault Estimation for Unmanned Surface Vehicles Based on Adaptive Observer
Feng Gao Harbin Engineering University
Liheng Chen Harbin Engineering University

I SuA05-3 11:15-11:30
0310 - Ship Energy Efficiency Prediction Method Based on Data Mining Techniques
Nuo Cheng Harbin Engineering University
Liheng Chen Harbin Engineering University
Depeng Zeng Harbin Engineering University

I SuA05-4 11:30-11:45
0308 - UUV Trajectory Tracking Control Based on Gaussian Process Model Predictive Control
Xiaoming Yan Harbin Engineering University
Yang Liu Harbin Engineering University

I SuA05-5 11:45-12:00
0307 - A Parameter Correction Method of Motor System based on Particle Swarm and Convolutional Neural Network
Depeng Zeng Harbin Engineering University
Junjie Hong Harbin Engineering University
Liangheng Han Harbin Engineering University
Kun Zhang Harbin Engineering University
Yueru Ren Harbin Engineering University
Zunheng Wang Harbin Engineering University

I SuA05-6 12:00-12:15
0279 - The Robust PI control of a Magnetically Levitated Planar Motor With Output Constraints
Xiang Chen Harbin Engineering University
Tuopu Na Harbin Engineering University
Chenglong Ma Harbin Engineering University
Lei Ning Harbin Engineering University
Bo Zhao Harbin Engineering University

SuA06 清澜厅 10:45-12:15

Invited Session: Fully Actuated Systems, Intelligent Control and Perception

Chair: Lingling Lv North China University of Water Resources and Electric Power
Co-Chair: Yang Liu Beihang University

I SuA06-1 10:45-11:00
0395 - Dynamic Gain Scheduling Laplacian-like Output Feedback Control of Linear Multiagent Systems with Input Saturation
Xiangyu Gao Guangxi Normal University
Anlong Chen Guangxi Normal University
Jianqiao Wang Tiangong University

I SuA06-2 11:00-11:15
0385 - A Practical Method for Quadrotor Modeling and Parameter Identification
Tianwei Ling University of Electronic Science and Technology of China
Rui Li University of Electronic Science and Technology of China
Yingjing Shi University of Electronic Science and Technology of China

I SuA06-3 11:15-11:30
0317 - The Autonomous Flight of an Indoor Quadrotor Using Onboard Vision
Yingjing Shi University of Electronic Science and Technology of China
Rui Li University of Electronic Science and Technology of China
Chen Zhou China Ship Development and Design Center

I SuA06-4 11:30-11:45
0253 - Consensus Analysis and Control for Second-Order Fully Actuated Multi-agent Systems
Xinrong Yang Guangxi Normal University
Zefeng Zhong Guangxi Normal University

I SuA06-5 11:45-12:00
0233 - Active Disturbance Rejection Control of Hydraulic Turbine based on Fully Actuated System Theory
Lingling Lv North China University of Water Resources and Electric Power
Delong Yang North China University of Water Resources and Electric Power

I SuA06-6 12:00-12:15
0089 - Event-Triggered Tracking Control for High-Order Fully Actuated Strict-Feedback Systems
Yang Liu Beihang University
Jiaming Zhang Beihang University

SuA07 清波厅 10:45-12:15

Invited Session: Autonomous Intelligent Perception and Operational Control of Complex Systems

Chair: Chunyu Yang China University of Mining and Technology
Co-Chair: Wei Dai China University of Mining and Technology

I SuA07-1 10:45-11:00

0420 - Robust LPV System Identification with Asymmetric Measurement Noise

Xin Liu China University of Mining and Technology
Hai Yang China University of Mining and Technology
Wei Dai China University of Mining and Technology

I SuA07-2 11:00-11:15

0102 - H_{∞} Voltage Control of Islanded Microgrid Three-Phase Inverter: A Model-Free Integral Reinforcement Learning Approach

Linna Zhou China University of Mining and Technology
Fuxing Li China University of Mining and Technology
Gonghe Li China University of Mining and Technology
Xiaomin Liu China University of Mining and Technology
Chunyu Yang China University of Mining and Technology

I SuA07-3 11:15-11:30

0113 - Adaptive Control for Active Suspension System Based on the High-order Fully Actuated System Theory

Haohan Zhao Yanshan University
Yahui Zhang Yanshan University
Xiaohong Jiao Yanshan University

I SuA07-4 11:30-11:45

0069 - ESO-based Trajectory Tracking Control of a 7-DOF Manipulator: A High-Order Fully Actuated System Approach

Yanling Liu Yanshan University
Jialong Zhang Yanshan University
Yahui Zhang Yanshan University
Zhao Tan Hunan University
Yingbing Sun Yanshan University
Haohan Zhao Yanshan University
Guilin Wen Yanshan University

I SuA07-5 11:45-12:00

0039 - Formation Control of Under-Actuated Multi-Robot Vehicle Systems Based on High-Order Fully Actuated Systems Approach

Guanglei Zhao Yanshan University
Lu Luo Yanshan University
Peng Wang Yanshan University
Changchun Hua Yanshan University

I SuA07-6 12:00-12:15

0383 - Research on Reliability Control for Nonlinear Multi-Agent Systems with Time Delays

Yang Xing Wuhan University of Science and Technology
Yimin Liu Wuhan University of Science and Technology

SuA08 清宏厅 10:45-12:15

Invited Session: Advanced Intelligent Control, Planning, and Optimization Methods for Aerospace Systems

Chair: Hanlin Dong Northwestern Polytechnical University
Co-Chair: Qin Zhao Southern University of Science and Technology

I SuA08-1 10:45-11:00

0201 High-order Fully Actuated Approach for Output Position Control of Two Mass Systems based on Extended State Observer

Ping Li Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology
Bi Zhang Southern University of Science and Technology
Yuzhong Wang Southern University of Science and Technology

I SuA08-2 11:00-11:15

0197 - Finite-Time Command Filtered Backstepping Design for High-Order Fully Actuated Strict-Feedback Systems

Weizhen Liu Southern University of Science and Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology
Guangtai Tian Southern University of Science and Technology
Mehdi Golestani Southern University of Science and Technology
He Kong Southern University of Science and Technology

I SuA08-3 11:15-11:30

0108 - Robust Bounded- H_{∞} Control for High-Order Fully Actuated Systems Based on FAS Approaches

Liyao Hu Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology

I SuA08-4 11:30-11:45

0106 - Robust Tracking Control for A Type of Combined Spacecraft: A Discrete-Time FAS Approach

Kaixin Cui Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology

I SuA08-5 11:45-12:00

0103 - Fully-Actuated Robust Predictive Control for Cascaded Under-actuated Systems

Xiubo Wang Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology

I SuA08-6 12:00-12:15

0354 - Reinforcement Learning Control for a 2-DOF Flight Attitude Simulator

Yu Cai Harbin Institute of Technology
Xiaojun Ban Harbin Institute of Technology
Chengbao Zhou Harbin Institute of Technology

SuA09 清泽厅 10:45-12:15

Invited Session: Nonlinear Control of Fully Actuated Systems

Chair: Yana Yang Yanshan University
Co-Chair: Yunfei Qiu Jiangsu University

I SuA09-1 10:45-11:00

0078 - Event-Triggered Robust Control for a Class of Nonlinear Systems with Uncertainty: A HOFA System Approach

Luhan Zhang Yanshan University
Lou Wang Yanshan University
Cuhua Zhang Yanshan University
Changchun Hua Yanshan University
Ying Zhang Yanshan University
Li Li Yanshan University

I SuA09-2 11:00-11:15

0073 - Angle Attitude Control for Motion Platform Driven by Pneumatic Muscle Actuators

Yipeng Cao Yanshan University
Li Li Yanshan University
Chao Liu Yanshan University
Jiaping Qiang Yanshan University
Cuihua Zhang Yanshan University

I SuA09-3 11:15-11:30

0072 - Algebraic Differentiator Based Fractional Order Controller by High-Order Fully Actuated System Approach

Yanqiao Wei Yanshan University
Yanhai Wang Yanshan University
Dayan Liu INSA Centre Val de Loire
Changchun Hua Yanshan University

I SuA09-4 11:30-11:45

0062 - Global Prescribed Performance Control for Nonlinear Interconnected Systems: A High-Order Fully Actuated System Approach

Yu Zhang Yanshan University
Guopin Liu Yanshan University
Changchun Hua Yanshan University
Yana Yang Yanshan University

I SuA09-5 11:45-12:00

0033 - Disturbance Observer-Based Nonlinear Control for Underactuated Bridge Cranes: High-Order Fully Actuated System Approach

Xiaoshuang Zhou Yanshan University
Yana Yang Yanshan University
Changchun Hua Yanshan University
Guopin Liu Yanshan University

I SuA09-6 12:00-12:15

0015 - Coordination Control of Networked Robotic Systems via A Fully-Actuated System Approach

Jiange Wang Yanshan University
Zhang Tong Yanshan University
Xiaolei Li Yanshan University
Yanqiao Wei Yanshan University
Yuzhong Wang Northeastern University

Sunday, May 12, 2024

SuB01 海容厅 13:30-15:30

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

Chair: Yongyuan Yu Shandong University
Co-chair: Lantao Xing Shandong University

I SuB01-1 13:30-13:45

0285 - Adaptive Fixed-time Fault-tolerant Control of Nonstrict-Feedback Nonlinear Systems

Jing Wu Shandong University
Lantao Xing Shandong University

I SuB01-2 13:45-14:00

0257 - Sampled-Data H^∞ Control for High-Order Fully Actuated Systems Based on a Local Lipschitz Condition

Tingrui Wang Shandong University
Zifan Gao Shandong University
Dawei Zhang Shandong University

I SuB01-3 14:00-14:15

0256 - Dynamic Modeling and Analysis of Wafers in Near-field Acoustic Levitation

Lipeng Wang Shandong University
Wu Jiang Shandong University
Chengqi Pan Shandong University

I SuB01-4 14:15-14:30

0235 - Sliding Mode Control for Tower Crane with Double Spherical Pendulum and Variable Cable Length

Gang Li Shandong University
Xin Ma Shandong University
Jing Li Shandong Fenghui Equipment Technology Co.,Ltd
Yibin Li Shandong University

I SuB01-5 14:30-14:45

0220 - Design of Coordinated Path Tracking Controller for Underactuated Multiple Unmanned Ships

Yiyang Wang Shenyang University of Technology
Yi Zhang Shenyang University of Technology
Chengqi Wang Shenyang University of Technology

I SuB01-6 14:45-15:00

0185 - DC-Link Voltage Control of Three-Phase AC/DC Converters with Current Constraints

Cheng Fu Shandong University
Zicheng Zhang Shandong University
Le Chang Shanghai University of Electric Power
Guanguan Zhang Shandong University

I SuB01-7 15:00-15:15

0159 - Robust Adaptive Control for a Class of Nonlinear Uncertain HOFA Systems with Actuator Attacks

Cunfu Qin Shandong University
Xiao Wang Shandong University
Ping Zhao Shandong University

