2024 国际制导、导航与控制学术会议

2024 International Conference on Guidance, Navigation and Control

2024 年 8 月 9-11 日　中国 · 长沙

August 9-11, 2024　Changsha, China

ICGNC 2024 程 序 册

Final Program

http://icgnc.buaa.edu.cn

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欢迎辞

Welcome Address

We are pleased to welcome you to the 2024 International Conference on Guidance, Navigation and Control (ICGNC 2024), which takes place at Changsha International Conference Center, China. ICGNC 2024 is scheduled on August 9-11, 2024. ICGNC 2024 has received worldwide attentions from GNC researchers, professors and students, which shows GNC is a rising and hot field.

International Conference on Guidance, Navigation and Control (ICGNC) is a biennial event, which is also one of the leading events in Guidance, Navigation and Control (GNC). ICGNC 2024 is sponsored by Technical Committee on Guidance, Navigation and Control (TCGNC), Chinese Society of Aeronautics and Astronautics (CSAA), and National Key Laboratory of Aircraft Integrated Flight Control. It is technically co-sponsored by State Key Laboratory of Virtual Reality Technology and Systems Technical Committee on Navigation, Guidance and Control (TCNGC), CAA, Technical Committee on Unmanned Aerial Systems Autonomous Control (TCUASAC), CAA, Technical Committee on Control Theory (TCCT), CAA, Technical Committee on Robotics Intelligence (TCRI), CAA, Education Committee (EC), CAA, and *Guidance Navigation and Control* Editorial Office. ICGNC 2024 is organized by National University of Defense Technology. The conference consists of plenary talks, chief designer forum, national-level model teacher forum, young scientist forum, invited sessions, oral sessions and poster sessions for academic exchanges.

The ICGNC 2024 marks the eleventh edition of the GNC series. We are proud to announce that this congress has received 1575 papers submissions from 12 countries and areas such as Canada, Chile, Germany, Japan, Russia, Singapore, United Kingdom, United States of America. This is the highest number since the launching of ICGNC. After a rigorous peer-review process, 1050 English papers, 248 Chinese Papers and 34 Abstract Papers have been accepted for either oral or poster presentation at the conference in 41 oral technical sessions and 4 poster sessions, which including 1 best paper award oral defense session.

The conference program is highlighted by six plenary speeches given by Professor Jiancheng Fang from Beihang University, Professor Weihua Gui from Central South University, Professor Zongxia Jiao from National Key Laboratory of Aircraft Integrated Flight Control, Professor Andrey Polyakov from Inria Centre of the University of Lille (France), Professor Yaonan Wang from Hunan University, and Professor Qifeng Yu from National University of Defense Technology.

This year, we invited three panelists for Chief Designer Forum, who are Yong Chen from Commercial Aircraft Corporation of China, Weiping Yang from AVIC Xi'an Flight Automatic Control Research Institute, and Xin Zheng from China Aerospace Science and Industry Corporation. The conference program also features a GNC National-level Model Teacher Forum on innovation and practice of GNC education with three famous national-level model teachers: Professor Shangchun Fan from Beihang University, Professor Hong Wang from Tsinghua University, and Professor Chenghui Zhang from Shandong University. We also invited seven young famous scholars in GNC field for Young Scientist Forum, who

are Professor Cailian Chen from Shanghai Jiao Tong University, Professor Jinliang Ding from Northeastern University, Professor Zhunga Liu from Northwestern Polytechnical University, Professor Zehui Mao from Nanjing University of Aeronautics and Astronautics, Professor Jun Luo from Chongqing University, Professor Xin Xu from National University of Defense Technology, and Professor Bin Zhou from Harbin Institute of Technology.

ICGNC 2024 also confers the LI Ming Best Paper Award, FENG Ru Best Paper Award and Best Poster Paper Award, to promote the academics, encourage young scientists to participate in academic activities, further to improve the paper quality and expand conference influence.

Our English proceedings have been sent and will be published by Springer-Nature in *Lecture Notes in Electrical Engineering* promptly, and the accepted Chinese papers will be published in several esteemed journals. We show our special thanks to the staffs of Springer-Nature and other Chinese journal publishers. We also wish to express our sincere appreciation to all the individuals who have contributed to ICGNC 2024 in various ways. Special thanks are extended to our colleagues in the program committee for their thorough review of all the submissions, which is vital to the success of this conference, and also to the members in the organizing committee and the volunteers who have dedicated their time and efforts in planning, promoting, organizing and helping the conference. Last but not least, our special thanks go to invited plenary speakers as well as all the authors for contributing their latest research to the conference, and to the participants and the exhibitors in making ICGNC 2024 a memorable event.

Let us cherish our gathering in the famous city - Changsha for this exciting event in this hot summer. We hope that your stay in Changsha will be enriching and memorable and that the technical program will send you back home motivated, enthusiastic, cool, and full of innovative ideas.

We hope you enjoy the "hot", fruitful and happy conference in Changsha.



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国际制导、导航与控制学术会议

历 届 会 议

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第二届	2008 中国制导、导航与控制学术会议 2008 年 11 月 14-16 日，中国 西安
第三届	2009 中国制导、导航与控制学术会议 2009 年 11 月 14-15 日，中国 北京
第四届	2010 中国制导、导航与控制学术会议 2010 年 10 月 16-18 日，中国 上海
第五届	2012 中国制导、导航与控制学术会议 2012 年 8 月 10-12 日，中国 北京
第六届	2014 IEEE 中国制导、导航与控制学术会议 2014 年 8 月 8-10 日，中国 烟台
第七届	2016 IEEE 中国制导、导航与控制学术会议 2016 年 8 月 12-14 日，中国 南京
第八届	2018 IEEE/CSAA 制导、导航与控制学术会议 2018 年 8 月 10-12 日，中国 厦门
第九届	2020 国际制导、导航与控制学术会议 2020 年 10 月 23-25 日，中国 天津
第十届	2022 国际制导、导航与控制学术会议 2022 年 8 月 5-7 日，中国 哈尔滨
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第十二届　　2026 国际制导、导航与控制学术会议
2026 年 8 月 7-9 日，中国 桂林

第十三届　　2028 国际制导、导航与控制学术会议
2028 年 8 月，中国 成都

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Second	CGNCC 2008 2008 Chinese Guidance, Navigation and Control Conference November 14-16, 2008, Xi'an, China
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Fifth	CGNCC 2012 2012 Chinese Guidance, Navigation and Control Conference August 10-12, 2012, Beijing, China
Sixth	IEEE CGNCC 2014 2014 IEEE Chinese Guidance, Navigation and Control Conference August 8-10, 2014, Yantai, China
Seventh	IEEE CGNCC 2016 2016 IEEE Chinese Guidance, Navigation and Control Conference August 12-14, 2016, Nanjing, China
Eighth	IEEE/CSAA GNCC 2018 2018 IEEE/CSAA Guidance, Navigation and Control Conference August 10-12, 2018, Xiamen, China
Ninth	ICGNC 2020 2020 International Conference on Guidance, Navigation and Control October 23-25, 2020, Tianjin, China
Tenth	ICGNC 2022

2022 International Conference on Guidance, Navigation and Control
August 5-7, 2022, Harbin, China

Eleventh ICGNC 2024
2024 International Conference on Guidance, Navigation and Control
August 9-11, 2024, Changsha, China

Twelfth ICGNC 2026
2026 International Conference on Guidance, Navigation and Control
August 7-9, 2026, Guilin, China

Thirteenth ICGNC 2028
2028 International Conference on Guidance, Navigation and Control
August, 2028, Chengdu, China

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Ming Li	Shenyang Aircraft Design Research Institute
Bohu Li	China Aerospace Science and Industry Corporation
Yongjian Liu	Air Force Research Academy
Hong Qiao	Institute of Automation, Chinese Academy of Science
Donglin Su	Beihang University
Cong Sun	Chinese Aeronautical Establishment
Changhong Tang	The First Aircraft Institute
Wei Wang	China Aerospace Science and Technology Corporation
Shafei Wang	Systems Engineering, PLA Academy of Military Science
Yaonan Wang	Hunan University
Wang Zili	Beihang University
Hongxin Wu	China Academy of Space Technology
Jinwu Xiang	Beihang University
Demin Xu	Northwestern Polytechnical University
Wei Yang	Aviation Industry Corporation of China, Ltd.
Desen Yang	Harbin Engineering University
Fengtian Yang	Shenyang Aircraft Design and Research Institute
Guoqing Yang	Civil Aviation Administration of China
Mengfei Yang	China Academy of Space Technology
Junchen Yao	Chinese Society of Aeronautics and Astronautics
Jun Zhang	Beijing Institute of Technology
Rulin Zhang	AVIC Xi`an Flight Automatic Control Research Institute
Chunsheng Zhao	Nanjing University of Aeronautics and Astronautics
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Zhongping Jiang	New York University, USA
Axel Lehmann	Germany University of Bundeswehr, Germany
Hugh Hong-Tao Liu	Canada University of Toronto, Canada
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Andrey Polyakov	Inria Centre of the University of Lille, France
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Yang Shi	University of Vivtoria, Canada
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Xiaohua Xia	University of Pretoria, South Africa
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Gang Liu
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Yanbin Liu
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Daobo Wang
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Mengyi Wang
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Ling Wang
Long Wang
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Rui Wang
Shaoping Wang
Wenjuan Wang
Xiangmin Wang
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Yin Wang
Yingxun Wang
Yong Wang
Yongji Wang
Zhuo Wang
Xingjian Wang
Yangzhu Wang
Yongjun Wang
Zhen Wang
Jinzhong Wei
Ruixuan Wei
Xingxing Wei
Zhijin Wen
Aiguo Wu
Hao Wu
Huaining Wu
Ligang Wu
Lirong Wu
Min Wu
Shufan Wu
Wenqi Wu
Zhengguang Wu
Yuanxin Wu
Yuanqing Xia
Bin Xian
Jin Xiao
Guangming Xie
Lirong Xie
Shaorong Xie
Yongchun Xie
Hui Xiong
De Xu
Shengyuan Xu
Xin Xu
Yang Xu
Bin Xu
Chao Xu
Jianru Xue
Liang Yan
Zhaoxu Yang
Hao Yang
Liang Yang
Ming Yang
Qinmin Yang
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Jianqiang Yi
Ce Yu
Xiang Yu
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Ziquan Yu
Wenwu Yu
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Zhigang Zeng
Zhengyong Zhan
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Jian Zhang
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Tao Zhang
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Wenan Zhang
Yonggang Zhang
Weiguo Zhang
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Jiang Zhao
Jingzhou Zhao
Qianchuan Zhao
Xudong Zhao
Yanjie Zhao
Yifei Zhao
Yuxin Zhao
Yunbo Zhao
Zhenyu Zhao
Ziyang Zhen
Jianhua Zheng
Shiqiang Zheng
Zewei Zheng
Zheng Zheng
Maiying Zhong
Yisheng Zhong
Bin Zhou
Dapeng Zhou
Qingrui Zhou
Rui Zhou
Shaolei Zhou
Xinxiu Zhou
Yu Zhou
Zhong Zhou
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Jihong Zhu
Jiaqiang Zhu
Liang Zhu
Xueyao Zhu
Xiaoping Zhu
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ICGNC 2024 Conference Introduction

大会介绍

The 2024 International Conference on Guidance, Navigation and Control (ICGNC 2024) will be held in Chanagsha on August 9-11, 2024, following the successes of previous ten events. International Conference on Guidance, Navigation and Control (ICGNC) is a biennial event, which is also one of the leading events in Guidance, Navigation and Control (GNC). ICGNC 2024 is sponsored by Technical Committee on Guidance, Navigation and Control (TCGNC), Chinese Society of Aeronautics and Astronautics (CSAA), and National Key Laboratory of Aircraft Integrated Flight Control. It is technically co-sponsored by State Key Laboratory of Virtual Reality Technology and Systems, Technical Committee on Navigation, Guidance and Control (TCNGC), Chinese Association of Automation (CAA), Technical Committee on Unmanned Aerial Systems Autonomous Control (TCUASAC), CAA, and Technical Committee on Control Theory (TCCT), CAA, Technical Committee on Robotics Intelligence (TCRI), Education Committee(EC), CAA, and *Guidance Navigation and Control* Editorial Office. ICGNC 2024 is organized by National University of Defense Technology. The conference consists of plenary speeches, chief designer forum, model teacher forum, young scientist forum, invited sessions, oral sessions and poster sessions for academic exchanges.