I SuB01-8 15:15-15:30

0136 - On Designing Interval Observer for Discrete-time Positive Fuzzy Markov Jump Systems with Bounded Disturbance Input

Shujia Wang Shandong University
Shuqian Zhu Shandong University
Dawei Zhang Shandong University

SuB02 川舟厅 13:30-15:30

Invited Session: Cooperative Control and Optimization of Multi-Agent Systems

Chair: Wei Zhu Chongqing University of Posts and Telecommunications
Co-chair: Xiuxian Li Tongji University

I SuB02-1 13:30-13:45

0350 - Containment Control of Fractional-order Nonlinear Multi-agent Systems with Time Delay

Yanqiu Li Chongqing University of Posts and Telecommunications
Wei Zhu Chongqing University of Posts and Telecommunications
Bo Chen Chongqing University of Posts and Telecommunications

I SuB02-2 13:45-14:00

0327 - Interpretable Fourier Neural Ordinary Differential Equations and Their Applications

Hanlin Bian Chongqing University of Posts and Telecommunications
Wei Zhu Chongqing University of Posts and Telecommunications
Zhang Chen Chongqing University of Posts and Telecommunications
Jingsui Li Chongqing University of Posts and Telecommunications
Chao Pei Chongqing University of Posts and Telecommunications

I SuB02-3 14:00-14:15

0231 - Robust Containment Control of Heterogeneous Uncertain Multi-Agent Systems under Markovian Switching Topologies

Haihua Guo City University of Hong Kong
Cong Bi Nankai University
Xiang Xu Southern University of Science and Technology

I SuB02-4 14:15-14:30

0187 - Construction of Barrier Surfaces in Mutual Attack-Defense Games

Jingwen Xu Tongji University
Qiyong He Tongji University
Min Meng Tongji University
Xiuxian Li Tongji University

I SuB02-5 14:30-14:45

0058 - Event-Triggered Control of High-Order Fully Actuated Nonlinear Multi-Agent Systems

Hailong Cui Yanshan University
Guanglei Zhao Yanshan University

I SuB02-6 14:45-15:00

0191 - On Transforming Single Input Linear Systems with Commensurate Time Delays into High-order Fully Actuated Systems

Yu Liu Harbin Institute of Technology
Zhaoyan Li Harbin Institute of Technology
Bin Zhou Harbin Institute of Technology

I SuB02-7 15:00-15:15

0042 - An INS/GNSS Localization Method Based on Set-Membership Filter for Unmanned Aerial Vehicles

Xujie Qin National University of Defense Technology
Jun Lai National University of Defense Technology
Yirui Cong National University of Defense Technology
Xiangke Wang National University of Defense Technology

I SuB02-8 15:15-15:30

0178 - Hierarchical Robust Control for Unmanned Quadrotor Transportation Systems: Exploiting Beneficial State-Coupling

Lincong Han University of Jinan
Menghua Zhang Shandong University

SuB03 川云厅 13:30-15:30

Invited Session: Information Fusion Estimation on Complicated Networked Systems

Chair: Yuan Gao Heilongjiang University
Co-chair: Chenjian Ran Heilongjiang University

I SuB03-1 13:30-13:45

0416 - 带确定性观测和随机观测系统的最优降阶滤波器

高媛 黑龙江大学
孙书利 黑龙江大学
高媛 黑龙江大学

I SuB03-2 13:45-14:00

0299 - Innovation-Rigger-Based Sequential Fusion Kalman Filter for CPSs with Multiplicative Noises Against Deception Attacks

Baifu Zheng Heilongjiang University
Xuenan Zhang Heilongjiang University
Yuan Gao Heilongjiang University
Jinfang Liu Lingnan Normal University

I SuB03-3 14:00-14:15

0175 - Distributed Fusion Estimator for Networked Multi-Rate Multi-Sensor Systems with Unknown Inputs

Qiang Liu Heilongjiang University
Honglei Lin Heilongjiang University

I SuB03-4 14:15-14:30

0170 - Robust Kalman Predictor under Linearly Correlated Noise and Mixed Uncertainties of Noise Variances and Multiple Networked-inducements

Ying Zhao Guilin University of Aerospace Technology
Chunshan Yang Guilin University of Aerospace Technology
Liu Zheng Guilin University of Aerospace Technology
Jianqi Wang Guilin University of Aerospace Technology
Xuemei Wang Communication University of Zhejiang
Guili Tao Communication University of Zhejiang

I SuB03-5 14:30-14:45

0149 - Time-Varying Filters for Uncertain Singular System with Random D-Step Measurement Delay and Packet Dropout

Xinyu Zhang Heilongjiang University
Chenjian Ran Heilongjiang University

I SuB03-6 14:45-15:00

0148 - Robust Sequential Covariance Intersection Fusion Kalman Filters with Noise Variances Uncertainties

Yangyi Song Heilongjiang University
Wenjuan Qi Heilongjiang University

I SuB03-7 15:00-15:15

0051 - Model Predictive Control for Attitude Tracking of Rehabilitation Exoskeleton Robots

Zheming Wang Zhejiang University of Technology
Bin Wang Zhejiang University of Technology
Yuan Zhou Zhejiang University of Technology
Ming Chen Zhejiang University of Technology
Bo Chen Zhejiang University of Technology
Jiyu Zhang Harbin Institute of Technology

I SuB03-8 15:15-15:30

0120 - Safety-Critical Control in Multi-Spacecraft Specific Tracking of Rotating Target Based on Fully Actuated System Models

Zijie Lin Harbin Institute of Technology
Baolin Wu Harbin Institute of Technology
Junyu Chen Harbin Institute of Technology
Zhaobo Sun Harbin Institute of Technology

SuB04 川凌厅 13:30-15:30

Invited Session: Analysis and Optimization Design for Complex Dynamical Systems

Chair: Jun Hu Harbin University of Science and Technology
Co-chair: Ling Huang Harbin University of Science and Technology

I SuB04-1 13:30-13:45

0370 - Optimized State Estimation for Complex Networks with Sensor Fault and Probability-Based Quantization

Hongchun Chu Harbin University of Science and Technology
Chaoqing Jia Harbin University of Science and Technology
Cai Chen Harbin University of Science and Technology
Kun Chi Harbin University of Science and Technology
Tao Lei Harbin University of Science and Technology

I SuB04-2 13:45-14:00

0329 - Circular Phased Array Ultrasonic Transducer Design for Internal Inspection of Natural Gas Pipeline

Zhongwei Qi China University of Petroleum (East China)
Mingyan Liao China University of Petroleum (East China)
Li Sheng China University of Petroleum (East China)
Zhongyu Chen China University of Petroleum (East China)
Yichun Niu Shandong University of Science and Technology

I SuB04-3 14:00-14:15

0290 - Finite-Time Fault Detection for T-S Fuzzy Systems Under Encoding-Decoding Mechanism

Siteng Ma Harbin University of Science and Technology
Jun Hu Harbin University of Science and Technology
Zhihui Wu Harbin University of Science and Technology
Hui Yu Harbin University of Science and Technology
Tianze Yu Harbin University of Science and Technology

I SuB04-4 14:15-14:30

0230 - Model Predictive Path Integral Control of a Temperature Profile in Tubular Chemical Reactor with Recycle

Ling Ai Harbin University of Science and Technology
Yingwei Chen Harbin University of Science and Technology
Yang Xu Dalian Maritime University
Xueqin Chen Harbin Institute of Technology
Kok Lay Teo Curtin University

I SuB04-5 14:30-14:45

0214 - Truncated Predictive Containment Control of Input Delay Multi-agent Systems with Coding-Decoding Communication Protocol

Ming Wu Donghua University
Jinghui Suo Donghua University

I SuB04-6 14:45-15:00

0158 - A Brief Survey on Complex Networks Synchronization Control with Limited Bandwidth

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

I SuB04-7 15:00-15:15

0110 - Stackelberg Differential Game-Based Hierarchical Approximate Optimal Interaction Control of Human-Centered Reconfigurable Robot Manipulator Systems

Tianjiao An Changchun University of Technology
Haoyu Yan Changchun University of Technology
Bing Ma Changchun University of Technology
Hucheng Jiang Changchun University of Technology
Bo Dong Changchun University of Technology

I SuB04-8 15:15-15:30

0101 - Robust Control of Single-Link Flexible-Joint Manipulators with Perturbed Inertia Based on Fully Actuated System Approach

Shiyu Zhang Harbin Institute of Technology
Guangren Duan Harbin Institute of Technology & Southern University of Science and Technology

SuB05 清澜厅 13:30-15:30

Invited Session: Fully Actuated Systems Theory and Its Applications in Complex Industrial Control Systems

Chair: Yabin Gao Harbin Institute of Technology
Co-chair: Jianxing Liu Harbin Institute of Technology

I SuB05-1 13:30-13:45

0376 - Fuzzy-Based Filtering of Autonomous Vehicle System Via Memory-Based Event-Triggered Mechanism

Yaxin Gu Nanjing University of Information Science and Technology
Weiyi Zhao Nanjing University of Information Science and Technology
Xinxin Liu Nanjing University of Information Science and Technology
Xiaojie Su Chongqing University
Jianxing Liu Harbin Institute of Technology

I SuB05-2 13:45-14:00

0323 - Dynamics Modeling of Soft Robots Based on Attention-Enhanced Lagrangian Deep Neural Networks

Yeqi Wei Harbin Institute of Technology
Xiangyu Shao Harbin Institute of Technology
Jingyue Liu Delft University of Technology
Shaojie Zhang Harbin Institute of Technology
Linke Xu Harbin Institute of Technology

I SuB05-3 14:00-14:15

0304 - An Observer-Based Robust Sliding Mode Control for The System with Actuator Saturation and False Data Injection Attack

Qian Wang Hangzhou Dianzi University
Xinyuan Wang Hangzhou Dianzi University
Yan Jin Hangzhou Dianzi University

I SuB05-4 14:15-14:30

0259 - Tracking Control and Obstacle Avoidance of Quad-Rotor UAV Based on High-Order Fully Actuated System Approach

Yankui Shi Harbin Institute of Technology
Runze Wang Harbin Institute of Technology
Ruizhi Tong Harbin Institute of Technology
Yi Zeng Harbin Institute of Technology

I SuB05-5 14:30-14:45

0099 - A Method of Lunar Autonomous Driving Perception Planning Based on Hybrid A*

Tao Hu Shanghai Aerospace Control Technology Institute
Tao Cao Shanghai Aerospace Control Technology Institute
Bo Zheng Shanghai Aerospace Control Technology Institute
Zhouyuan Qian Shanghai Aerospace Control Technology Institute
Fei Han Shanghai Aerospace Control Technology Institute
Liang He Shanghai Aerospace Control Technology Institute

I SuB05-6 14:45-15:00

0095 - A Status-Deformation Cooperative Control for Morphing Vehicle

Wenquan Zheng Shanghai Aerospace Control Technology Institute
Ye Tian Shanghai Aerospace Control Technology Institute
Saixian Ye Shanghai Aerospace Control Technology Institute
Yihuan Jin Shanghai Aerospace Control Technology Institute
Lu Liu Shanghai Aerospace Control Technology Institute

I SuB05-7 15:00-15:15

0076 - Observed State-Dependent Adaptive Control for Thermoacoustic Instability in Aeroengine Oscillating Combustion with Unknown Thermal Inertia

Yuzhuo Zhao Northeastern University
Dan Ma Northeastern University

I SuB05-8 15:15-15:30

0067 - Non-Cooperative Target Approach Strategy Design Based on Bearing-Only Measurement

Yinkang Li Shanghai Institute of Aerospace Systems Engineering
Weixing Liu Shanghai Institute of Aerospace Systems Engineering
Xiaokun Liu Shanghai Institute of Aerospace Systems Engineering
Xiaoran Chen Shanghai Academy of Spaceflight Technology
Yang Jin Shanghai Institute of Aerospace Systems Engineering

SuB06 清波厅 13:30-15:30

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

Chair: Yi Zeng Harbin Institute of Technology
Co-chair: Xiaoning Shen Harbin Institute of Technology

- I SuB06-1 13:30-13:45**
0217 - Robust Multi-Mobile Robot Formation Control: A Fully Actuated System Control Approach
Zhihao Liu Harbin Institute of Technology (Shenzhen)
Peng Li Harbin Institute of Technology (Shenzhen)
- I SuB06-2 13:45-14:00**
0029 - Multi-Spacecraft Adaptive Tracking Control with Collision Avoidance Based on Fully Actuated System Approach
Xiaoxiang Zhang Harbin Institute of Technology
Yunhai Geng Harbin Institute of Technology
Baolin Wu Harbin Institute of Technology
- I SuB06-3 14:00-14:15**
0379 - Fully-Actuated Sliding Mode Synchronization Control for H-type Linear Motor System
Xiaolei Li Harbin Institute of Technology
Feilong Tang Harbin Institute of Technology
Jiawei Liu Harbin Institute of Technology
Zhihua Xiang Harbin Institute of Technology
- I SuB06-4 14:15-14:30**
0347 - Disturbance Observer-Based High-Order Fully Actuated Robust Control of Uncertain Robotic Systems
Fuxing Zhu Harbin Institute of Technology
Yue Zhao Harbin Institute of Technology
Zhuang Liu Harbin Institute of Technology
Fei Yan Southwest Jiaotong University
Jianxing Liu Harbin Institute of Technology
- I SuB06-5 14:30-14:45**
0337 - Robust Control for DC-DC Buck Converters Based on Fully Actuated System Theory
Fangyuan Li Harbin Institute of Technology
Guangxin Liu Harbin Institute of Technology
Xiaoning Shen Harbin Institute of Technology
Cheng Li Harbin Institute of Technology
Xinpo Lin Harbin Institute of Technology
Yabin Gao Harbin Institute of Technology
Jianxing Liu Harbin Institute of Technology
- I SuB06-6 14:45-15:00**
0316 - Observer-Based Stabilization for Networked Interval Type-2 Fuzzy Semi-Markov Jump Systems with Cyber Attacks
Runkun Li Qufu Normal University
Wenhai Qi Qufu Normal University
- I SuB06-7 15:00-15:15**
0242 - A Method for Multi-snake-like Robot Formation Control and Cooperative Obstacle Avoidance
Yunbo Pang Anhui University
Darong Huang Anhui University
Yuhong Na Anhui University
Yunhu Zhou Anhui University
- I SuB06-8 15:15-15:30**
0240 - Distributed Fault Detection Scheme for Snake Robot Platoon
Qin Wang Anhui University
Darong Huang Anhui University
Yuhong Na Anhui University
Yunhu Zhou Anhui University

SuB07 清宏厅 13:30-15:30

Invited Session: Fault Diagnosis and Advanced Control for Autonomous Intelligent Systems

Chair: Youmin Gong Harbin Institute of Technology (Shenzhen)
Co-chair: Guangtao Ran Harbin Institute of Technology

- I SuB07-1 13:30-13:45**
00412 - A High-Order Fully Actuated Consensus Approach for Strict-feedback Nonlinear Multi-Agent Systems
Congcong Tian Harbin Institute of Technology (Shenzhen)
Jie Mei Harbin Institute of Technology (Shenzhen)
Guangfu Ma Harbin Institute of Technology (Shenzhen)
- I SuB07-2 13:45-14:00**
0408 - Structure and Thrust Fault Detection and Diagnosis for Hypersonic Aircrafts via a Data-Driven Approach
Chaoyue Zhang Beihang University
Qinglei Hu Beihang University
Tuo Han Beihang University
- I SuB07-3 14:00-14:15**
0407 - Terminal Angle Constrained Three-Dimensional Disturbance Rejection Guidance via an Incremental Twisting Algorithm
Jintao Hu Beihang University
Qinglei Hu Beihang University
Tuo Han Beihang University
- I SuB07-4 14:15-14:30**
0293 - An Attention-LSTM-Based Fault Diagnosis Method for Satellite Attitude Control System
Siyuan Ma Shenyang Institute of Automation, Chinese Academy of Sciences
Sheng Gao Shenyang Institute of Automation, Chinese Academy of Sciences
Xiaozhong Zuo Shenyang Jianzhu University
Zhengyang Lv Shenyang Institute of Automation, Chinese Academy of Sciences
Chenyang Zou Shenyang Institute of Automation, Chinese Academy of Sciences
- I SuB07-5 14:30-14:45**
0209 - Influence of Algebraic Connectivity and Out-degree of Leader on Distributed Observer
Xiaobo Zhang Harbin Institute of Technology (Shenzhen)
Peng Li Harbin Institute of Technology (Shenzhen)
- I SuB07-6 14:45-15:00**
0367 - Response Estimation and Reference Model-free Controller Design Approach for 2-DOF Control Systems
Ruirui Yang Mie University
Kazuhiro Yubai Mie University
Satoshi Komada Mie University
Daisuke Yashiro Mie University
Weijie Ren Southern University of Science and Technology
- I SuB07-7 15:00-15:15**
0061 - Optimal Fuel Solution to the Lambert Problem under Complex Perturbation Conditions Based on BP Neural Network
Wenbin Wu Shanghai Institute of Aerospace Systems Engineering
Qian Zhang Shanghai Academy of Spaceflight Technology
Minglang Tan Shanghai Institute of Aerospace Systems Engineering
Yini Zhong Shanghai Institute of Aerospace Systems Engineering
Ronghao Yuan Shanghai Institute of Aerospace Systems Engineering
- I SuB07-8 15:15-15:30**
0060 - Optimal Control Method for Deployment and Retrieval of Transverse Formation Satellite-Sail Systems
Yini Zhong Shanghai Institute of Aerospace Systems Engineering
Minglang Tan Shanghai Institute of Aerospace Systems Engineering
Qian Zhang Shanghai Academy of Spaceflight Technology
Wenbin Wu Shanghai Institute of Aerospace Systems Engineering
Ronghao Yuan Shanghai Institute of Aerospace Systems Engineering

SuB08 清泽厅 13:30-15:30

Invited Session: Distributed Control of Multi-Intelligent Systems

Chair: Yi Gong Beijing Information Science and Technology University
 Co-chair: Fanke Meng Tianjin Yinyuan Information Technology Co.,Ltd

I SuB08-1 13:30-13:45
 0406 - Cross-Multi-Agent Systems Identity Authentication Framework on Decentralized Identity
 Zixin Xu Beijing Information Science and Technology University
 Yuxin Zuo Beijing Information Science and Technology University
 Boyuan Yu Beijing Information Science and Technology University
 Yue Zhang Beijing Information Science and Technology University
 Yi Gong Beijing Information Science and Technology University

I SuB08-2 13:45-14:00
 0405 - A Blockchain-Enhanced Secure and Reliable Data Transaction Scheme in MAS via HTLC
 Boyuan Yu Beijing Information Science and Technology University
 Yichun Guan Beijing Information Science and Technology University
 Shiyao Geng Beijing Information Science and Technology University
 Linlong Miao Beijing Information Science and Technology University
 Yue Zhang Beijing Information Science and Technology University
 Yi Gong Beijing Information Science and Technology University

I SuB08-3 14:00-14:15
 0391 - Adaptive Cloaking Region Obfuscation in Road Networks
 Baihe Ma University of Technology Sydney
 Xu Wang University of Technology Sydney
 Yanna Jiang University of Technology Sydney
 Xiaojie Lin University of Technology Sydney

I SuB08-4 14:15-14:30
 0360 - Path-Following Control of Autonomous Tugs Based on Gaussian Process Regression and Arithmetic Optimization Algorithm
 Shijie Li Wuhan University of Technology
 Yang Li Wuhan University of Technology
 Xinjue Hu Wuhan University of Technology
 Jialun Liu Wuhan University of Technology
 Muheng Wei Tsinghua University

I SuB08-5 14:30-14:45
 426 - Adaptive Dynamic Programming and Blockchain Technique-Based Smart Home Energy Management
 Chujian Zeng Guangdong University of Technology
 Bo Zhao Beijing Normal University
 Derong Liu Southern University of Science and Technology

I SuB08-6 14:45-15:00
 0054 - Distributed Observer-Based Failure Compensation Load Frequency Control of Multi-Area Power Systems
 Jiayu Wei Northeast Electric Power University
 Jing Liu Northeast Electric Power University
 Xin Huang Northeast Electric Power University
 Siyuan Zhang Northeast Electric Power University
 Xinyu Han Northeast Electric Power University
 Anping Sun Northeast Electric Power University
 Chenxu Chang Northeast Electric Power University

I SuB08-7 15:00-15:15
 0041 - Reinforcement Learning-Based Three-Dimensional Cooperative Guidance Law
 Zhen Gu Harbin Institute of Technology
 Zeqi Zhang Harbin Institute of Technology
 Honglong Kang Harbin Institute of Technology
 Jianfeng Li Harbin Institute of Technology
 Keyuan Yue Beijing Research Institute of Mechanical and Electrical Technology
 Shenmin Song Harbin Institute of Technology

I SuB08-8 15:15-15:30
 0034 - Neural-Network-Based Nonlinear Model Predictive Control of Suspension Gravity Offload System
 Huixing Yan Harbin Institute of Technology
 Hongqian Lu Harbin Institute of Technology
 Hanyu Wang Harbin Institute of Technology
 Zhen Zhang Harbin Institute of Technology
 Xianlin Huang Harbin Institute of Technology

Poster Session 1: May 11, Saturday 海岚厅

I SaC-01
 0394 - Prescribed-Time Tracking Control for Autonomous Underwater Vehicles
 Shihui Jiang China State Shipbuilding Corporation
 Jing Fang China State Shipbuilding Corporation
 Xing Liu China State Shipbuilding Corporation
 Jinhong Yang China State Shipbuilding Corporation
 Liming Hao China State Shipbuilding Corporation

I SaC-02
 0193 - Optimal Filtering for NCSs with Amplify-and-Forward Relays
 Xiaohan Liu University of Jinan
 Chunyan Han University of Jinan