继前十届国际导航与控制大会成功举办后，2024 国际导航与控制大会（ICGNC 2024）将于 2024 年 8 月 9-11 日在长沙举行。导航与控制国际会议（ICGNC）是一项两年一次的活动，也是导航与控制领域的主要活动之一。ICGNC 2024 由中国航空学会（CSAA）制导、导航与控制分会（TCGNC）和飞行器一体化控制全国重点实验室共同主办，由虚拟现实技术与系统全国重点实验室、中国自动化学会（CAA）导航制导与控制专业委员会（TCNGC）、无人飞行器自主控制专业委员会（TCUASAC）、控制理论专业委员会（TCCT）、机器人智能专业委员会（TCRI）、中国自动化学会教育工作委员会和《制导、导航与控制（英文）》编辑部共同协办，由国防科技大学承办。会议包括大会特邀报告、总师论坛、国家级教学名师论坛、青年科学家论坛、特邀专题、口头报告专题和张贴海报专题等，以进行学术交流。

I. Conference Venue Information 会场信息

ICGNC 2024 will take place at Changsha International Conference Center located in the conference and exhibition area of the High-speed Railway Exhibition New Town in Changsha, to the east of the Liuyang River, south of Laodong Road, and north of the Central Axis Avenue, close to the Changsha International Convention and Exhibition Center, and facing the Changsha South Railway Station across the river.

长沙国际会议中心位于长沙市高铁会展新城会议会展片区，浏阳河以东、劳动路以南、中轴大道以北，紧邻长沙国际会展中心，与长沙火车南站隔河相望。

图 1 Location of the host venue 大会主会场的位置

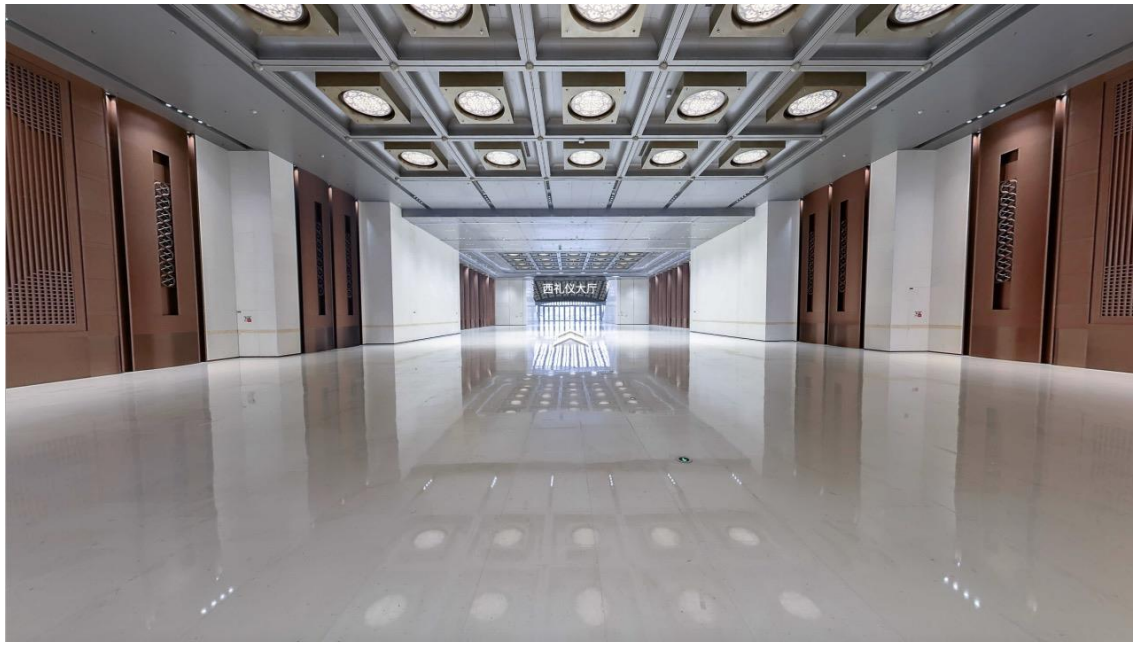

图 2 Registration Area on 1st Floor Map of Eastern Etiquette Hall
大会签到位置 1F 东礼仪大厅

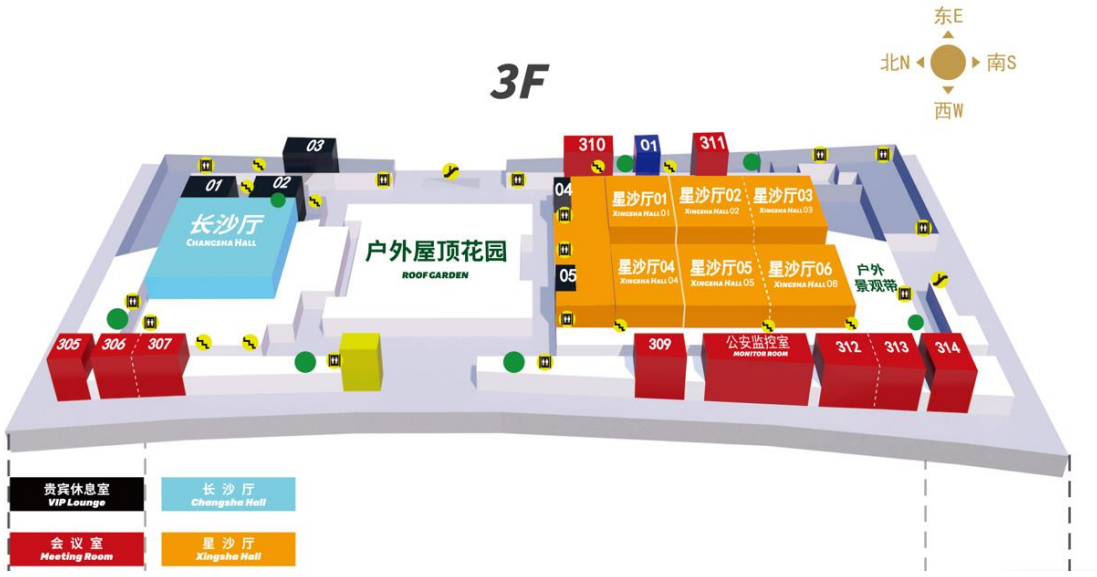

图 3 The 3rd Floor Map of Changsha International Conference Center
长沙国际会议中心 3 层地图

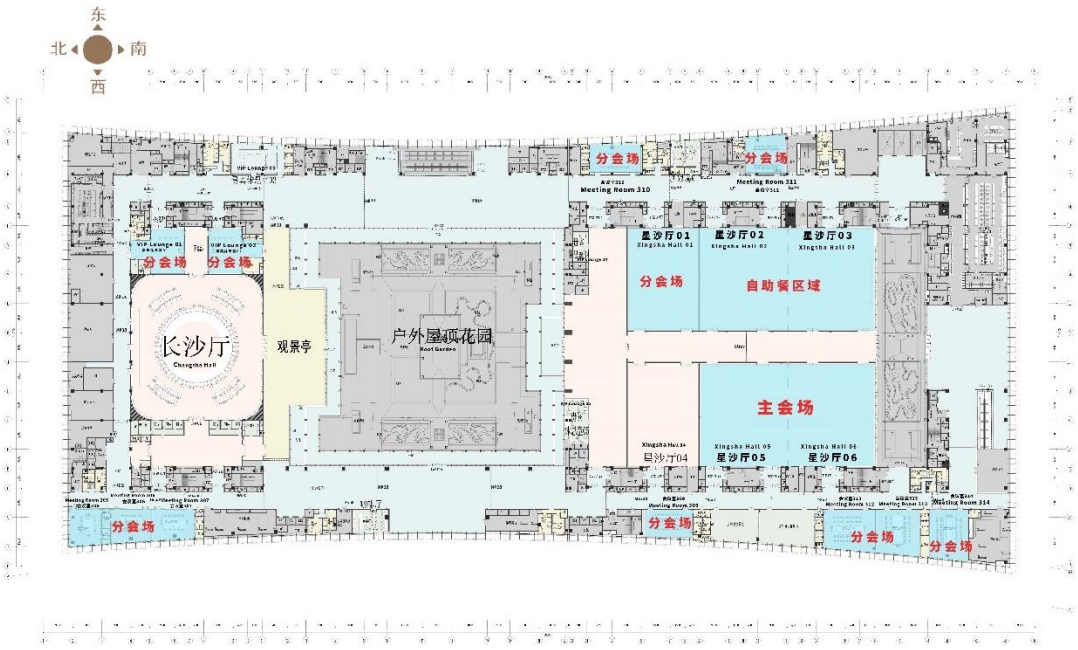

图 4 The 3rd Plan Map of Changsha International Conference Center
长沙国际会议中心 3 层平面图

Ⅱ．交通信息

A、长沙黄花国际机场：

（1）出租车：25 分钟到达。

（2）乘坐机场磁悬浮快线至磁浮高铁站，再乘坐地铁 2 号线和 4 号线至光达站，从 4 号口出站穿过国展路地下通道步行 300 米到达。

B、长沙高铁南站：可步行至地铁站，乘坐 2 号线、4 号线至光达站，从 4 号口出站穿过国展路地下通道步行 300 米到达。

C、高速：紧邻京港澳高速、长株高速、绕城高速、机场高速环绕，距离雨花互通口 5 公里，车程约 8 分钟。

D、地铁：乘坐 2 号线、4 号至光达站，从 4 号口出站穿过国展路地下通道步行 300 米到达。

图 5 Changsha International Conference Center Location
长沙国际会议中心地理位置

III. 住宿信息

表 2 大会推荐酒店信息一览表

地点 / 目的地	主会场	地铁站（光达）	长沙南站	黄花机场	长沙站
长沙国际会议中心（主会场）	/	400m	4km	18km	14km
长沙施柏阁大观酒店	80m	500m	4km	18km	14km
长沙环球融创施柏阁酒店	80m	500m	4km	18km	14km
长沙会展诺富特酒店	320m	150m	3.6km	18km	13km
长沙国际会展中心宜必思尚品酒店	320m	150m	3.6km	18km	13km

图 6　大会主会场与分流酒店位置地图

IV. 其他信息

时区

UTC/GMT +8

天气

长沙是一个气候温和、降水充沛、雨热同期、四季分明的城市，适合旅游。

有关天气更新，请访问 https://www.tianqi.com/changsha/

Climate	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug	Sep.	Oct.	Nov	Dec.
Daily highs(℃)	13	12	18	24	28	31	35	34	30	25	20	14
Daily lows(℃)	2	4	9	14	18	22	26	25	22	15	10	3
Precipitation(mm)	37	59	86	91	133	183	166	87	46	35	44	41