I SaC-03
 0165 - Distributed Recursive Filter for 2-D Markov Jump Systems with Stochastic Communication Protocol and Nonlinearities
 Fengying Ge University of Jinan
 Chunyan Han University of Jinan

I SaC-04
 0164 - Optimal Control and Stabilization for NCS over Multi-Hop Relay Networks
 Qinglun Zhao University of Jinan
 Chunyan Han University of Jinan

I SaC-05
 0398 - Finite-time Shifting Control for LPV Systems with Parameter-varying Time Delays via State Feedback
 Yanmei Hu Qingdao University of Science and Technology
 Dandan Zhang Jiangsu Ocean University
 Shaoyuan Li Shanghai Jiao Tong University

I SaC-06
 0386 - Remaining Useful Life Prediction Based on Improved Transformer Network for Pneumatic Control Valve
 Yu Cheng Wuhan University of Science and Technology
 Jianliang Chen Wuhan University of Science and Technology

ISaC-07

0388 - Analysis and Control of Multi-level Quantum Systems By Means of Fully Actuated System Theory

Huilong Xu Harbin Institute of Technology (Shenzhen)
Zibo Miao Harbin Institute of Technology (Shenzhen)

ISaC-08

0384 - High-order Fully Actuated System Approach for a 3-DOF Quadrotor Control Based on Extended State Observers

Shi Lu Arizona State University
Konstantinos Tsakalis Arizona State University
Yan Che Arizona State University

ISaC-09

0361 - Distributed Detection for Plantwide Processes with Randomly Occurring Faults

Jian Song University of Shanghai for Science and Technology
Wangyan Li University of Shanghai for Science and Technology
Jie Bao UNSW Sydney

ISaC-10

0344 - A Shape Reconstruction Method for Space Continuum Robot Based on Neural Network

Guopeng Wang Shanghai Aerospace Control Technology Institute
Yuchao Yan Shanghai Aerospace Control Technology Institute
Zuan Li Shanghai Aerospace Control Technology Institute
Yuntao Li Shanghai Aerospace Control Technology Institute
Liang Xiong Shanghai University
Han Fei Shanghai Aerospace Control Technology Institute
Xinpeng Di Shanghai Aerospace Control Technology Institute

ISaC-11

0342 - A Fully Actuated System Approach for Robust Control of a Type of Feedback Linearizable System

Xiaomeng Guo Northeast Electric Power University
Dake Gu Northeast Electric Power University
Yindong Liu Northeast Electric Power University

ISaC-12

0410 - Flexible Performance-based Control for Mechanical System under Input Saturation

Kenan Yong Nanjing University of Aeronautics and Astronautics

ISaC-13

0016 - Active Disturbance Rejection Controller with Variable Control Gain for Aero-Engine

Shuheng Liu Dalian University of Technology
Liang Yu Dalian University of Technology
Zhongyang Fei Dalian University of Technology
Wenbo Zhang Dalian University of Technology

ISaC-14

0009 - Fixed-time Attitude Control and Active Vibration Suppression for Flexible Spacecraft based on the Fully-actuated System Approach

Kerun Liu Harbin Institute of Technology
Ming Liu Harbin Institute of Technology
Huayi Li Harbin Institute of Technology

ISaC-15

0004 - Prompt Engineering Approach Study for Supervised Fine-Tuned (SFT) Large Language Models (LLMs) in Spacecraft Fault Diagnosis

Qing Xia Harbin Institute of Technology
Haotian Zhao Harbin Institute of Technology
Ming Liu Harbin Institute of Technology

ISaC-16

0211 - Design and Modeling of A Trapezoidal Leaf Spring-Based Actuators with Valid Arm Length and Bending Deformation for Stiffness Adjustment.

Tianle Yang Henan University of Technology
Hui Zhang Henan University of Technology
Shijie Zhang Henan University of Technology
Xiang Wu Henan University of Technology
Qiu Yuebin Henan University of Technology
Jing Zhang Wuhu HIT Robot Technology Research Institute Co., Ltd

ISaC-17

0210 - Robotic Manipulator Control Based on Disturbance Observer: A High-Order Fully Actuated System Approach

Yuebin Qiu Henan University of Technology
Shijie Zhang Henan University of Technology
Xiang Wu Henan University of Technology
Hui Zhang Henan University of Technology
Tianle Yang Henan University of Technology

ISaC-18

0202 - Planned Fully Actuated Attitude Control Strategy for Flexible Spacecraft

Dian Wang Nanjing University of Aeronautics and Astronautics
Yunhua Wu Nanjing University of Aeronautics and Astronautics
Song Ma Nanjing University of Aeronautics and Astronautics

ISaC-19

0190 - Structural Design and Kinematic Analysis of Fully Automated Material Handling Robots for Warehouse Logistics

Runchen Zhao Hefei University of Technology
Haibo Du Hefei University of Technology
Xunhong Sun Hefei University of Technology
Wenwu Zhu Hefei University of Technology

ISaC-20

0250 - Partially Observed Optimal Control with Correlated Noises

Zhipeng Li Qufu Normal University
Minyue Fu The University of Newcastle
Huanshui Zhang Shandong University & Shandong University of Science and Technology
Zhongcai Zhang Qufu Normal University

ISaC-21

0139 - Exponential Stability and Asynchronous Stabilization of Impulsive Switched Systems with Admissible Edge-dependent Average Dwell Time

Mengjie Li Qufu Normal University
Menghao Qu Qufu Normal University
Lijun Gao Qufu Normal University

ISaC-22

0096 - Time-Optimal and Jerk-Continuous Trajectory Planning and Tracking Control for 6-DOF Manipulator based on High-Order Fully Actuated System Control Theory

Die Zou Wuhan Institute of Technology
Likun Huang Wuhan Institute of Technology
Wei Wang Wuhan Institute of Technology
Mengying Lin Wuhan Institute of Technology
Zixin Huang Wuhan Institute of Technology

ISaC-23

0423 - Predefined Time Sliding Mode Attitude Tracking Control for Rigid Spacecraft Based on Fully Actuated System Method

Yin Zheng Harbin Institute of Technology
He Zhang Harbin Institute of Technology
Yan Wang Harbin Institute of Technology

ISaC-24

0179 - Model Reference Adaptive Control for Multi-variable Systems Using Available Signal for Feedback

Yingli Sang Qufu Normal University
Zhengqiang Zhang Qufu Normal University

ISaC-25

0171 - Dynamic SLAM Based on Neural Network and Depth Information

Aoqiang Liu Anhui University
Shu Yang Anhui University
Yuan Fan Anhui University

ISaC-26

0153 - PMSM Speed Control Based on Fully Actuated Systems Theory

Fangyi Quan Beijing Information Science and Technology University
Junfang Fan Beijing Information Science and Technology University
Sixing Zhang Beijing Institute of Technology
Yi Ji Beijing Institute of Technology
Shiwei Chen Beijing Institute of Technology

ISaC-27

0338 - Dynamic Region Detection and Removal Based on Deep Learning and Optical Flow

Shixiong Fan Anhui University
Mengmeng Qian Anhui University
Songheng Mao Anhui University
Aoqiang Liu Anhui University
Yuan Fan Anhui University

ISaC-28

0336 - Sliding Mode Based Incremental Tracking Control of High-Order Fully Actuated Systems with Application

Miao Yu Harbin Institute of Technology
Mingzhe Hou Harbin Institute of Technology
Feng Tan Harbin Institute of Technology

ISaC-29

0330 - Trajectory Tracking Control of CNC System Based on RBF Neural Network Composite Learning Control

Zhiyu Hu Harbin Institute of Technology (Shenzhen)
Juncheng Xu Harbin Institute of Technology (Shenzhen)
Jiangang Li Harbin Institute of Technology (Shenzhen)

ISaC-30

0302 - Predictive Path-following Control for Tilt-quadrotor UAV based on Fully-actuated System Approaches

Lixue Xu Harbin Institute of Technology
Xiubo Wang Harbin Institute of Technology
Ping He Harbin Institute of Technology
Yan Wang Harbin Institute of Technology

Poster Session 2: May 12, Sunday
海岚厅

ISuC-01

0295 - Fault Diagnosis of Rotating Equipment Bearings Based on VMD-MSGWO-SVM

Jibao Deng Wuhan Maintenance and Installation Petrochemical Engineering Co., Ltd
Yimin Liu Wuhan University of Science and Technology
Zixuan Li Academy of Information Science and Engineering

ISuC-02

0277 - A Novel Rolling Takeoff Flight Control for Fixed-Wing Unmanned Aerial Vehicle

Wangkui Liu Beijing Institute of Aerospace Technology
Xiangyu Wang Beijing Institute of Aerospace Technology
Zunshi Shu Beijing Institute of Aerospace Technology
Zhihua Chen Beijing Institute of Control Engineering
Huabing Qiu Beijing Institute of Aerospace Technology
Xuefei Yang Harbin Institute of Technology

ISuC-03

0275 - Forecasting Method of Process Pump Equipment Based on Grey Theory

Nie Cheng Wuhan Maintenance and Installation Petrochemical Engineering Co., Ltd
Yimin Liu Wuhan University of Science and Technology
Wen Cheng Wuhan University of Science and Technology

ISuC-04

0421 - Finite-time Consensus for Third-Order Multi-Agent Systems with Directed Communication Networks

Xirui Zhang Shaanxi Normal University
Zhiliang Zhao Shaanxi Normal University
Tengteng Liu Northeastern University
Zhong-Ping Jiang New York University

ISuC-05

0267 - Global Stabilization of Circular Orbit Rendezvous by Bounded Linear Feedback

Weiwei Luo Harbin Institute of Technology
Wenbo Fu China University of Mining and Technology
Song Zhu China University of Mining and Technology
Chuanchuan Xu Harbin Institute of Technology

ISuC-06

0255 - Navigating the Accuracy-Privacy Dilemma in Load Forecasting with Noisy Data

Cheng Guo The Chinese University of Hong Kong (Shenzhen)

ISuC-07

0300 - Stable Detector for Systems with Unobservable Sensor Failures

Chaolin Liang Kunming University of Science and Technology
Guanghua Fu Shenzhen Polytechnic University
Hong Lin Shenzhen Polytechnic University

ISuC-08

0219 - Disturbance Separation-Based Antidisturbance Attitude Control for Flexible Liquid-Filled Spacecrafts

Baopeng Zhu Southeast University
Hao Teng Beihang University
Yan Meng Beihang University
Yukai Zhu Beihang University

ISuC-09

0234 - A Novel Trajectory Replanning Method for Autonomous Robots Under Actuator Faults

Fuqiang Liu Chongqing University
 Cheng Luo Chongqing University
 Sisindisiwe Nomalanga Ncube Chongqing University
 Aoshen Li Chongqing University
 Xiaoshan Bai University of Groningen

ISuC-10

0237 - A Data-Driven Control Design for UAV Autolandings: A Pitch-only Case Study

Tianjiang Hu Sun Yat-Sen University

ISuC-11

0247 Data-Based Nonlinear Learning Control for Aircraft Trajectory Tracking Via Gaussian Process Regression

Chuyu Wei Beihang University
 Deyuan Meng Beihang University
 Jingyao Zhang Beihang University

ISuC-12

0258 - Enhancing Autonomous Racing Strategies: A Cognitive Hierarchy-Based Safe Motion Planning Approach

Xuanming Zhang Beijing Institute of Technology
 Xianlin Zeng Beijing Institute of Technology
 Zhihong Peng Beijing Institute of Technology

ISuC-13

0262 - Predicting Strategy of Rational Evader in Cooperative Pursuit: A Distributed Bimatrix Zero-sum Game Approach

Yixuan Li Beijing Institute of Technology
 Jie Hou Beijing Institute of Technology
 Xianlin Zeng Beijing Institute of Technology
 Zhihong Peng Beijing Institute of Technology

ISuC-14

0027 - Event-Triggered Prescribed Performance Control for Multi-Input Multi-Output Nonlinear Systems

Enyuan Cui Northeastern University
 Jinxi Zhang Northeastern University

ISuC-15

0320 - Adaptive Learning Control for 3D Obstacle Avoidance of Delivery Drone

Yanhui Zhang Zhejiang University
 Yifan Zhang Zhejiang University
 Zheyu Tong Zhejiang University
 Hua Yang Zhejiang University
 Caisheng Wei Central South University
 Weifang Chen Zhejiang University

ISuC-16

0287 - High-Order Fully Actuated Control Approaches of DC Motor Systems Based on Singular Perturbation Theory

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

ISuC-17

0318 - Energy Storage Scheduling for Near-Space Solar-Powered Vehicles: A Twin Delay Deep Deterministic Policy Gradient Reinforcement Learning Approach

Yunhao Du Tianjin University
 Zhicheng Zhang Tianjin University
 Zhiqiang Zuo Tianjin University
 Yijing Wang Tianjin University

ISuC-18

0216 - Adaptive Fuzzy Fault-Tolerant Control of High-Order Nonlinear Time-Varying Delay Systems with Dead-Zone Inputs: A Fully Actuated System Approach

Sen Zheng University of Science and Technology Liaoning
 Yang Cui University of Science and Technology Liaoning

ISuC-19

0246 - Depth Guided Fast Rendering Neural Radiance Field

Tao Zhang Tsinghua University
 Haoqian Wang Tsinghua University

ISuC-20

0059 - Aircraft Middle and Final Stage Attitude Control on Fully Actuated System Theory

Xinyu Liu National Key Laboratory of Complex System Control and Intelligent Agent Cooperation, Beihang University
 Mingrui Hao National Key Laboratory of Complex System Control and Intelligent Agent Cooperation, Beihang University
 Yu Fan National Key Laboratory of Complex System Control and Intelligent Agent Cooperation, Beihang University
 Yan Zhen National Key Laboratory of Complex System Control and Intelligent Agent Cooperation, Beihang University
 Wendi Sun National Key Laboratory of Complex System Control and Intelligent Agent Cooperation, Beihang University

ISuC-21

0064 - Research on Algorithm Design and Code Automatic Generation for Satellite Attitude Planning

Zhouhuai Luo Nanjing University of Aeronautics and Astronautics
 Ronghao Yuan Shanghai Institute of Aerospace Systems Engineering
 Xiaokun Liu Shanghai Institute of Aerospace Systems Engineering
 Qian Zhang Shanghai Academy of Spaceflight Technology
 Yang Jin Shanghai Institute of Aerospace Systems Engineering

ISuC-22

0390 - Load Forecasting of Commercial Buildings Based on Human Behavior Information

Chi Liu Fuzhou University
 Zhezhuang Xu Fuzhou University
 Meng Yuan Fuzhou University

ISuC-23

0104 - Kinematic Modeling, Trajectory Planning, and Simulation of a Pneumatic Soft Manipulator with Four Chambers

Lu Che Hebei University of Technology
 He Chen Hebei University of Technology

ISuC-24

0296 - A Reinforcement Learning Method for Wind Farm Control

Jingjie Xie The Hong Kong Polytechnic University

ISuC-25

0301 - Designing Distributed Impulsive Controller for Networked Singularly Perturbed Systems

Kun Liang Shanghai University of Electric Power
 Wangli He East China University of Science and Technology

ISuC-26

0305 - Joint State Estimation and Topology Identification for Graphical Dynamic Systems

Pengfei Fang Beihang University
 Wenling Li Beihang University

I SuC-27

0142 - 基于强化学习的输入时滞离散奇异振动系统控制

徐蒙 中国矿业大学
刘鑫 中国矿业大学
代伟 中国矿业大学

I SuC-28

0366 - Comparative Study of Reinforcement Learning and Optimal Control Based Energy Management Strategies for Fuel Cell Vehicles

Zhongliang Li Aix-Marseille University
Jian Chen Zhejiang University

I SuC-29

0169 - Backdoor Attack and Defense in Asynchronous Federated Learning for Multiple Unmanned Vehicles

Kehao Wang Wuhan University of Technology
Hao Zhang Wuhan University of Technology

I SuC-30

0326 - Deep Reinforcement Learning-Based Scheduling Optimization of a Wind-solar Coupled CHP Unit System Considering Source-load Uncertainty

Shan Hua National Energy Group Science and Technology Research Institute Co., Ltd
Chen Gang National Energy Group Science and Technology Research Institute Co., Ltd
Xianlian Wang Southeast University
Mr. Li Sun Southeast University

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Chen Xiaoran	SuB05-8	0067
Chen Xueqin	SuB04-4	0230
Chen Yingwei	SuB04-4	0230
Chen Yu	SaA03-2	0140
Chen Yu	SaA03-3	0138
Chen Yue	SaB08-8	0204

Chen Yunqi	SaB07-7	0297
Chen Yuwei	SaB08-3	0248
Chen Yuwei	SaB08-4	0229
Chen Zhang	SaA04-2	0315
Chen Zhang	SuB02-2	0327
Chen Zhihua	SuA04-5	0321
Chen Zhihua	SuC-02	0277
Chen Zhijun	SaA06-5	0123
Chen Zhongyu	SuA03-2	0074
Chen Zhongyu	SuB04-2	0329
Cheng Nie	SuC-03	0275
Cheng Nuo	SuA05-3	0310
Cheng Peng	SaA04-5	0393
Cheng Pengfei	SaA07-6	0223
Cheng Wen	SuC-03	0275
Cheng Yu	SaC-06	0386
Chi Kun	SuB04-1	0370
Chu Hongchun	SuB04-1	0370
Cong Yirui	SuB02-7	0042
Cui Yang	SuC-18	0216
Cui Enyuan	SuC-14	0027
Cui Hailong	SuB02-5	0058
Cui Kaixin	SuA08-4	0106
Cui Yang	SaA06-6	0218
Cui Yukang	SaB07	CC
Dai Dongyan	SuA04-3	0206

D		
Dai Wei	SuA07-1	0420
Dai Wei	SuA07	CC
Dai Xiaoran	SaA05-6	0241
Daisuke Yashiro	SuB07-6	0367
Deng Heng	SaB03-1	0380
Deng Jibao	SuC-01	0295
Deng Yaoming	SaB04-6	0198
Di Xinpeng	SaC-10	0344
Diao Huineng	SaB04-4	0273
Ding Dong	SaA08-1	0166
Ding Ning	SaB07-4	0225
Ding Shengsi	SaA08-2	0335
Ding Yuanpeng	SaB01-4	56
Dong Bo	SuB04-7	0110
Dong Hanlin	SuA08	C
Dong Tianshu	SaA08-8	0227
Dou Jinzhou	SuA04-6	0400
Du Haibo	SaC-19	0190
Du Junjun	SaB08-6	0208
Du Qinlong	SaA05-7	0213
Du Yunhao	SuC-17	0318
Duan Guangren	SaB05-4	0167
Duan Guangren	SaA02-5	0289
Duan Guangren	SaA06-2	0124
Duan Guangren	SaA06-5	0123
Duan Guangren	SaB02-2	0177
Duan Guangren	SaB02-5	0368
Duan Guangren	SaB05-5	0156
Duan Guangren	SaB07-7	0297
Duan Guangren	SuA03-4	0365
Duan Guangren	SuA03-5	0189
Duan Guangren	SuA03-6	0188
Duan Guangren	SuA08-1	0201
Duan Guangren	SuA08-2	0197
Duan Guangren	SuA08-3	0108
Duan Guangren	SuA08-4	0106
Duan Guangren	SuA08-5	0103
Duan Guangren	SuB04-8	0101

F

Fan Debao	SaB01-7	0022
Fan Hongdong	SaB03-4	0245
Fan Junfang	SaC-26	0153
Fan Shixiong	SaC-27	0338
Fan Yonghua	SaB03-4	0245
Fan Yu	SuC-20	0059
Fan Yuan	SaA08-1	0166
Fan Yuan	SaC-25	0171
Fan Yuan	SaC-27	0338
Fang Jing	SaC-01	0394
Fang Pengfei	SuC-26	0305
Fei Han	SaC-10	0344
Fei Zhongyang	SaC-13	0016
Feng Haolong	SaA03-6	0249
Feng Huijuan	SaA04-7	0274
Feng Jun-e	SaB01-4	0056
Feng Jun-e	SaB01-5	0048
Feng Yongxing	SaA02-3	0045
Feng Yuxin	SaA06-4	0182
Feng Zhiguang	SaB07-1	0349
Feng Zhiguang	SaB07-3	0309
Feng Zhiguang	SaB07	C
Fu Cheng	SuB01-6	0185
Fu Guanghua	SuC-07	0300
Fu Minyue	SaC-20	0250
Fu Wenbo	SuC-05	0267
Fu Yanran	SuA01-5	0133

G

Gang Chen	SuC-30	0326
Gao Fangzheng	SaB05-3	0294
Gao Feng	SaB03-1	0380
Gao Feng	SuA05-2	0311
Gao Huanli	SaA05-5	0196
Gao Lijun	SaC-21	0139
Gao Qing	SaB02-4	0172
Gao Sheng	SuB07-4	0293
Gao Shiping	SuA04	CC
Gao Xiangyu	SuA06-1	0395
Gao Yabin	SaA01-8	0399
Gao Yabin	SuB06-5	0337
Gao Yabin	SuB05	C
Gao Yang	SaB06-1	0288
Gao Yuan	SuB03-2	0299
Gao Yuan	SuB03	C
Gao Zhe	SaB01-5	0048
Gao Zifan	SuB01-2	0257
Ge Fengying	SaC-03	0165
Geng Guangchao	SaB04-8	0186
Geng Guangchao	SaB08-5	0221
Geng Guangchao	SaB08-6	0208
Geng Hang	SuA04-1	0389
Geng Shiyao	SuB08-2	0405
Geng Yunhai	SuB06-2	0029
Gong Mengtong	SuA03-3	0044
Gong Yi	SuB08-1	0406
Gong Yi	SuB08-2	0405
Gong Yi	SuB08	C
Gong Youmin	SuB07	C
Gou Xuan	SuA04-1	0389
Gu Dake	SaC-11	0342
Gu Yaxin	SuB05-1	0376
Gu Zhen	SuB08-7	0041
Guan Bin	SaB06-5	0244