货币兑换

人民币是流通中的法定货币。官方货币汇率见 http://www.boc.cn/sourcedb/whpj/enindex.html（全国范围适用）。除机场（24 小时）和顶级酒店（通常为 4 星至 5 星）提供货币兑换服务外，周一至周五，中国银行和其他主要银行的所有分行都提供货币兑换服务。

旅游信息

长沙市是首批国家历史文化名城，历经三千年城名、城址不变，有“屈贾之乡”“楚汉名城”“潇湘洙泗”之称。拥有马王堆汉墓、四羊方尊、三国吴简、岳麓书院、铜官窑等历史遗迹。凝练出“经世致用、兼收并蓄”的湖湘文化。既是清末

维新运动和旧民主主义革命策源地之一，又是新民主主义的发祥地之一。走出了黄兴、蔡锷、刘少奇等名人。长沙是全国“两型社会”综合配套改革试验区、中国重要的粮食生产基地，长江中游城市群和长江经济带重要的节点城市，综合交通枢纽和国家物流枢纽。

长沙市是中国（大陆）国际形象最佳城市、东亚文化之都、世界“媒体艺术之都”。拥有杂交水稻育种、“天河”超级计算机、国内首台 3D 烧结打印机等科研成果。有岳麓山、橘子洲、湖南省博物馆、花明楼、世界之窗、天心阁、杜甫江阁等著名景点。

欲了解更多信息，请访问

https://www.travelchinaguide.com/cityguides/hunan/changsha/

紧急情况

拨打 110 接通警察，拨打 119 接通消防/救护车服务。

电力供应

电源为 220 伏，50Hz。有关详细信息，请访问您当地的旅行商店。

饮用水

建议您饮用开水或瓶装水。

V. 联系信息

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VI. 会议安排总览

GNC 国家级教学名师论坛

2024 年 8 月 9 日（周五）： 09:00-11:30

GNC 青年科学家论坛

2024 年 8 月 9 日（周五）： 14:00-17:15

大会开幕式

2024 年 8 月 10 日（周六）: 08:30-08:50

大会报告

2024 年 8 月 10 日（周六）: 08:50-11:50

2024 年 8 月 11 日（周日）: 08:30-09:50

GNC 总师论坛

2024 年 8 月 11 日（周日）:10:10-11:50

分会场论坛口头报告

2024 年 8 月 10 日（周六）： 13:30-15:30 15:50-17:50

第 1-10 组 A、B 13:30-15:30 15:50-17:50

优秀论文评选（第 12 组 A） 13:30-17:00

2024 年 8 月 11 日（周日）:

第 1-10 组 A、B 13:30-15:30 15:50-17:50

张贴海报

2024 年 8 月 10 日（周六）： **第 11 组 A、B** 13:30-15:30 15:50-17:50

优秀 Poster 评选（第 11 组 A） 13:30-15:30

2024 年 8 月 11 日（周日）： **第 11 组 A、B** 13:30-15:30 15:50-17:50

口头报告与张贴报告要求

Instruction for Oral and Poster Presentations

Oral Presentation:

- Oral Presentation Time: 8 minutes (except 10 minutes for Best Paper session).
- Each speaker is required to meet his/her session chairs in the corresponding session rooms 10 minutes before the session starts and copy the slide file (PPT or PDF) to the computer.
- Please note that each session room will be equipped with a LCD projector, screen and a laptop or desktop computer with general presentation software such as Microsoft PowerPoint and Adobe Reader preinstalled. Please make sure that your files are compatible and readable with our operation system by using commonly used fonts and symbols. If you plan to use your own computer, please test the connection and make sure it works before your presentation.

Poster Presentation:

- The size of poster paper is suggeseted to be 0.9m in width and 1.5m in height. The boards will be arranged in order of the paper in the final program. Tape and other materials will be provided on site, and volunteer-assistants will give 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 note that during your poster session, the author should stay by your poster paper to explain and discuss your paper with visiting delegates.

2024 国际制导、导航与控制学术会议程序一览表

ICGNC 2024 Technical Program, Thursday, August 8, 2024

14:00-20:00 1st Floor, Changsha International Conference Center **(长沙国际会议中心 一层大堂)**

注册/Registration

ICGNC 2024 Technical Program, Friday, August 9, 2024

08:30-22:00 1st Floor, Changsha International Conference Center **(长沙国际会议中心 一层大堂)** **注册/Registration**

09:00-11:30 Room Xingsha Hall 01, 3rd Floor **(长沙国际会议中心 3 层 星沙厅 01)** (Chair: **Tao Zhang** 张涛 Tsinghua University)

GNC National-level Model Teacher Forum(GNC 国家级教学名师论坛): Innovation and Practice of GNC Education (GNC 教育创新与实践)

09:00-09:50 **Shangchun Fan** 樊尚春 Beihang University	Establishing a Professional Course Ecosystem to Facilitate Outstanding Individual Achievement
09:50-10:40 **Hong Wang** 王红 Tsinghua University	The Application and Exploration of AI in Digital Education
10:40-11:30 **Chenghui Zhang** 张承慧 Shandong University	The Construction and Practice of an International, Diversified, and Intelligent Cultivating System for Innovative Talents in Automation Majors

12:00-13:30 Room Xingsha Hall 02+03, 3rd Floor **(长沙国际会议中心 3 层 星沙厅 02+03)** **自助午餐/Lunch**

14:00-17:15 Room Xingsha Hall 01, 3rd Floor **(长沙国际会议中心 3 层 星沙厅 01)** (Chair: **Bin Jiang** 姜斌 Nanjing University of Aeronautics and Astronautics)

GNC Young Scientist Forum (GNC 青年科学家论坛): Frontiering Technologies in GNC (GNC 领域前沿技术)

14:00-14:25 **Cailian Chen** 陈彩莲 Shanghai Jiao Tong University	Large-scale Time Sensitive Networking for Smart Aircraft Assembly and Testing
14:25-14:50 **Jinliang Ding** 丁进良 Northeastern University	Control and Optimization of process Industries in the AI Era: Driven by Demand to Promote Intelligent Transformation
14:50-15:15 **Zhunga Liu** 刘准钆 Northwestern Polytechnical University	Multi-source Information Fusion for Target Recognition and Tracking
15:15-15:40 **Jun Luo** 罗均 Chongqing University	Navigation and Perception Technologies and Applications for Intelligent Unmanned Systems in Complex Scenarios
15:40-16:00 **茶歇 Tea Break**	
16:00-16:25 **Zehui Mao** 冒泽慧 Nanjing University of Aeronautics and Astronautics	Collaborative Fault Diagnosis and Fault-Tolerant Control Technologies for Swarm Unmanned Systems
16:25-16:50 **Xin Xu** 徐昕 National University of Defense Technology	Highly-Efficient Autonomous Learning for Intelligent Robots
16:50-17:15 **Bin Zhou** 周彬 Harbin Institute of Technology	Recent Developments on Prescribed-Time Control by Periodic Delayed Feedback

18:00-20:00 Room Xingsha Hall 02+03, 3rd Floor **(长沙国际会议中心 3 层 星沙厅 02+03)** **自助晚餐/Dinner**

20:30-22:00 Room Xingsha Hall 01, 3rd Floor **(长沙国际会议中心 3 层 星沙厅 01)**

TCGNC Member Meeting, CSAA

（中国航空学会制导、导航与控制分会委员(含青年委员)工作会议）

ICGNC 2024 Technical Program, Saturday, August 10, 2024

08:30-08:50 Room Xingsha Hall 05+06, 3rd Floor **(长沙国际会议中心 3 层 星沙厅 05+06)** (Chair:)

大会开幕式&GNC 国际期刊优秀论文颁奖/Opening Ceremony & GNC Best Paper Award Ceremony

08:50-11:50 Room Xingsha Hall 05+06, 3rd Floor **(长沙国际会议中心 3 层 星沙厅 05+06)**

Plenary Speech I（大会报告 I）(Chair: **Jinhu Lv** 吕金虎)

08:50-09:30 **Jiancheng Fang** 房建成 中国科学院院士 Beihang University — Ultra-high Sensitivity Extremely-weak Magnetic Field Science and Technology Infrastructure and Its Applications

Plenary Speech II （大会报告 II）(Chair: **Yanming Fan** 范彦铭)

09:30-10:10 **Qifeng Yu** 于起峰 中国科学院院士 National University of Defense Technology — Aerospace Visual Navigation Technology and Applications

10:10-10:30 茶歇

Plenary Speech III （大会报告 III）(Chair: **Bin Jiang** 姜斌)

10:30-11:10 **Weihua Gui** 桂卫华 中国工程院院士 Central South University — Exploration and Reflection on Aircraft All-Electric Brake Control Technology

Plenary Speech IV （大会报告 IV）(Chair: **Shaoping Wang** 王少萍)

11:10-11:50 **Andrey Polyakov** Research director Inria Centre of the University of Lille (France) — Homogeneity in Quadrotor Control

12:00-13:30 Room Xingsha Hall 02+03 (长沙国际会议中心 3 层 星沙厅 02+03) **自助午餐/Lunch**

13:30-15:30	**3rd Floor Room 305 3 层会议室 305**	**3rd Floor Room 306 3 层会议室 306**	**3rd Floor Room 307 3 层会议室 307**	**3rd Floor Room 309 3 层会议室 309**	**3rd Floor Room 310 3 层会议室 310**	**3rd Floor Aisle 3 层廊厅**	**3rd Floor Room 314 3 层会议室 314**
	SatA1 Cooperative GNC	SatA2 Collaborative GNC	SatA3 Swarm GNC	SatA4 Confrontation GNC	SatA5 Optimization GNC	SatA11 Poster Session 1	13:30-17:00 SatA12 Best Paper
	3rd Floor Room 311 3 层会议室 311	**3rd Floor Room 312 3 层会议室 312**	**3rd Floor Room 313 3 层会议室 313**	**3rd Floor Room VIP 01 3 层会议室 VIP 01**	**3rd Floor Room VIP 02 3 层会议室 VIP 02**		
	SatA6 Knowledge-driven GNC	SatA7 Safety GNC	SatA8 Aerospace GNC	SatA9 Recognition GNC	SatA10 Precision GNC		
15:30-15:50 **茶歇/Tea Break**							
15:50-17:50	**3rd Floor Room 305 3 层会议室 305**	**3rd Floor Room 306 3 层会议室 306**	**3rd Floor Room 307 3 层会议室 307**	**3rd Floor Room 309 3 层会议室 309**	**3rd Floor Room 310 3 层会议室 310**	**3rd Floor Aisle 3 层廊厅**	
	SatB1 Learning GNC	SatB2 Planning GNC	SatB3 Dynamic GNC	SatB4 Formation GNC	SatB5 Modelling GNC	SatB11 Poster Session 2	
	3rd Floor Room 311 3 层会议室 311	**3rd Floor Room 312 3 层会议室 312**	**3rd Floor Room 313 3 层会议室 313**	**3rd Floor Room VIP 01 3 层会议室 VIP 01**	**3rd Floor Room VIP 02 3 层会议室 VIP 02**		
	SatB6 Reliable GNC	SatB7 Fusion GNC	SatB8 Robust GNC	SatB9 Multi-agent GNC	SatB10 Hybrid GNC		

18:30-21:30 **Room Xingsha Hall 05+06 (长沙国际会议中心 3 层 星沙厅 05+06) 晚宴 & ICGNC2024 Best Paper Awards 颁奖**

ICGNC 2024 Technical Program, Sunday, August 11, 2024

08:30-09:50 Room Xingsha Hall 05+06, 3rd Floor **(长沙国际会议中心 3 层 星沙厅 05+06)**

Plenary Speech V（大会报告 V）(Chair: **Dayi Wang** 王大轶)