Guan Yichun	SuB08-2	0405
Guo Cheng	SuC-06	0255
Guo Haihua	SuB02-3	0231
Guo Jing	SaB04-4	0273
Guo Jing	SuB04-6	0158
Guo Lei	PL2	C
Guo Qingzheng	SaB07-1	0349
Guo Xiaomeng	SaC-11	0342
Guo Yong	SaA07-6	0223
Guo Zhenwei	SaB04-7	0195

H

Han Chunyan	SaC-02	0193
Han Chunyan	SaC-03	0165
Han Chunyan	SaC-04	0164
Han Fei	SaA03-6	0249
Han Fei	SuB05-5	0099
Han Liangheng	SuA05-5	0307
Han Lincong	SuB02-8	0178
Han Tuo	SuB07-2	0408
Han Tuo	SuB07-3	0407
Han Xiaomin	SaB01-3	0063
Han Xinyu	SuB08-6	0054
Han Zhimin	SaB07-6	0331
Hao Jun	SaB06-3	0373
Hao Liming	SaC-01	0394
Hao Mengjuan	SuA01-5	0133
Hao Mingrui	SuC-20	0059
Hao Mingrui	SaB05	CC
He Liang	SuB05-5	0099
He Ping	SaC-30	0302
He Qiang	SaB04-2	0362
He Qiyong	SuB02-4	0187
He Wangli	SuC-25	0301
He Xiao	SaA02-1	0021
He Zhaoshui	SaA06-4	0182
He Zhenyu	SuA01-1	0374
He Ziqi	SuA02-6	0184
Hong Junjie	SuA05-5	0307
Hong Xiao	SaB08-5	0221
Hou Bowen	SaA08-8	0227
Hou Jian	SaB04	C
Hou Jie	SuC-13	0262
Hou Mingyu	SaA08-3	0343
Hou Mingzhe	SaB03-3	0278
Hou Mingzhe	SaC-28	0336
Hou Mingzhe	SaB03	CC
Hou Nan	SuA04-3	0206
Hou Qimin	SaA01-8	0399
Hou Zengguang	SPI-2	C
Hu Jinfei	SaA08-2	0335
Hu Jintao	SuB07-3	0407
Hu Jun	SuA04-2	0340
Hu Jun	SuB04-3	0290
Hu Jun	SuB04	C
Hu Liyao	SuA08-3	0108
Hu Qinglei	SuB07-2	0408
Hu Qinglei	SuB07-3	0407
Hu Tao	SuB05-5	0099
Hu Tianjiang	SuC-10	0237
Hu Wenshan	SaA05-6	0241
Hu Xinjue	SuB08-4	0360
Hu Xueli	SaA03-4	0114
Hu Yanmei	SaC-05	0398
Hu Zhihuan	SuA02-4	0286
Hu Zhiyu	SaC-29	0330

Hua Changchun	SaA02-2	0239
Hua Changchun	SuA07-5	0039
Hua Changchun	SuA09-1	0078
Hua Changchun	SuA09-3	0072
Hua Changchun	SuA09-4	0062
Hua Changchun	SuA09-5	0033
Hua Shan	SuC-30	0326
Huang Darong	SuB06-7	0242
Huang Darong	SuB06-8	0240
Huang Jiakai	SaB05-3	0294
Huang Jian	SaA02-3	0045
Huang Jiazhu	SaA05-3	0232
Huang Jiazhu	SaA05-4	0263
Huang likun	SaC-22	0096
Huang Ling	SuA04-4	0199
Huang Ling	SuB04-6	0158
Huang Ling	SuB04	CC
Huang Peng	SaB06-1	0288
Huang Xianlin	SuB08-8	0034
Huang Xin	SuB08-6	0054
Huang Xiwei	SaB05-1	0271
Huang Zixin	SaC-22	0096
Huo Xin	SaA05-7	0213
Huo Xin	SaA06-7	0215
Huo Yingning	SaB08-5	0221

J

Ji Mingjun	SuC-16	0287
Ji Wenqiang	SaA08-4	0345
Ji Wenqiang	SaA08	C
Ji Yi	SaC-26	0153
Jia Chaoqing	SuB04-1	0370
Jia Shixiang	SaA08-5	0355
Jiang Bin	SaA01-2	0252
Jiang Bin	SaA01-1	0413
Jiang Bin	SaA01-5	0119
Jiang Bin	SaA01-7	0040
Jiang Hao	SaA08-7	0143
Jiang Hong	SaB05-4	0167
Jiang Huaiyuan	SaA06-3	0291
Jiang Hucheng	SuB04-7	0110
Jiang Quanyuan	SaB04-8	0186
Jiang Shihui	SaC-01	0394
Jiang Wu	SuB01-3	0256
Jiang Yanna	SuB08-3	0391
Jiang Yongchao	SuA02-6	0184
Jiang Yue	SaA07-4	0397
Jiang Zhipeng	SuA02-1	0392
Jiang Zhong-Ping	SuC-04	0421
Jiang Zhong-Ping	PL1	PL1
Jiao Xiaohong	SuA07-3	0113
Jin Dongyan	SaA08-3	0343
Jin Wei	SaB08-4	0229
Jin Yan	SuB05-3	0304
Jin Yang	SaA08-5	0355
Jin Yang	SuB05-8	0067
Jin Yang	SuC-21	0064
Jin Yihuan	SuB05-6	0095

K

Kang Honglong	SuB08-7	0041
Kazuhiro Yubai	SuB07-6	0367
Ke Yang	SaB02-1	0168
Kok Lay Teo	SuB04-4	0230
Kong He	SaA02-5	0289

Kong He	SaB02-2	0177
Kong He	SaB02-5	0368
Kong He	SuA08-2	0197
Konstantinos Tsakalis	SaC-08	0384
Kuang Jiyuan	SaA01-8	0399

L

Lai Jun	SuB02-7	0042
Lalitesh Kumar	SaA04-8	0396
Lan Weiyao	SaB07-8	0260
Lan Weiyao	SaB08-2	0270
Lang Hongfei	SaB08-6	0208
Lei Tao	SuB04-1	0370
Lei Zhongcheng	SaA05-6	0241
Li Aoshen	SuC-09	0234
Li Bin	SaB05-2	0261
Li Bin	SuA04-5	0321
Li Bin	SaB05	C
Li Bing	SuA04-4	0199
Li Cheng	SuB06-5	0337
Li Fanbiao	SaA04-2	0315
Li Fangyuan	SuB06-5	0337
Li Fuxing	SuA07-2	0102
Li Gang	SuB01-4	0235
Li Gonghe	SuA07-2	0102
Li Guodong	SaB03-2	0357
Li Hao	SaA02-2	0239
Li Haoran	SaB04-7	0195
Li Hongyi	SaA06-4	0182
Li Huayi	SaC-14	0009
Li Jianfeng	SuB08-7	0041
Li Jiangang	SaC-29	0330
Li Jiangrong	SaB07-4	0225
Li Jiangrong	SaB07-5	0212
Li Jiayang	SaB03-1	0380
Li Jing	SuB01-4	0235
Li Jingsui	SuB02-2	0327
Li Jisen	SaA03-1	0154
Li Li	SuA09-1	0078
Li Li	SuA09-2	0073
Li Linlin	SaA08-6	0356
Li Mengjie	SaC-21	0139
Li Peng	SuB06-1	0217
Li Peng	SuB07-5	0209
Li Ping	SuA03-4	0365
Li Ping	SaA08-1	0201
Li Qingxue	SaB08-5	0221
Li Rongmei	SaA05-7	0213
Li Rongmei	SaA06-7	0215
Li Rui	SuA06-2	0385
Li Rui	SuA06-3	0317
Li Runkun	SuB06-6	0316
Li Shaoyuan	SaC-05	0398
Li Sheng	SaB02-6	0017
Li Shijie	SuB08-4	0360
Li Shilun	SaA04-6	0411
Li Shunli	SaA06-2	0124
Li Siquan	SaB05-3	0294
Li Wangyan	SaC-09	0361
Li Wei	SaA05-5	0196
Li Weijian	SuA04-3	0206
Li Weikang	SaA02-3	0045
Li Wenling	SuC-26	0305
Li Xianwei	SuA02-1	0392
Li Xianwei	SuA02	CC
Li Xiaolei	SuA09-6	0015