08:30-09:10 **Yaonan Wang** 王耀南 中国工程院院士 Hunan University Perception, Control and Development Trend of Intelligent Unmanned Systems

Plenary Speech VI（大会报告 VI）(Chair: **Zhaoxu Yang** 杨朝旭)

09:10-09:50 **Zongxia Jiao** 焦宗夏 中国工程院院士 National Key Laboratory of Aircraft Integrated Flight Control Orinithopter Vector Control by Micro-Motion Mechanism

09:50-10:10 茶歇

10:10-11:50 Room Xingsha Hall 05+06, 3rd Floor **(长沙国际会议中心 3 层 星沙厅 05+06)** (Chairs: **Yingxun Wang 王英勋 Beihang University**)

GNC Chief Designer Forum (GNC 总师论坛): The Know-how of GNC in X Engineering Practice

10:10-10:20 Yong Chen 陈勇 Commercial Aircraft Corporation of China Current Status and Trends of Commercial Aircraft Navigation Control Systems

10:20-10:30 Weiping Yang 杨卫平 AVIC Xi'an Flight Automatic Control Research Institute Research on Key Technologies for Autonomous Take-off and Landing of Large Aircraft

10:30-10:40 Xin Zheng 郑辛 China Aerospace Science & Industry Corporation Development Statues and Prospects of Rotary Modulation Optical Inertial Navigation for Missiles

10:40-11:50 Interactive Discussion 互动交流

12:00-13:30 Room Xingsha Hall 02+03, 3rd Floor **(长沙国际会议中心 3 层 星沙厅 02+03) 自助午餐/Lunch**

	3rd Floor Room 305 3 层会议室 305	**3rd Floor Room 306 3 层会议室 306**	**3rd Floor Room 307 3 层会议室 307**	**3rd Floor Room 309 3 层会议室 309**	**3rd Floor Room 310 3 层会议室 310**	**3rd Floor Aisle 3 层廊厅**
13:30-15:30	SunA1 Hybrid GNCl	SunA2 Smart GNC	SunA3 Unmanned GNC	SunA4 Positioning GNC	SunA5 Automatic GNC	SunA11 Poster Session 1
	3rd Floor Room 311 3 层会议室 311	**3rd Floor Room 312 3 层会议室 312**	**3rd Floor Room 313 3 层会议室 313**	**3rd Floor Room VIP 01 3 层会议室 VIP 01**	**3rd Floor Room VIP 02 3 层会议室 VIP 02**	
	SunA6 Cognition GNC	SunA7 Reinforcement GNC	SunA8 Pattern GNC	SunA9 Cross-domain GNC	SunA10 Identification GNC	

15:30-15:50 **茶歇/Tea Break**

	3rd Floor Room 305 3 层会议室 305	**3rd Floor Room 306 3 层会议室 306**	**3rd Floor Room 307 3 层会议室 307**	**3rd Floor Room 309 3 层会议室 309**	**3rd Floor Room 310 3 层会议室 310**	**3rd Floor Aisle 3 层廊厅**
15:50-17:50	SunB1 Evolution GNC	SunB2 Flight GNC	SunB3 Vision GNC	SunB4 Perception GNC	SunB5 Intelligent GNC	SunB11 Poster Session 2
	3rd Floor Room 311 3 层会议室 311	**3rd Floor Room 312 3 层会议室 312**	**3rd Floor Room 313 3 层会议室 313**	**3rd Floor Room VIP 01 3 层会议室 VIP 01**	**3rd Floor Room VIP 02 3 层会议室 VIP 02**	
	SunB6 Aircraft GNC	SunB7 Classic GNC	SunB8 Advanced GNC	SunB9 Autonomous GNC	SunB10 Novel GNC	

18:00-20:00 **Room Xingsha Hall 02+03, 3rd Floor (长沙国际会议中心 3 层 星沙厅 02+03) 自助晚餐/Dinner**

大会报告 (Plenary Speeches)

大会报告 I (Plenary Speech I)

Time: 08:50-09:30, August 10, 2024
Venue: Room Xingsha Hall 05+06, 3rd Floor
(长沙国际会议中心 3 层 星沙厅 05+06)
Chair: Jinhu Lv 吕金虎

Ultra-high Sensitivity Extremely-weak Magnetic Field Science and Technology Infrastructure and Its Applications

Professor Jiancheng Fang 房建成

Academician of Chinese Academy of Sciences

Beihang University

Abstract

Using ultra-sensitive and extremely-weak magnetic field and inertial measurement technology, we will build a large scientific facility for extremely-weak magnetic fields, creating the highest performance and largest "zero magnetic" space to provide extreme weak magnetic environments and extreme measurement methods. Once completed, it will maintain China's leading advantage in ultra-sensitive and extremely-weak magnetic field and inertial measurement technology, while simultaneously fostering the development of large scientific facilities for Earth's magnetic field. Facing the world's scientific frontiers, national major needs, economic main battlefield, and people's health, the team will rely on this large-scale scientific facility to carry out technology achievement transformation and its applications.

Jiancheng Fang, an Academician of the Chinese Academy of Sciences, is a professor and director of the Academic Committee at Beihang University. He also serves as the chief designer and scientist for the Hangzhou Extremely-Weak Magnetic Field National Major Science and Technology Infrastructure.

He has long engaged in research on inertial positioning and navigation, quantum precision measurement and sensing, and Extremely-weak magnetic field measurement and its medical applications. He has led projects that have won one first-class and one second-class National Technological Invention Awards, one second-class National Science and Technology Progress Award, and three second-class National Teaching Achievement Awards. Fang has been honored with the first National Defense Science and Technology Industry Outstanding Talent Award, the National Outstanding Professional Technical Talent title, and the Ho Leung Ho Lee Foundation Science and Technology Achievement Award.

大会报告 II (Plenary Speech II)

Time: 09:30-10:10, August 10, 2024
Venue: Room Xingsha Hall 05+06, 3rd Floor
(长沙国际会议中心 3 层 星沙厅 05+06)
Chair: Yanming Fan 范彦铭

Aerospace Visual Navigation Technology and Applications

Professor Qifeng Yu 于起峰

Academician of Chinese Academy of Sciences

National University of Defense Technology

Abstract

In the ever-evolving aerospace domain, aerospace visual navigation technology is pioneering a new era of autonomous operation and space exploration with its distinct advantages. In this presentation, we will discuss three main research topics of our group, namely aircraft visual navigation and localization, spacecraft pose estimation, and visual guidance for landing. Recent advancements and potential applications in the field will be comprehensively introduced. 1) Aircraft visual navigation and localization technology enables autonomous navigation and precise location through heterogeneous image matching and target recognition, facilitating the operation of aircraft in complex environments. 2) The technology for estimating the relative pose of space objects ensures the accuracy and reliability of space maneuvers by accurately calculating the relative position and orientation between the camera and the target. We will introduce its applications, including satellite docking, extravehicular activities of astronauts, and lunar sample collection. 3) The visual guidance technology for landing utilizes an onboard camera to achieve autonomous and automatic landing tasks for aircraft.

Qifeng Yu is an Academician of the Chinese Academy of Sciences. He received his B.Eng. degree in Department of Aircraft Engineering in Northwestern Polytechnical University and the M.Eng. Degree in College of Aerospace Science and Engineering from National University of Defense Technology, Ph.D. in Precision Photomechanics from the University of Bremen in Germany in 1981, 1984 and 1995 respectively. Since 1991, he has been a Full Professor at National University of Defense Technology. Currently, he serves as the Deputy Director of the Science and Technology Committee of the National University of Defense Technology. He currently holds positions such as Special Director of the Chinese Society of Theoretical and Applied Mechanics, Executive Director of the Chinese Society for Optical Engineering, Deputy Editor-in-Chief of Acta Mechanica Sinica (English Edition), and Director of the Hunan Provincial Key Laboratory of Image Measurement and Visual Navigation. Yu Qifeng has led and completed the National Defense 973 Project and several national major equipment development projects, achieving significant theoretical innovations and national defense applications. He pioneered the emerging

interdisciplinary field of camera measurement in China and has accomplished several key equipment tests. He has received one second prize of the National Technological Invention Award, the Hunan Provincial Natural Science First Prize, the Hunan Provincial Technological Invention First Prize, and ten other provincial and ministerial-level awards. Yu Qifeng has published three monographs, over 300 academic papers, and holds more than 80 invention patents.

大会报告 III (Plenary Speech III)

Time: 10:30-11:10, August 10, 2024
Venue: Room Xingsha Hall 05+06, 3rd Floor
(长沙国际会议中心 3 层 星沙厅 05+06)
Chair: Bin Jiang 姜斌

Exploration and Reflection on Aircraft All-Electric Brake Control Technology

Professor Weihua Gui 桂卫华

Academician of Chinese Academy of Engineering
Central South University

Abstract

With the implementation of the national "dual carbon" strategy and the development of international green aviation concepts, the design concept of civil aircraft is undergoing transformation and upgrading from "weight reduction and drag reduction" to "energy conservation, emission reduction, noise reduction, circulation, and health". Electric aviation is one of the important ways to achieve high-end, intelligent, and green development in the aviation industry. As a key core equipment to ensure the safety of aircraft landing, takeoff, taxiing, and braking, the all electric braking system has the advantages of high safety, strong reliability, good dynamic performance, and easy maintenance. The related key technologies are one of the main development directions for domestic large aircraft in the future. Currently, aircraft have higher requirements for safety and comfort, and the service environment is more complex, posing greater challenges to the reliability of anti-skid brake control and adaptability to complex environments. This report mainly introduces the key technology research and prospects of aircraft electric braking systems. The modeling of an all-electric brake system, high reliability anti-skid control and optimization, efficient collaborative turning of multiple wheels, development of experimental platforms, and other key technologies are elaborately introduced combined with the research results of our team. Finally, prospects and reflections on the future development trends of all-electric brake systems are presented.

Weihua Gui is an Academician of the Chinese Academy of Engineering. He received his the B.Eng. degree in Electrical Engineering and the M.Eng. Degree in Industrial Automation from Central South Institute of Mining and Metallurgy, P. R. China, in 1976 and 1981, respectively. From 1986 to 1988 he was a Visiting Scholar at Universität-GH-Duisburg, Germany. Since 1991, he has been a Full Professor at Central South University. He was the director of the Academic Committee of Central South University, director of the Engineering Research Center for Nonferrous Metallurgical Automation of the Ministry of Education, Vice Chairman of the Chinese Association of Automation (CAA), Vice Chairman of the Nonferrous Metals Society of China (NFSOC), and Chairman of the Process Control Professional Committee of CAA. His main research interests include intelligent control systems and their applications. He has won three Second Prizes of the National Science and Technology Progress Award, one Second Prize of the National

Technological Innovation Award. He is the winner of the Science and Technology Progress Award of the Ho Leung Ho Lee Foundation, National Model in Teaching and Education, National Model Teacher, National Excellent Scientific and Technological Worker, Hunan Guangzhao Science and Technology Award, China Process Control Lifetime Achievement Award, Yang Jiachi Science and Technology Award, etc.

大会报告 IV (Plenary Speech IV)

Time: 11:10-11:50, August 10, 2024
Venue: Room Xingsha Hall 05+06, 3rd Floor
(长沙国际会议中心 3 层 星沙厅 05+06)
Chair: Shaoping Wang 王少萍

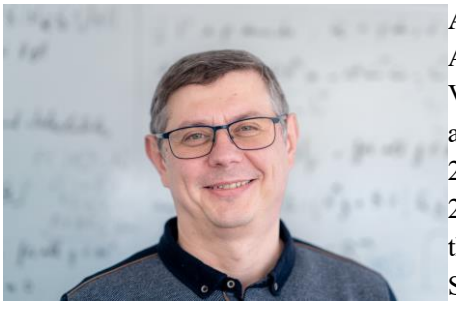
Homogeneity in Quadrotor Control

Professor Andrey Polyakov

Inria Centre of the University of Lille, France

Abstract

Homogeneity is an invariance of a mathematical object (e.g., a function or a set) with respect to a class of transformations called dilations. All linear and a lot of essentially nonlinear models of physics are homogeneous (symmetric) in some sense. The dilation symmetry simplifies stability and robustness analysis, controllers and observers design, discretization and digital implementation of nonlinear systems. Homogeneous control systems appear as solutions of various nonlinear problems such as finite/fixed-time stabilization. Despite of an essential non-linearity, homogeneous controllers admit simple tuning rules similar to linear algorithms. Homogeneous control systems are robust with respect to various of uncertainties and disturbances. In this talk, an introduction to homogeneity-based design is going to be presented. We will study a class of homogeneous control systems, which admit a very simple tuning rules based on an upgrade of the already existing/operating linear feedback. This method of the control upgrade is universal and applicable for any control systems governed by linear feedback law. It is theoretically proven and experimentally validated that the homogeneous control may guarantee faster response, smaller overshoot and better robustness than the linear control. In this talk, the method is going to be illustrated on quadrotor control and supported with real experiments.



Andrey Polyakov received his PhD Degree in System Analysis, Control and Information Processing from the Voronezh State University, Russia in 2005. Till 2010 he was an Associate Professor in the same university. From 2007 to 2008 he was a postdoc in CINVESTAV, Mexico. Form 2010 to 2014, Andrey Polyakov was a Leading Researcher of the Institute of Control Sciences of Russian Academy of Sciences. In 2013, he joined the Inria centre of the University of Lille in France as a researcher. His main research interests include various aspects nonlinear control and estimation. In 2012, he proposed the concept of fixed-time stabilization being rather popular today. Andrey Polyakov is an author of more than 100 journal papers and three books: “Generalized Homogeneity in Systems and Control", “Roadmap for Sliding Mode Control Design”, “Attractive Ellipsoids in Robust Control”.

大会报告 V (Plenary Speech V)

Time: 08:30-09:10, August 11, 2024
Venue: Room Xingsha Hall 05+06, 3rd Floor
(长沙国际会议中心 3 层 星沙厅 05+06)
Chair: Dayi Wang 王大轶

Perception, Control and Development Trend of Intelligent Unmanned Systems

Professor Yaonan Wang 王耀南

Academician of Chinese Academy of Engineering

Hunan University

National Engineering Research Center of RVC

Abstract

With the application of cutting-edge technology in the military domain, intelligent unmanned systems will emerge as the primary equipment for future warfare. Perception and control technology play a pivotal role in enhancing the combat effectiveness of unmanned systems. The report aims to present an overview of the development trend in perception and control technology for intelligent unmanned systems, covering background, significance, research status, challenges and key technologies. The concept, advantages and status of intelligent unmanned systems based on actual combat scenarios are introduced firstly, and the typical examples of unmanned combat equipment across air, land, water and underwater domains are reviewed. Secondly, driven by the challenges faced by intelligent unmanned systems in demanding battlefields such as complex environment, intense confrontations, real-time response and incomplete information, critical technologies on environment-perception, decision-making, swarm-collaboration and human-computer interaction are elaborated in the report. Finally, the trend of intelligent unmanned systems is summarized and prospected.

Yaonan Wang is an Academician of Chinese Academy of Engineering, and an expert in robotic and intelligence control. He is serving as a professor of Hunan University and the director of National Engineering Research Center of RVC. He is currently a member of China Association for Science and Technology, the President of China Society of Image and Graphics, a CAA Fellow (Chinese Association of Automation), a CCF Fellow (Chinese Computer Federation Fellow) and a CAAI Fellow (Chinese Association for Artificial Intelligence Fellow), the vice chairman of the council of China Artificial Intelligence Robot Industry Alliance, a member of the Expert Advisory Committee of the National Natural Science Foundation of China, a standing director of CAA, a supervisor of CAAI, a member of the executive committee of Artificial Intelligence and Block Chain Technology in Ministry of Education, and the chairman of the council of Hunan Association of Automation. He was the specialist in intelligent robot area of "863 Plan", and the chief scientist of EU Fifth Framework International Cooperation Major Project. He has long been engaged in research and teaching work of robot perception, control

technology and engineering application. He won 1 second prize of the National Technological Invention Award, 4 second prizes of the National Science and Technology Progress Award, and 12 first prizes of the provincial/ministerial level award. Moreover, he has published more than 200 papers indexed by SCI, published 15 scientific books, obtained more than 90 invention parents, and cultivated more than 80 doctoral students. He has won the national millions of talent project, outstanding humboldt scholar, the honorary titles of outstanding backbone teachers of national colleges and universities, national May 1st labor medal, national advanced worker, national innovation competition award, and advanced individual in the construction of national teaching materials.

大会报告 VI (Plenary Speech VI)

Time: 09:10-09:50, August 11, 2024
Venue: Room Xingsha Hall 05+06, 3rd Floor
(长沙国际会议中心 3 层 星沙厅 05+06)
Chair: Zhaoxu Yang 杨朝旭

Orinithopter Vector Control by Micro-Motion Mechanism

Professor Zongxia Jiao 焦宗夏
Academician of Chinese Academy of Engineering
National Key Laboratory of Aircraft Integrated Flight Control, BUAA

Abstract

Flapping wings generate propulsion, lift and control forces simultaneously，acting as a periodic vector generator. Birds, insects, have achieved enviable flight efficiency and maneuverability through this flap-generated vector, which is completely different from traditional aircraft that relies on control surfaces deflection. In this talk, typical mechanisms and control methods of artificial flapping-wing aircraft will be analyzed, followed by our recent research progress in the aerodynamic design, flapping mechanism, servo control, etc. of long-endurance large-scale flapping-wing aircraft and small sparrow flapping-wing aircraft, as well as relative applications in military and civilian fields.

Zongxia Jiao, Academician of Chinese Academy of Engineering. Obtained his doctoral degree from Zhejiang University in 1991 and served as a visiting professor at Hamburg University of Technology in Germany in 2000. He is currently a professor at the School of Automation Science and Electrical Engineering, Beihang University, and holds the position of Chief Professor of Mechatronic Engineering. He is also the Director of the Beihang Innovation Center for Aviation airborne system and the Dean of Beihang Ningbo Innovation Research Institute. He is the Executive Director and Director of the Fluid Control Branch of the Chinese Society of Mechanical Engineering, as well as the Executive Director and Honorary Director of the Electromechanical Branch of the Chinese Society of Aeronautics and Astronautics. He has been engaged in research on aircraft electromechanical systems and flight control systems, and has achieved multiple original results in the areas of electro-hydraulic control theory and core components/devices. He has made great progresses in field of high-reliability hydraulic systems, servo actuators, high-safety aircraft brakes. He has been awarded 2 second-class National Technical Invention Awards, 1 second-class National Science and Technology Progress Award, and 3 first-class Ministerial and Provincial-Level Science and Technology Awards (all ranked first). He has been granted more than 80 invention patents, published over 400 papers, and has been cited over 3000 times in SCI. He has been selected as a highly cited scholar by Clarivate Analytics for four consecutive years. He was awarded the Ho Leung Ho Lee Foundation Science and Technology Progress Award in 2016 and the National Innovation Medal in 2020.

总师论坛

Chief Designer Forum

Subject(X)＝GNC 在 X 工程实践中的诀窍

(X∈航空 or 航天 or 航海)

Subject (X)＝The Know-how of GNC in X Engineering Practice

(x ∈ Aeronautics or Astronautics or Marine)

Time: 10:10-11:50, August 11, 2024

Venue: Room Xingsha Hall 05+06, 3rd Floor

(长沙国际会议中心 3 层 星沙厅 05+06)

Chair: Yingxun Wang 王英勋

制导、导航与控制(Guidance, Navigation and Control, GNC)作为核心中枢，在航空、航天、航海等领域发挥重要作用，并有着广阔的发展前景。本论坛邀请来自于航空、航天、航海领域的5位知名总师将分享他们在各领域中有关GNC在典型工程中问题的解决之道，即有效解决某问题的诀窍，可能只是捅破一层窗户纸。来自一线总师们的倾情讲述和与现场互动，将向大家揭示GNC工程创新中蕴含的哲学和科学道理。

Guidance, Navigation and Control (GNC) is the key technology for movement objects applied in aeronautics, astronautics, and marine. This forum invites five well-known Chief Designers from the fields of aeronautics, astronautics, and marine to share their good ideas to effectively solve any typical engineering and technical problems related to GNC in their research field. The wonderful presentation and on-site interaction of the front-line Chief Designers will reveal the philosophy and scientific principle contained in the GNC engineering innovation.

About the Chair

Professor Yingxun Wang 王英勋

Beihang University, China

Yingxun Wang is a professor and doctoral supervisor in Beihang University, Beijing, China. He is the council member of China Society of Aeronautics and Astronautics, the director of UAV system professional group in China AOPA UAV professional committee, and the appointed representative of UAV driver. He used to be director of UAV Office in Aviation Industry Corporation of China (AVIC). He is engaged in autonomous control of UAV, key model development and project management, and served as the deputy chief designer and chief designer. He has obtained IPMP senior project manager qualification and INCOSE Certified System Engineer lecturer. He won the first prize of national science and technology progress (R3), the outstanding young engineer of Beijing, the pacesetter of economic and technological innovation of Beijing, and the gold medal of AVIC.

Current Status and Trends of Commercial Aircraft Navigation Control Systems

Yong Chen 陈勇

Commercial Aircraft Corporation of China, Ltd.

Abstract

As a core technology product in the civil aviation market, jet airliners are not only the key to open the global aircraft market, but also an important business card that reflects the economic and technological strength of a major country. This report reviews the development history of domestic jet airliners. Taking ARJ21 as an example, it elaborates on the navigation control system of jet airliners and introduces the development and derivative types of ARJ21 from the perspective of the entire life cycle. Then, combined with the future development requirements of commercial aircraft, the future technical development direction of jet airliners is discussed, including supersonic passenger aircraft, electric flight, single-pilot, unmanned driving, prediction and health management, visual navigation technology, etc., laying the foundation for the occupation of the future competitive track of jet airliners.

Yong Chen, Chief Designer of ARJ21 Aircraft, graduated from Northwestern Polytechnical University in 1988 with a major in aircraft design. He worked in Xi'an Aircraft Design Institute and Shanghai Aircraft Design Institute (later Shanghai Aircraft Design Research Institute) and has been engaged in the general aerodynamic design and avionics system design of aircraft. He has been engaged in the development of major national equipment such as JH-7 series, Y-7-200A, KJ-xxxx, and xx projects.

Since 2004, he has been engaged in the design of China's first jet airliner ARJ21 aircraft. He has led the team to work hard for 20 years, and for the first time conquered the design verification of international airworthiness regulations for jet airliners, and for the first time realized the industrialization and serialization of domestic jet airliners, and realized the first step of the three-step development of large aircraft in China. He is one of the pioneers of China’s large aircraft industry.

Chen Yong established the technical and airworthiness foundations for the successful development and certification of C919, as well as for the smooth development of C929, and cultivated a team of talents in scientific research, production, and service of large aircraft. He led the team to overcome the difficulties of industrialization and large-scale safe operation of domestic jet airliners, and achieved the annual production capacity of 50 ARJ21 aircraft/each production line, delivered 139 aircraft, operated more than 110 cities and 566 routes. 430,000 hours of safe flight, cumulatively carrying 14.44 million passengers. In particular, it was the first time in China to achieve full coverage operation of Xinjiang, and the world's first jet regional airliner opened up the high-difficulty route of the Taxkorgan Plateau, where is a Higher Plateau Airport. It was the first time that domestic jet airliners were exported overseas, and exported to Indonesia to open the Jakarta-Kuala Lumpur route. It was also the first time that domestic jet airliners were operated overseas, and the China-Russia route and China-Central Asia passenger and cargo routes were opened. At the same time, Chen Yong led the team to overcome the difficulties of serialization and multi-purpose of domestic jet airliners, and

successfully developed and certified domestic jet cargo aircraft, jet command aircraft, jet medical aircraft, and jet business aircraft for the first time in China, and is developing the first jet firefighting aircraft. He explored the way forward for the high-quality development of domestic civil aircraft.

Chen Yong won one first prize in the National Science and Technology Progress Award, ranking first. He has won three provincial and ministerial first prizes, all of which ranked first. He has been awarded the title of the first batch of the National Ten Thousand Talents Program, the National May 1st Labor Medal, the Third National Award for Excellence in Innovation Medal, and the First National Engineer Awards.

Research on Key Technologies for Autonomous Take-off and Landing of Large Aircraft

Weiping Yang 杨卫平

AVIC Xi'an Flight Automatic Control Research Institute

Abstract

The construction of smart civil aviation, characterized by the application of new generation information technology, is gradually becoming the leading trend of the new round of aviation development. As one of the key technologies to enhance the autonomy, intelligence and economy of aircraft, the maturity of fully automatic takeoff and landing technology for civil large aircraft is steadily improving. The existing automatic landing of civil aircraft relies on the ground precision guidance system, e.g. ILS/GLS/MLS, which has the problems of high maintenance cost and insufficient autonomy. This report adopts the multi-source information fusion method with vision as the main navigation source, comprehensively utilizes airborne navigation sources such as multi-band cameras, inertial navigation systems, dual-frequency multi-constellation satellite receivers and radio altimeters, proposes an inertial/visual/DFMC/RA multi-source fusion navigation architecture based on distributed fusion, and carries out research on high-performance and robust visual runway detection based on artificial intelligence, INS/DFMC combined navigation design and evaluation, inertial/visual combination and integrity design, RA-assisted vertical navigation enhancement and other methods. It has achieved high-precision, high-integrity, high-safety and high-availability navigation capabilities, provided navigation guidance capability support for fully automatic takeoff and landing, enhanced the safety and operational efficiency of large aircraft, and helped to improve the market competitiveness of domestic large aircraft.

Weiping Yang, born in 1972, a doctor of engineering, a researcher, and graduated from the major of Optoelectronic Engineering at BUAA. He is currently the Director of GNC Industrial Machinery Division, Director of FACRI, Vice President of CSIT, Standing Director of CSAA; Deputy director of GNC Branch, CSAA, Deputy director of Electromechanical, Human & Environmental Engineering Branch, CSAA.

Yang Weiping has achieved independent research and development of aviation navigation systems, making outstanding contributions to aviation navigation guidance and control in China. Yang has won the National Science and Technology Progress Award four times, Provincial and Ministerial-Level Science and Technology awards fifteen times and published more than 20 papers in journals or conferences.

Development Statues and Prospects of Rotary Modulation Optical Inertial Navigation for Missiles

Xin Zheng 郑辛

China Aerospace Science and Industry Corporation (CASIC)

Abstract

In modern warfare, resisting enemy electronic interference is crucial to victory. How to ensure that all kinds of weapons can hit far and accurately under strong electromagnetic interference, and put forward higher requirements for inertial navigation (INS): On one hand, there is a requirement for higher precision in INS, and on the other, a demand for reduced size and cost, enabling widespread and affordable use across various types of weapons. As the current mainstream autonomous navigation method for various weapons, optical inertial navigation systems must achieve order-of-magnitude improvements in precision while being developed under stringent size and cost constraints. This is a critical consideration in weapons development. This paper introduces the concept of rotary modulation intertial navigation for missiles, addresses the key challenges to be resolved, and discusses its implications for the advancement of weapon technology.

Xin Zheng, Deputy Director of the Scientific and Technological Committee at China Aerospace Science and Industry Corporation (CASIC), serves as the Chief Scientist of the Group and holds a Ph.D. in Engineering. He is the leader of a professional group in specific national industry. With extensive experience in research and engineering practice in inertial navigation technology, he has held key positions as a technical lead for several major inertial navigation models and as a Chief Scientist of the 973 Program.

Xin Zheng has overseen the development and large-scale application of multiple optical inertial navigation systems in China, significantly contributing to national security, development interests, and the advancement of the inertial navigation industry. He has received six National Science and Technology Progress Awards, including one Special Prize, one First Prize, and four Second Prizes. Additionally, he has been selected for the "511 Talent Project" and the "Ten Thousand Talents Program," and has been honored with various accolades such as the "State Council Government Special Allowance," the "National Innovation Excellence Award," and the "Qian Xuesen Outstanding Contribution Award."

GNC 国家级教学名师论坛

GNC National-level Model Teacher Forum

GNC 教育创新与实践

Innovation and Practice of GNC Education

Time: 09:00-11:30, August 9, 2024

Venue: Room Xingsha Hall 01, 3rd Floor

(长沙国际会议中心 3 层 星沙厅 01)

Chairs: Tao Zhang 张涛

科技创新，教育为本。制导、导航与控制（GNC）学科的创新人才培养是我国在GNC领域蓬勃发展的重要基础和关键。本届制导、导航与控制教学名师论坛非常荣幸地邀请了来自国内著名高校的3位国家级教学名师作特邀报告，国家教学名师们将与我们分享现代GNC教育中的新模式、新理念和新方法，以及他们在教育实践中的宝贵经验和体悟。

Education is to last for the scientific and technological innovation generations. The cultivation of innovative talents in the discipline of guidance, navigation and control (GNC) plays a significant role in the vigorous development of GNC in China. GNC Model Teacher Forum invites three national model teachers to share the innovation patterns, concepts and methodologies in modern GNC education, as well as their valuable experience and understanding in educational practice.

About the Chair

Professor Tao Zhang 张涛

Deputy Dean of School of Information Science and Technology

Head of Department of Automation

Tsinghua University

Tao Zhang, PhD, Professor, Deputy Dean of School of Information Science and Technology, Head of Department of Automation, Tsinghua University. He is a member of Electronic Science and Technology Committee of Ministry of Industry and Information Technology, Invited Expert of Ministry of Science and Technology. He is IEEE/IET/AAIA/CAA Fellow, Member of IFAC Technical Committee of Robotics, AIAA member, Technical Editor of IEEE/ASME Transactions on Mechatronics, Associate Editor of IEEE Transactions on Automation Science and Engineering, Associate Editor of IEEE Robotics and Automation Letters. He is a council member of Chinese Association of Automation, a council member of Chinese Association for Artificial Intelligence, a council member of China Simulation Federation, director of Education Committee of Chinese Association of Automation, a member of Guidance, Navigation and Control Branch of Chinese Society of Aeronautics and Astronautics. The main research fields are robotics, artificial intelligence, navigation and control, etc. He has presided over or participated in more than 30 research projects, such as national 863 projects, national 973 projects and National Natural Science Foundation. More than 200 papers have been published in the past decade. He has published more than 10 academic monographs, translated works and edited textbooks, and obtained more than 30 domestic authorized invention patents. He has won the National Teaching Achievement award, Graduate Teaching Achievement Award of China Academic Degree and Graduate Education Association, Education Achievement Award of Chinese Association of Automation, Beijing Teaching Achievement Award, Natural Science Award of Ministry of Education, Beijing Science and Technology Progress Award, Military Science and Technology Progress Award, Natural Science

Award of Chinese Association of Automation and Electronic Information Science and Technology Award of Chinese Institute of Electronics, etc

Establishing a Professional Course Ecosystem to Facilitate Outstanding Individual Achievement

Professor Shangchun Fan 樊尚春
Beihang University

Abstract

In the face of diverse societal demands for professional talents and the personalized requirements of students' individual growth, how can professional teachers leverage their strengths and specialties to timely integrate their experiences and achievements in technological innovation into education? This becomes a crucial issue that must be addressed for the high-quality development of higher education. To this end, the report proposes strategies and measures for establishing a professional course ecosystem. Taking the example of the construction of the course system for instrumentation at Beihang University, the report details the process of refining the core course "Sensor Technology and Applications" to provide students with a rich and high-quality teaching resource practice through the organized progression of the "course chain," "course tree," and "course forest" within the instrumentation course ecosystem. It also briefly introduces the stage achievements in assisting students' individual growth and achieving outstanding individual achievement.

Shangchun Fan is a professor of Instrument Science and Technology, which is a national first-class key discipline at Beihang University, and a doctoral supervisor. He is a recipient of the National "Ten Thousand Talents Program" Teaching Master, Baogang Outstanding Teacher Special Award, Special Allowance from the State Council, and serves as the director at the Key Laboratory of Quantum Sensing Technology under the Ministry of Industry and Information Technology. He is also the leader of the Ministry of Education's "Advanced Sensing Technology in Aerospace" innovation team, director of the school's Teaching Guidance Committee, deputy director of the Academic Committee, and a core member of the national university Huang Danian-style teacher team.

The course he is responsible for, "Sensor Technology and Applications," is a national-level boutique course, the first batch of national-level boutique resource-sharing courses, the first batch of national-level first-class undergraduate courses (offline), and the first batch of National-level Ideological and Political Education Exemplary Course.

As the first principal investigator, he has won one National Technical Invention Award and one National Scientific and Technological Progress Award. As the second principal investigator, he has won one National Teaching Achievement Award.

The Application and Exploration of AI in Digital Education

Professor Hong Wang 王红

Tsinghua University

Abstract

With the arrival of the AI era, digitalization in higher education is picking up speed, broadening its scope and deepening its impact. Tsinghua University is at the forefront of this transformation, actively incorporating AI into its educational and teaching framework. In the autumn of 2023, the university launched a pilot project involving eight courses. This initiative includes a course managed by a dedicated team that has been delving into the practical applications of AI in the classroom. There is an eagerness to engage with fellow educators in a dialogue about the exciting opportunities and formidable challenges that the AI era brings to pedagogy and academic instruction.

Hong Wang began her teaching career at Tsinghua University in 1995 and has continued to this day. In 2004, she had the opportunity to work as a visiting scholar at the Massachusetts Institute of Technology (MIT).

Her research is focused on the reliability design and fault diagnosis of electronic circuit systems. Pro. Wang has been honored with prizes for the Military Scientific and Technological Progress Award (Class I /II/ III).

Prof. Wang has also received the National Textbook Construction Award(Class II), the National Teaching Achievements(ClassII), the Teaching Achievements in Beijing(Class I), the Baogang Outstanding Teacher Award, and the Fok Ying-Tung Young Teacher Award, among other accolades.

The Construction and Practice of an International, Diversified, and Intelligent Cultivating System for Innovative Talents in Automation Majors

Professor Chenghui Zhang 张承慧

Shandong University

Abstract

As one of the four disruptive technologies in the 21st century, automation has a huge impact on economic and social development and has great future prospects. The new round of scientific and technological revolution and industrial transformation with artificial intelligence as an important driving force has put forward higher goals and requirements for the cultivation of innovative talents, and the development of automation profession is facing greater challenges in the future. School of Control Science and Engineering of Shandong University focuses on “internationalization of professional construction”, “diversification of talent cultivating” and “intelligent curriculum system”. A unique cultivating model was constructed and formed for new engineering talents in automation majors with the characteristics of Shandong University. It has achieved remarkable results and has been well received by the industry and is known as the "Shanda model". In the past 12 years, it has won the second prize of national teaching achievements for three consecutive years as an independent completion unit. This report focuses on the development process of “internationalization”, “diversification” and “intelligence” of automation majors in Shandong University, and discusses the precipitation process and summary experience of national teaching achievements.