Li Xiaolei	SuB06-3	0379	Liu Endong	SaB08	CC
Li Xing	SaA02-4	0224	Liu Fuqiang	SuC-09	0234
Li Xinyu	SaA04-8	0396	Liu Guangxin	SuB06-5	0337
Li Xiuxian	SuB02-4	0187	Liu Guopin	SuA09-4	0062
Li Xiuxian	SuB02	CC	Liu Guopin	SuA09-5	0033
Li Xuefang	SaB02-1	0168	Liu Guo-Ping	SaA05-6	0241
Li Xuefang	SaB06-2	0375	Liu Guo-Ping	SaB05-7	0115
Li Xueyang	SaA03-2	0140	Liu Guo-Ping	PL2	PL2
Li Xueyang	SaA03-3	0138	Liu Guo-Ping	SP2-3	C
Li Yan	SaA05-3	0232	Liu Jialun	SuB08-4	0360
Li Yan	SaA05-4	0263	Liu Jianxing	SuB05-1	0376
Li Yang	SuB08-4	0360	Liu Jianxing	SuB06-4	0347
Li Yankai	SaA01-3	0243	Liu Jianxing	SuB06-5	0337
Li Yanqiu	SuB02-1	0350	Liu Jianxing	SuB05	CC
Li Yibin	SuB01-4	0235	Liu Jiarui	SaB07-5	0212
Li Yinkang	SuB05-8	0067	Liu Jiawei	SuB06-3	0379
Li Yixuan	SuC-13	0262	Liu Jinfang	SuB03-2	0299
Li Yuan	SaB06-7	0109	Liu Jing	SuB08-6	0054
Li Yuanlong	SuA02-5	0194	Liu Jingwen	SaB03-4	0245
Li Yuntao	SaC-10	0344	Liu Jingyue	SuB05-2	0323
Li Zhaoyan	SuB02-6	0191	Liu Jinrong	SaA04-5	0393
Li Zhaoyan	SaA06	C	Liu Kerun	SaC-14	0009
Li Zhaoyang	SuA03-2	0074	Liu Li	SaA03-1	0154
Li Zhihao	SaB08-1	0378	Liu Li	SaB06-6	0276
Li Zhipeng	SaC-20	0250	Liu Lin	SuA03-5	0189
Li Zhiqiang	SaA06-4	0182	Liu Lu	SuB05-6	0095
Li Zhongkui	SaA05-2	0151	Liu Meiqin	SaB04-3	0292
Li Zhongkui	SaA05	C	Liu Ming	SaC-14	0009
Li Zhongliang	SaA04-8	0396	Liu Ming	SaC-15	0004
Li Zhongliang	SuC-28	0366	Liu Qiang	SuB03-3	0175
Li Zijing	SaA01-4	0162	Liu Shaojie	SaA04-7	0274
Li Zixuan	SuC-01	0295	Liu Shengyang	SaA03-6	0249
Li Zuan	SaC-10	0344	Liu Shuheng	SaC-13	0016
Lian Shikang	SaA07-7	0352	Liu Tengfei	SP2-2	SP2-2
Liang Chaolin	SuC-07	0300	Liu Tengteng	SuC-04	0421
Liang Kun	SuC-25	0301	Liu Wangkui	SuC-02	0277
Liao Mingyan	SuB04-2	0329	Liu Wanquan	SaB02-3	0381
Lin Hong	SuC-07	0300	Liu Wanquan	SP2-2	C
Lin Honglei	SuB03-3	0175	Liu Wanquan	SaB06	C
Lin Jiakuo	SaA07-6	0223	Liu Weixing	SuB05-8	0067
Lin Mengying	SaC-22	0096	Liu Weizhen	SaA06-7	0215
Lin Na	SuA04-2	0340	Liu Weizhen	SuA08-2	0197
Lin Wei	SuA04-6	0400	Liu Xiaohan	SaC-02	0193
Lin Xiaohan	SaA04-6	0411	Liu Xiaokun	SuB05-8	0067
Lin Xiaojie	SuB08-3	0391	Liu Xiaokun	SuC-21	0064
Lin Xinpo	SuB06-5	0337	Liu Xiaomin	SuA07-2	0102
Lin Yanjun	SaB04-1	0382	Liu Xin	SuA07-1	0420
Lin Yanjun	SaB04-2	0362	Liu Xing	SaC-01	0394
Lin Zemin	SaA07-7	0352	Liu Xinxin	SuB05-1	0376
Lin Zhiyun	SaB07-6	0331	Liu Xinyu	SuC-20	0059
Lin Zhiyun	SP1-1	SP1-1	Liu Xueqing	SaB02-6	0017
Lin Zijie	SuB03-8	0120	Liu Yang	SaA06-4	0182
Ling Tianwei	SuA06-2	0385	Liu Yang	SuA05-4	0308
Liu Weizhen	SaA02-5	0289	Liu Yang	SuA06-6	0089
Liu Zhuang	SaA01-8	0399	Liu Yang	SuA06	CC
Liu Aoqiang	SaC-25	0171	Liu Yanling	SuA07-4	0069
Liu Aoqiang	SaC-27	0338	Liu Yimin	SuA07-6	0383
Liu Bei	SaB01-2	0066	Liu Yimin	SuC-01	0295
Liu Chang	SaB01-2	0066	Liu Yimin	SuC-03	0275
Liu Chao	SuA09-2	0073	Liu Yindong	SaC-11	0342
Liu Chenglin	SaB03-7	0129	Liu Yongchao	SuA01-2	0283
Liu Chenglin	SaB03-8	0122	Liu Yu	SuB02-6	0191
Liu Chenguang	SaB02-4	0172	Liu Zhen	SaB05-1	0271
Liu Chi	SuC-22	0390	Liu Zhihao	SuB06-1	0217
Liu Dayan	SuA09-3	0072	Liu Zhijie	SaB02-5	0368
Liu Derong	SuB08-5	0426	Liu Zhuang	SuB06-4	0347
Liu Derong	SP1-3	C	Liu Hongqian	SuB08-8	0034

Lu Jinhui	SaB02-4	0172	Niu Yichun	SuA03-2	0074
Lu Jinhui	SuA02-4	0286	Niu Yichun	SuB04-2	0329
Lu Junguo	SaA05-8	0028	Niu Yugang	SaA04-2	0315
Lu Kaihong	SaA07-1	0130			
Lu Lingxia	SaB04-3	0292			
Lu Ruitao	SaB03-2	0357			
Lu Shi	SaC-08	0384			
Luan Fan	SaB04-1	0382			
Luo Cheng	SuC-09	0234			
Luo Lu	SuA07-5	0039			
Luo Weiwei	SuC-05	0267			
Luo Zhouhuai	SuC-21	0064			
Luo Zongjie	SuA04-3	0206			
Lv Lingling	SuA06-5	0233			
Lv Lingling	SuA06	C			
Lv Yuezu	SaA05-3	0232			
Lv Yuezu	SaA05-4	0263			
Lv Yuezu	SaA05	CC			
Lv Zhengyang	SuB07-4	0293			

M

Ma Baihe	SuB08-3	0391	Qi Lin	SaB08-2	0270
Ma Bing	SuB04-7	0110	Qi Ruiyun	SaA01-6	0118
Ma Chenglong	SuA05-6	0279	Qi Wenhai	SuB06-6	0316
Ma Dan	SuB05-7	0076	Qi Wenjuan	SuB03-6	0148
Ma Dan	SP1-3	SP1-3	Qi Wennian	SaB01-8	0404
Ma Dazhong	SaB06-8	0353	Qi Zhongwei	SuB04-2	0329
Ma Guangfu	SuB07-1	0412	Qian Mengmeng	SaC-27	0338
Ma Jianwei	SaB07-4	0225	Qian Zhouyuan	SuB05-5	0099
Ma Lei	SaA04-3	0358	Qian Zhoyuan	SuA09-2	0073
Ma Lei	SaA04	CC	Qiang Jiaping	SaB01-5	0048
Ma Siteng	SuB04-3	0290	Qin Ao	SuB01-7	0159
Ma Siyuan	SuB07-4	0293	Qin Cunfu	SuB02-7	0042
Ma Song	SaC-18	0202	Qin Xujie	SaA07-1	0130
Ma Xin	SuB01-4	0235	Qin Yanfu	SaB04-2	0362
Ma Yonghao	SaA01-7	0040	Qing Jiansong	SaB02-4	0273
Ma Yuying	SaB01-3	0063	Qiu Feihang	SaB04-4	0277
Mai Junpeng	SaA04-7	0274	Qiu Huabing	SuC-02	0277
Mao Songheng	SaA08-1	0166	Qiu Jianbin	SaA08-3	0343
Mao Songheng	SaC-27	0338	Qiu Jianbin	SaA08-5	0355
Mao Xujing	SaB05-3	0294	Qiu Jianbin	SP1-2	SP1-2
Mehdi Golestani	SaA02-5	0289	Qiu Jianbin	SaA08	CC
Mehdi Golestani	SuA08-2	0197	Qiu Li	PL1	C
Mei Jie	SuB07-1	0412	Qiu Ming	SaA05-5	0196
Meng Deshan	SaB06-4	0364	Qiu Yuebin	SaC-16	0211
Meng Deyuan	SuC-11	0247	Qiu Yuebin	SaC-17	0210
Meng Fanke	SuB08	CC	Qiu Yunfei	SuA09	CC
Meng Fanwei	SaB05-2	0261	Qu Chuankun	SaA04-6	0411
Meng Min	SuB02-4	0187	Qu Menghao	SaC-21	0139
Meng Wei	SaA07-7	0352	Quan Fangyi	SaC-26	0153
Meng Yan	SuC-08	0219			
Meng Yanan	SuA01-5	0133			
Miao Linlong	SuB08-2	0405			
Miao Qiyang	SaA01-5	0119			
Miao Zibo	SaC-07	0388			
Michael V. Basin	PL3	PL3			
Mo Zhibin	SaB02-3	0381			
Mr. Li Sun	SuC-30	0326			

N

Na Tuopu	SuA05-6	0279	Ran Chenjian	SuB03-5	0149
Na Yuhong	SuB06-7	0242	Ran Chenjian	SuB03	CC
Na Yuhong	SuB06-8	0240	Ran Guangtao	SuB07	CC
Ni Jiahua	SaB08-4	0229	Ren Weijie	SaB02-2	0177
Ning Lei	SuA05-6	0279	Ren Weijie	SuB07-6	0367
Ning Pengju	SaA02-2	0239	Ren Yueru	SuA05-5	0307

P

Pan Chengqi	SuB01-3	0256
Pan Qi	SaB05-8	0369
Pang Yujing	SuA01-5	0133
Pang Yunbo	SuB06-7	0242
Pei Chao	SuB02-2	0327
Peng Kai	SaA07-4	0397
Peng Xiafu	SaB07-8	0260
Peng Xiuhui	SaB05-8	0369
Peng Zhihong	SuC-12	0258
Peng Zhihong	SuC-13	0262

Q

Qi Lin	SaB08-2	0270
Qi Ruiyun	SaA01-6	0118
Qi Wenhai	SuB06-6	0316
Qi Wenjuan	SuB03-6	0148
Qi Wennian	SaB01-8	0404
Qi Zhongwei	SuB04-2	0329
Qian Mengmeng	SaC-27	0338
Qian Zhouyuan	SuB05-5	0099
Qiang Jiaping	SuA09-2	0073
Qin Ao	SaB01-5	0048
Qin Cunfu	SuB01-7	0159
Qin Xujie	SuB02-7	0042
Qin Yanfu	SaA07-1	0130
Qing Jiansong	SaB04-2	0362
Qiu Feihang	SaB04-4	0273
Qiu Huabing	SuC-02	0277
Qiu Jianbin	SaA08-3	0343
Qiu Jianbin	SaA08-5	0355
Qiu Jianbin	SP1-2	SP1-2
Qiu Jianbin	SaA08	CC
Qiu Li	PL1	C
Qiu Ming	SaA05-5	0196
Qiu Yuebin	SaC-16	0211
Qiu Yuebin	SaC-17	0210
Qiu Yunfei	SuA09	CC
Qu Chuankun	SaA04-6	0411
Qu Menghao	SaC-21	0139
Quan Fangyi	SaC-26	0153

R

Ran Chenjian	SuB03-5	0149
Ran Chenjian	SuB03	CC
Ran Guangtao	SuB07	CC
Ren Weijie	SaB02-2	0177
Ren Weijie	SuB07-6	0367
Ren Yueru	SuA05-5	0307

S

Sang Yingli	SaC-24	0179
Satoshi Komada	SuB07-6	0367
Shan Jinjun	SaA02-4	0224
Shang Hanjun	SaA01-8	0399
Shang Yanling	SaB05-3	0294
Shao Hanzhao	SaA04-7	0274
Shao Shuyi	SaA01-3	0243
Shao Xiangyu	SuB05-2	0323
She Xingjing	SuA04-1	0389
Shen Dong	SaA08-7	0143