Chenghui Zhang is currently a Chair Professor and the dean of the School of Control Science and Engineering in Shandong University. He received a bachelor's degree and a master's degree from Shandong University of Technology in 1985 and 1988 respectively, and worked at Shandong University of Technology to teach from 1988. He received Ph.D. degree in Operations Research and Cybernetics from Shandong University in 2001; In 2007, he was selected as a national candidate for the "New Century Talents Project"; In 2009, he was selected as a "Changjiang Scholar" distinguished professor of the Ministry of Education of the People's Republic of China and a special expert of "Taishan Scholar" of Shandong Province; Since 2018, he has been the member of Automation Steering Committee of Ministry of Educatioin; In 2019, he is selected as Notional special support program for high-level personnel recruitment; In 2023, he was elected as an IEEE fellow.

GNC 青年科学家论坛

GNC Young Scientist Forum

GNC 领域前沿技术

Frontiering Technologies in GNC

Time: 14:00-17:00, August 9, 2024

Venue: Room Xingsha Hall 01, 3rd Floor

(长沙国际会议中心 3 层 星沙厅 01)

Chair: Bin Jiang 姜斌

青年是科技创新的主力军，为激发青年科技工作者在GNC领域的创新活力，本届国际会议邀请了10位杰出青年才俊，将围绕GNC学科领域的前沿热点和关键技术展开研讨和切磋，为广大青年科技工作者提供一个科技榜样引领示范和高端的GNC学术交流平台。

Youth is the main force of scientific and technological innovation. In order to stimulate the creativity of young scientist in the field of guidance, navigation and control (GNC), this forum invites ten outstanding young scientists to discuss the research focus of frontier fields and key technologies in the field of GNC, which aiming to provide a scientific and technological example demonstration and a high-level GNC academic exchange platform to the young scientists.

About the Chair

Professor Bin Jiang 姜斌

Nanjing University of Aeronautics and Astronautics

Bin Jiang received the Ph.D. degree in Automatic Control from Northeastern University, Shenyang, China, in 1995. He had ever been postdoctoral fellow, research fellow, invited professor and visiting professor in Singapore, France, USA and Canada, respectively. Now he is a Chair Professor of Cheung Kong Scholar Program in Ministry of Education and President of Nanjing University of Aeronautics and Astronautics, China. He serves as Associate Editor or Editorial Board Member for a number of journals such as IEEE Trans. On Cybernetics; IEEE Trans. On Control Systems Technology, Neurocomputing; Journal of Astronautics, etc. He is a Fellow of IEEE, Chair of Control Systems Chapter in IEEE Nanjing Section, a member of IFAC Technical Committee on Fault Detection, Supervision, and Safety of Technical Processes. His research interests include fault diagnosis and fault tolerant control and their applications to helicopters, satellites and high-speed trains. He has been the principle investigator on several projects of National Natural Science Foundation of China. He is the author of 8 books and over 100 referred international journal papers papers. He won Second Class Prize of National Natural Science Award of of China in 2018.

Large-scale Time Sensitive Networking for Smart Aircraft Assembly and Testing

Professor Cailian Chen 陈彩莲

Shanghai Jiao Tong University

Abstract

As a new generation of deterministic networking technology, Time-Sensitive Networking (TSN) enables real-time, reliable, and deterministic transmission of heterogeneous data. How to supporting the ubiquitous sensing, real-time decision-making, and collaborative control of all elements in the smart manufacturing, such as automatic aircraft assembly, has become challenging for the large-scale TSN. In this talk, an industrial field-level flat architecture is discussed based on TSN as the backbone network for smart aircraft assembly and testing. The following techniques are presented: dynamic scalable on-demand adaptive transmission for TSN, deterministic mechanism design for industrial wired/wireless cross-network, and TSN system optimization for sensing-transmission-control collaboration. The correlation feature learning scheme and resource pre-allocation strategy are given for process matching to reduce transmission delay and jitter, and improving communication resource utilization efficiency. TSN gateway devices and the testbed are developed to ensure the performance of heterogeneous data transmission, flexible configuration and dynamic networking of multiple devices.

Cailian Chen received the B. Eng. and M. Eng. degrees in Automatic Control from Yanshan University, P. R. China in 2000 and 2002, respectively, and the Ph.D. degree in Control and Systems from City University of Hong Kong, Hong Kong SAR in 2006. She has been with the Department of Automation, Shanghai Jiao Tong University since 2008. She is now a Distinguished Professor. Prof. Chen's research interests include industrial wireless networks and computational intelligence. She has authored 3 research monographs and over 100 referred international journal papers. She is the inventor of more than 30 patents. She was a recipient of the prestigious IEEE Transactions on Fuzzy Systems Outstanding Paper Award, IEEE TCCPS Industrial Technical Excellence Award, and 5 conference best paper awards. She was awarded N2Women Top Ten Star in Computer Networking and Communications in 2022. She won the Second Prize of National Natural Science Award from the State Council of China in 2018. She was honored "National Outstanding Young Researcher" by NSF of China in 2020, "Changjiang Young Scholar" in 2015 and China Young Women Scientists Award in 2023. She is a Distinguished Lecturer of IEEE VTS. She serves as Deputy Editor of National Science Open, and Associate Editor of IEEE Transactions on Vehicular Technology and IET Cyber-Physical Systems: Theory and Applications.

Control and Optimization of process Industries in the AI Era: Driven by Demand to Promote Intelligent Transformation

Professor Jinliang Ding 丁进良

Northeastern University

Abstract

The control and optimization of process industries in the AI era face enormous challenges. How to meet challenges and achieve the intelligent transformation of control disciplines is a widely concerned issue. From the perspective of the national strategy for intelligent process industry, there is an urgent need for intelligent upgrading and transformation in control and optimization. Driven by the actual demand for industrial intelligence, this report introduces the progress made in combining control and optimization with artificial intelligence. The purpose is to deepen the discussion and broaden our thinking by throwing bricks, and to meet the challenges brought by AI.

Jinliang Ding is currently a Professor with the State Key Laboratory of Synthetical Automation for Process Industries, Northeastern University. He has authored or coauthored over 200 refereed journal and international conference papers, and has invented or coinvented more than 50 patents. His research interests include modeling, plant-wide control and optimization for the complex industrial systems, machine learning, industrial artificial intelligence, computational intelligence, and its application.

Dr. Ding has received numerous awards, including the Young Scholars Science and Technology Award of China (2016), the National Science Fund for Distinguished Young Scholars (2015), the National Technological Invention Award (2013), the Natural Science Award of Liaoning Province (2022), and the First-Prize of Science and Technology Awards from the Ministry of Education in 2006, 2012, and 2018. Additionally, one of his articles in Control Engineering Practice won the Best Paper Award for 2011 – 2013. He also serves as an Associate Editor for IEEE Transactions on Evolutionary Computation, IEEE Transactions on Emerging Topics in Computational Intelligence, and IEEE Transactions on Circuits and Systems II: Express Briefs.

Multi-source Information Fusion for Target Recognition and Tracking

Professor Zhunga Liu 刘准钆

Northwestern Polytechnical University

Abstract

Multi-source information fusion can effectively enhance target recognition and tracking performance. Because of the complex sensing environment, the target observations become quite uncertain, heterogeneous and even conflicting, and this makes the information fusion face great challenge. We will introduce a generalized credal classification model for uncertain data, and it can reveal classification imprecision and reduce error risk thanks to the meta-class. Then, the multi-source heterogeneous data transferred fusion method will be presented for intelligent target recognition, and this can improve recognition rates by taking advantage of the complementary knowledge from different sources. Finally, the maneuvering target tracking and reasoning method will be introduced to stably track the target and correctly predict its intention.

Zhunga Liu received the Bacholar, Master and PhD degrees in control science and engineering from Northwestern Polytechnique University (NPU) respectively. Now he is a professor in School of Automation, NPU. He has published some papers in international journals such as IEEE TPAMI\TCYB\TNNLS. He host several projects like National Natural Science Foundation of China. He is currently serving as an Associate Editor/Editorial Board Member of IEEE Transactions on Systems, Man, and Cybernetics- Systems, International Journal of Approximate Reasoing , and Chinese Journal of Aeronautics. His current research interests mainly focus on multi-source information fusion and target recognition and tracking.

Navigation and Perception Technologies and Applications for Intelligent Unmanned Systems in Complex Scenarios

Professor Jun Luo 罗 均

Chongqing University

Abstract

Perception capability is fundamental for intelligent unmanned systems to understand and interact with their surrounding environment. The advancement of autonomous operation in complex scenarios relies on the continuous enhancement of perception capabilities. Our team has been conducting in-depth research on perception technologies for intelligent unmanned systems in complex scenarios. We have made breakthroughs in key technologies such as structured industrial scene feature perception, dynamic environment perception in the wild, non-cooperative target perception, and low-altitude, slow-moving target perception. We have developed a multi-sensor fusion perception technology system incorporating cameras, LiDAR, infrared sensors, and radar. This has resulted in a series of innovative technological achievements, enabling intelligent unmanned systems to perceive environments and targets in complex scenarios. Examples include precise recognition of welding features by robot welders on the Changtai Yangtze River Bridge, autonomous cross-domain perception and motion planning in unstructured environments by amphibious unmanned vehicles, and detection, identification, and tracking of non-cooperative targets and low-altitude, slow-moving aerial targets such as drones. These technologies serve major national engineering projects and the development of key defense equipment models, and have received multiple awards, including the second prize of the National Science and Technology Progress Award.

Jun Luo is the Dean of the College of Mechanical and Vehicle Engineering at Chongqing University, a Second-Level Professor, and a Ph.D. advisor. He also serves as the Director of the State Key Laboratory of Mechanical Transmission and is the leader of the first national Huang Danian-style faculty team. His primary research areas include robotics technology, trajectory tracking and disturbance rejection control for intelligent unmanned systems, small target perception and recognition, acoustic stealth, and swarm game theory algorithms. Prof. Luo has led over 30 major projects, including key projects funded by the Central Military Commission Science and Technology Committee, the National Key R&D Program, the National 863 Program, major instrument projects and key projects from the National Natural Science Foundation of China, and the National Science Fund for Distinguished Young Scholars. He has published over 280 SCI-indexed papers, received the IEEE Best Paper Award, holds 310 authorized invention patents, and has authored and translated five monographs. His accolades include one Second Prize of the National Technological Invention Award, one Second Prize of the National Science and Technology Progress Award, and five First Prizes in industry and provincial/ministerial science and technology awards.

Collaborative Fault Diagnosis and Fault-Tolerant Control Technologies for Swarm Unmanned Systems

Professor Zehui Mao 冒泽慧

Nanjing University of Aeronautics and Astronautics

Abstract

Swarm unmanned systems are typical distributed networked multi-agent systems that integrate technologies such as perception, communication, computing, control, and optimization. As the scale of swarm systems increases, the task execution time extends, and the on-site environment becomes more variable, the probability of encountering external attacks, interference, and deception leading to faults also rises. Due to the information exchange and transmission within the swarm, faults can spread to neighbors or even the entire swarm systems, affecting the swarm's efficiency and causing immeasurable losses. This talk is going to introduce the fault diagnosis methods under the fault propagation, the task search and allocation problem of remaining healthy unmanned units under the communication distance and delay constraints, as well as fault-tolerant control schemes under the constraints of swarm performance, individual mechanical characteristics, and complex external environments. In addition, some experiments are presented to show the actual unmanned formation.

Zehui Mao received the Ph.D. (Hons.) degree in control theory and control engineering from Nanjing University of Aeronautics and Astronautics, Nanjing China, in 2009. she is currently a Full Professor with the College of Automation Engineering, Nanjing University of Aeronautics and Astronautics. She has published over 80 technical papers in peer-refereed journals and prestigious conference proceedings. She has won the second class prize of National Natural Science of China (rank 4), the first class prize of Natural Science of the Ministry of Education (rank 4), the first class prize of Science and Technology of Jiangsu Provincial (rank 3). She currently serves as an Associate Editor for IEEE Transactions on Industrial Informatics and Neurocomputing, as well as a Youth Editorial Board Member for IEEE/CAA Journal of Automatica Sinica. Her current research interests include the fault diagnosis and fault-tolerant control and their applications in transport and equipment systems.

Highly-Efficient Autonomous Learning for Intelligent Robots

Professor Xin Xu 徐昕

National University of Defense Technology

Abstract

With the increasing demand for various types of robots and unmanned systems in industries such as healthcare and national defense, it is necessary to research and explore efficient autonomous learning theories and methods for intelligent perception and optimization control of robot systems in complex and uncertain environments, reducing reliance on manually labeled samples or actual interactive data. Based on the analysis of relevant technical requirements, the report introduces the research progress of regularized reinforcement learning, abstract model-based deep reinforcement learning, online learning predictive control, and transfer reinforcement learning, as well as several research advances in their application in robot grasping and intelligent vehicle optimization control. Finally, some analysis and outlook are provided for further work.

Xin Xu is currently a full Professor with the College of Intelligence Science and Technology, National University of Defense Technology. He received the National Distinguished Young Scholar Fund from National Natural Science Foundation of China. He has been a Visiting Professor with Hong Kong Polytechnic University, Hong Kong; the University of Alberta, Edmonton, AB, Canada; the University of Guelph, Guelph, ON, Canada; and the University of Strathclyde, Glasgow, U.K., respectively. He has coauthored more than 200 papers in international journals and conferences and coauthored four books. His research interests include reinforcement learning, approximate dynamic programming, machine learning, robotics, and autonomous vehicles. Dr. Xu received the National Excellent Youth Science Foundation of China in 2018, the Fork Ying Tong Youth Teacher Fund of China in 2008 and the Second Class National Natural Science Award of China in 2012. He is also one of the recipients of two 1st-class Natural Science Award of Hunan Province. He is an Associate Editor of IEEE Transactions on Systems, Man, and Cybernetics: Systems, IEEE Transactions on Intelligent Vehicles, Information Sciences, International Journal of Robotics and Automation, etc.

Recent Developments on Prescribed-Time Control by Periodic Delayed Feedback

Professor Bin Zhou 周彬

Harbin Institute of Technology

Abstract

Prescribed-time control has been a hot topic in recent years. Existing prescribed-time control methods are mainly based on time-varying high-gain feedback (THF). However, since an infinite gain is practically impossible to achieve, such kind of controllers are not well-defined at and after the prescribed settling time. Recently, another control scheme capable of achieving prescribed-time stabilization, namely, a periodic delayed feedback (PDF) scheme, was proposed. An appealing feature of the PDF is that the time-varying controller gain is bounded and can be chosen continuous, continually differentiable and even smooth, thereby avoiding the inherent drawbacks of THF. Over the past three years, there have been many interesting and significant developments in the PDF scheme, achieving prescribed-time stabilization of linear delay systems, strict feedback systems and single input normal nonlinear systems. As applications of the proposed methods, the prescribed-time control problems of spacecraft rendezvous control systems, hypersonic vehicle systems and manipulator systems have been investigated. Numerical simulations show the effectiveness of the proposed methods.

Bin Zhou is a Professor of the Department of Control Science and Engineering at the Harbin Institute of Technology. He received the Bachelor's degree, the Master's Degree and the Ph.D. degree from the Department of Control Science and Engineering at Harbin Institute of Technology, Harbin, China in 2004, 2006 and 2010, respectively. His current research interests include time-delay systems, time-varying systems, nonlinear control, multi-agent systems, and control applications in astronautic engineering. He received the National Excellent Doctoral Dissertation Award in 2012 from the Ministry of Education of P.R. China, and was granted the China National Funds for Distinguished Young Scientists on 2021. He is currently an Associate Editor of Automatica, IEEE Transactions on Aerospace and Electronic Systems, IEEE Transactions on Systems, Man and Cybernetics: Systems, International Journal of Robust and Nonlinear Control, European Journal of Control, IET Control Theory & Applications, and Asian Journal of Control.

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Xin Luo	AVIC Chengdu Aircraft Industrial
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851 *A Spatio-Temporal Information Fused Deep Neural Network Method for Anomaly Detection*	
Yufu Wang	Beihang Univ.
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914 *Localization of Targets by Cooperative Aircraft Swarm Using Passive Radar Angle Measurement*	
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Hao Yang	Nanjing Univ. of Aeronautics and Astronautics
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Lingxia Mu	Xi'an Univ. of Technology
Liang Han	Nanjing Univ. of Aeronautics and Astronautics
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Yupeng Jia	Tongji Univ.
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Guofei Li	Northwestern Polytechnical Univ.
14:42-14:50	SatA1.10
1698 *带攻击角约束的自适应固定时间预设性能制导律*	
Tianfeng Li	Northwestern Polytechnical Univ.
Guicai Fang	Aerospace Technology Institute of CARDC
Rui Pan	Xi'an Morden Control Technology Research Institute
Yonghua Fan	Northwestern Polytechnical Univ.
14:50-14:58	SatA1.11
623 *Optimization of SAR Forward-Looking Imaging Trajectory Based on Adaptive Pseudospectral Method*	
Tianjian Sun	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Mingrui Hao	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Hang Zhang	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
14:58-15:06	SatA1.12
762 *Target Association Calibration Method Based on Multi-view Radial Velocity Information*	
Xiaomeng Bai	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Xujun Guan	Beihang Univ.

Ruoning Wang	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation

15:06-15:14 SatA1.13

1142 *An Adaptive Terminal Guidance Law based on Deep Reinforcement Learning*

Qixin Dai	Harbin Institute of Technology
Baoqing Yang	Harbin Institute of Technology
Shiyao Li	Harbin Institute of Technology

15:14-15:22 SatA1.14

1720 *Maneuver Decision Making for Multi-aircraft Air Combat Based on Reinforcement Learning with Attention Mechanism*

Peida Li	Beihang Univ.
Xiaoduo Li	Beihang Univ.
Liang Han	Beihang Univ.

15:22-15:30 SatA1.15

1754 *Time-Varying Formation Optimization Tracking of Multi-Agent Systems with Semi-Markov Switching Topology*

Cuijuan Zhang	Chongqing Univ. of Posts and Telecommunications

SatA2 — 3rd Floor Meeting Room 306

Collaborative GNC — 三层会议室 306

Chairs: Yirui Cong	National Univ.of Defense Technology
Kehao Wang	Wuhan Univ. of Technology

13:30-13:38 SatA2.1

505 *Intelligent Fault Diagnosis of Domain Adversarial Bearings for Fusion Attention Mechanisms Under Varying Working Conditions*

Jiajun Pan	Nanjing Univ. of Aeronautics and Astronautics
Ke Zhang	Nanjing Univ. of Aeronautics and Astronautics
Bin Jiang	Nanjing Univ. of Aeronautics and Astronautics
Lihao Ye	Nanjing Univ. of Aeronautics and Astronautics
Jinfa Xu	National Key Laboratory of Helicopter Aeromechanics

13:38-13:46 SatA2.2

511 *Nonlinear MPC-based Fault-tolerant Tracking Control of a Quadrotor with Actuator Faults*

Yupeng Shu	Shanghai Univ.
Yihuan Jin	Shanghai Aerospace Control Technology Institute,
Kuan Li	Shanghai Aerospace Control Technology Institute,
Jing Zhao	Shanghai Microsate Engineering Center
Chun Liu	Shanghai Univ.
Hongtian Chen	Shanghai Jiao Tong Univ.

13:46-13:54 SatA2.3

1246 *Fast Estimation of Relative Transformation Based on Fusion of Odometry and UWB Ranging Data*

Yuan Fu	Shanghai Univ.
Zheng Zhang	Shanghai Univ.
Guangyang Zeng	The Chinese Univ. of HongKong
Chun Liu	Shanghai Univ.
Junfeng Wu	The Chinese Univ. of HongKong
Xiaoqiang Ren	Shanghai Univ.

13:54-14:02 SatA2.4

338 *Deep Reinforcement Learning-Based Multi-Task Planning for Integrated Detection, Communication, and Jamming Electronic Systems*

Kehao Wang	Wuhan Univ. of Technology
Zhe Cheng	Wuhan Univ. of Technology

14:02-14:10 SatA2.5

587 *A Comprehensive Security Testing Method for Intelligent System*

Zhendong Wu	National Key Laboratory of Science and Technology on Information System Security
Ming Zhang	National Key Laboratory of Science and Technology on Information System Security
Hu Li	National Key Laboratory of Science and Technology on Information System Security

14:10-14:18 SatA2.6

609 *Collaborative Task Allocation Method for Heterogeneous Unmanned Platforms*

Zhengkai Lu	National Univ. of Defense Technology
Nan Wang	National Univ. of Defense Technology
Jie Huang	National Univ. of Defense Technology
Huajie Hong	National Univ. of Defense Technology

14:18-14:26 SatA2.7

617 *Model-Free Adaptive Iterative Learning Control Based on Sliding Mode Feedback for Nonlinear Systems with Backlash Input*

Xingxing Zhou	China Univ. of Mining and Technology
Yanhao Zhang	China Univ. of Mining and Technology
Jianguo Dong	Southeast Univ.
Xiaona Liu	China Univ. of Mining and Technology
Tianyu Yu	China Univ. of Mining and Technology
Yumeng Zhong	China Univ. of Mining and Technology

14:26-14:34 SatA2.8

883 *An Improved Algorithm for UAV Video Object Detection Based on Spatiotemporal Correlation*

Zihao Zhou	National Univ. of Defense Technology
Xianguo Yu	National Univ. of Defense Technology
Xiangke Wang	National Univ. of Defense Technology

14:34-14:42 SatA2.9

1167 *An Unmanned Aerial Vehicle Height Estimation Method: Based on Set-Membership Filter and Constrained Zonotope*

Cheng Li	National Univ. of Defense Technology
Xujie Qin	National Univ. of Defense Technology
Yute Xiao	National Univ. of Defense Technology
Liuhao Sheng	National Univ. of Defense Technology

14:42-14:50 SatA2.10

1199 Predefined-time Guiding Vector Fields for Robot Motion via Time Base Generators

Junlong Wu	South China Univ. of Technology
Weijia Yao	Hunan Univ.
Jian Yang	South China Univ. of Technology
14:50-14:58	SatA2.11

1283 Formation Control and Ellipsoidal Outer-Bounding Set-Membership Filtering of Multi-UAV Systems: An Integrated Design

Yating Lai	Northwestern Polytechnical Univ.
Yaru Chen	National Univ. of Defense Technology
Jianlin Chen	Northwestern Polytechnical Univ.
Zhihong Liu	National Univ. of Defense Technology
Yu Ding	National Univ. of Defense Technology
Yute Xiao	National Univ. of Defense Technology
14:58-15:06	SatA2.12

643 Cross-standard code defect identification and AST-based template-driven automated repair methods

Tianyi Guan	Beihang Univ.
Yongfeng Yin	Beihang Univ.
Qingran Su	Beihang Univ.
Ruinan Qiu	