Shen Junyu	SuA02-4	0286
Shen Tielong	SP2-1	C
Shen Xiaoning	SuB06-5	0337
Shen Xiaoning	SuB06	CC
Sheng Li	SuA03-2	0074
Sheng Li	SuA03-3	0044
Sheng Li	SuB04-2	0329
Shi Yankui	SuB05-4	0259
Shi Yingjing	SuA06-2	0385
Shi Yingjing	SuA06-3	0317
Shu Zunshi	SuC-02	0277
Si Yujie	SaA07-6	0223
Sisindisiwe Nomalanga Ncube	SuC-09	0234
Song Jian	SaC-09	0361
Song Lei	SuA02-6	0184
Song Shenmin	SuB08-7	0041
Song Ting	SaA03-6	0249
Song Yangyi	SuB03-6	0148
Su Hanguang	SaB06-8	0353
Su Xiaojie	SuB05-1	0376
Sun Anping	SuB08-6	0054
Sun Guanghui	SaB03-1	0380
Sun Huijie	SaB02-3	0381
Sun Huijie	SaB06-4	0364
Sun Huijie	SaB06	CC
Sun Liying	SaB01-6	0024
Sun Ning	SuA01-3	0180
Sun Ning	SuA01	CC
Sun Wei	SuA01-3	0180
Sun Wei	SuA01-4	0146
Sun Wei	SuA01-6	0032
Sun Wei	SuA01	C
Sun Wendi	SuC-20	0059
Sun Xiaowei	SaB08-5	0221
Sun Xunhong	SaC-19	0190
Sun Yingbing	SuA07-4	0069
Sun Yougang	SuA01-1	0374
Sun Yue	SaA03-5	0094
Sun Zhaobo	SuB03-8	0120
Suo Jinghui	SuB04-5	0214

T

Tan Feng	SaC-28	0336
Tan Lining	SaB06-4	0364
Tan Minglang	SuB07-7	0061
Tan Minglang	SuB07-8	0060
Tan Zhao	SuA07-4	0069
Tang Feilong	SuB06-3	0379
Tao Guili	SuB03-4	0170
Tao Wenguang	SaB03-2	0357
Teng Hao	SuC-08	0219
Tian Guangtai	SaA02-5	0289
Tian Congcong	SuB07-1	0412
Tian Guangtai	SuA08-2	0197
Tian Ye	SuB05-6	0095
Tobi Alabi	SaB08-7	0205
Tong Ruizhi	SuB05-4	0259
Tong Wang	SaB08-4	0229
Tong Zhang	SuA09-6	0015
Tong Zheyu	SuC-15	0320

W

Wan Jianjun	SaB04-2	0362
Wan Muchun	SaB08-6	0208
Wan Xiongbo	SaA04-1	0268
Wang Ao	SaB07-2	0341

Wang Bin	SuB03-7	0051
Wang Bo	SaB07-6	0331
Wang Changqing	SaA07-6	0223
Wang Chenggang	SuA02-6	0184
Wang Chengqi	SuB01-5	0220
Wang Chenqi	SaB06-7	0109
Wang Chunxiao	SaB06-6	0276
Wang Dayi	SaA08-8	0227
Wang Dian	SaC-18	0202
Wang Dinghua	SaB03-5	0173
Wang Guopeng	SaC-10	0344
Wang Hanyu	SuB08-8	0034
Wang Hao	SaB05-1	0271
Wang Haoqian	SuC-19	0246
Wang Heng	SaB04-8	0186
Wang Hongxia	SaA07-1	0130
Wang Hongxia	SaA07-4	0397
Wang Hongxia	SaA07	C
Wang Jiange	SuA09-6	0015
Wang Jianqi	SuB03-4	0170
Wang Jianqiao	SuA06-1	0395
Wang Jie	SaB03-5	0173
Wang Jiongqi	SaA08-8	0227
Wang Jun	SaA02-3	0045
Wang Jun	SaA04-6	0411
Wang Kehao	SuC-29	0169
Wang Limin	SuA03-1	0346
Wang Limin	SuA03	C
Wang Lipeng	SuB01-3	0256
Wang Long	SP1-1	C
Wang Lou	SuA09-1	0078
Wang Peng	SuA02-3	0339
Wang Peng	SuA07-5	0039
Wang Ping	SaB05-5	0156
Wang Qian	SuB05-3	0304
Wang Qin	SuB06-8	0240
Wang Qingxiang	SaB07-3	0309
Wang Rui	SaB06-8	0353
Wang Runze	SuB05-4	0259
Wang Shaoquan	SaB06-5	0244
Wang Shujia	SuB01-8	0136
Wang Tingrui	SuB01-2	0257
Wang Tong	SaA08-3	0343
Wang Tong	SaA08-5	0355
Wang Wei	SaA03-5	0094
Wang Wei	SaB02-4	0172
Wang Wei	SaC-22	0096
Wang Wei	SaA03	CC
Wang Xiangke	SuB02-7	0042
Wang Xiangyu	SuC-02	0277
Wang Xianlian	SuC-30	0326
Wang Xiao	SuB01-7	0159
Wang Xiaotian	SaB03-2	0357
Wang Xinyuan	SuB05-3	0304
Wang Xiubo	SuA08-5	0103
Wang Xiubo	SaC-30	0302
Wang Xu	SuB08-3	0391
Wang Xuemei	SuB03-4	0170
Wang Xueyan	SaB05-8	0369
Wang Yan	SaC-23	0423
Wang Yan	SaC-30	0302
Wang Yanan	SaA01-1	0413
Wang Yang	SaA03-8	0351
Wang Yanhai	SuA09-3	0072
Wang Yanqin	SuA04-3	0206
Wang Yijing	SuC-17	0318
Wang Yiyang	SuB01-5	0220

Wang Yu	SaB06-3	0373
Wang Yujue	SaB04-7	0195
Wang Yunfei	SuA04-4	0199
Wang Yuzhong	SuA03-4	0365
Wang Yuzhong	SuA08-1	0201
Wang Yuzhong	SuA09-6	0015
Wang Zheming	SuB03-7	0051
Wang Zhenhuan	SaA01-8	0399
Wang Zhentao	SuA04-4	0199
Wang Ziqian	SaA04-1	0268
Wang Ziyi	SaA08-4	0345
Wang Zunheng	SuA05-5	0307
Wei Muheng	SuB08-4	0360
Wei Caisheng	SuC-15	0320
Wei Chuyu	SuC-11	0247
Wei Jiayu	SuB08-6	0054
Wei Yanqiao	SuA09-3	0072
Wei Yanqiao	SuA09-6	0015
Wei Yeqi	SuB05-2	0323
Wen Guilin	SuA07-4	0069
Weng Yuxin	SaB04-8	0186
Wu Ai-Guo	SaB01-8	0404
Wu Ai-Guo	SP2-4	SP2-4
Wu Aijing	SaA06-7	0215
Wu Baolin	SuB03-8	0120
Wu Baolin	SuB06-2	0029
Wu Changmao	SuA05-1	0312
Wu Hao	SaB08-5	0221
Wu Huiqing	SaB01-3	0063
Wu Jiameng	SaB03-7	0129
Wu Jie	SaB01-1	0105
Wu Jing	SuB01-1	0285
Wu Ming	SuB04-5	0214
Wu Qingxiang	SuA01-3	0180
Wu Shengbao	SaB05-6	0135
Wu Songtai	SaA03-6	0249
Wu Wenbin	SuB07-7	0061
Wu Wenbin	SuB07-8	0060
Wu Xiang	SaC-16	0211
Wu Xiang	SaC-17	0210
Wu Xueqi	SuA01-6	0032
Wu Yifan	SuA01-5	0133
Wu Yue	SaA03-8	0351
Wu Yunhua	SaC-18	0202
Wu Yuqiang	SaB06-1	0288
Wu Yuyao	SaB02-3	0381
Wu Yuyao	SaB06-4	0364
Wu Zhihui	SuB04-3	0290
Wu Zongze	SP2-4	C

X

Xia Jianwei	SuA01-4	0146
Xia Jingping	SaA01-5	0119
Xia Lin	SaB08-5	0221
Xia Qing	SaC-15	0004
Xiang Zhihua	SuB06-3	0379
Xiao Fuzheng	SaA06-8	0031
Xiao Yongqiang	SaB03-3	0278
Xiao Yushan	SaA03-7	0222
Xie Jingjie	SuC-24	0296
Xie Linbo	SaA02-4	0224
Xie Wei	SuA02-4	0286
Xing Lantao	SuB01-1	0285
Xing Lantao	SaB01	CC
Xing Lantao	SuB01	CC

Xing Xiangyang	SaB01-2	0066
Xing Yang	SuA07-6	0383
Xiong Liang	SaC-10	0344
Xu Chuanchuan	SaA06-1	0117
Xu Chuanchuan	SaA06-3	0291
Xu Chuanchuan	SuC-05	0267
Xu Huilong	SaC-07	0388
Xu Jianfeng	SaA01-2	0252
Xu Jiang	SaB07-8	0260
Xu Jing	SaA04-2	0315
Xu Jingwen	SuB02-4	0187
Xu Jinyu	SaA01-3	0243
Xu Juanjuan	SaA03-4	0114
Xu Juanjuan	SaA03-5	0094
Xu Juanjuan	SaA03	C
Xu Juncheng	SaC-29	0330
Xu Linke	SuB05-2	0323
Xu Lixue	SaC-30	0302
Xu Xiang	SuB02-3	0231
Xu Xiangdong	SaB07-6	0331
Xu Xiaozeng	SaA07-2	0132
Xu Xiaozeng	SaA07-3	0134
Xu Yang	SuB04-4	0230
Xu Yinliang	SaB08-1	0378
Xu Yuhang	SaA01-2	0252
Xu Zhezhuang	SuC-22	0390
Xu Zhihao	SaA07-4	0397
Xu Zhiqiang	SuA01-1	0374
Xu Zixin	SuB08-1	0406
Xue Haoliang	SaA05-1	0141
Xue Xiaohui	SaA01-3	0243
Xue Xiaomin	SaA03-4	0114

Y

Yan Xiaoming	SuA05-4	0308
Yan Bing	SaA04-4	0363
Yan Chengyuan	SuA01-4	0146
Yan Fei	SuB06-4	0347
Yan Haoyu	SuB04-7	0110
Yan Huixing	SuB08-8	0034
Yan Tian	SaB03-2	0357
Yan Xunliang	SaB03-3	0278
Yan Yuchao	SaC-10	0344
Yan Bo	SP2-3	SP2-3
Yang Chunshan	SuB03-4	0170
Yang Chunyu	SaA04-3	0358
Yang Chunyu	SuA07-2	0102
Yang Chunyu	SuC-16	0287
Yang Chunyu	SuA07	C
Yang Delong	SuA06-5	0233
Yang Hai	SuA07-1	0420
Yang Hua	SuC-15	0320
Yang Jinhong	SaC-01	0394
Yang Lin	SuA02-5	0194
Yang Meng	SaB08-8	0204
Yang Peng	SaB05-1	0271
Yang Qingkai	SP1-4	SP1-4
Yang Rongni	SaB01-1	0105
Yang Ruirui	SuB07-6	0367
Yang Ruohan	SaA08-4	0345
Yang Shu	SaC-25	0171
Yang Tianle	SaC-16	0211
Yang Tianle	SaC-17	0210
Yang Tong	SuA01-3	0180
Yang Xin	SaB03-8	0122
Yang Xinrong	SuA06-4	0253

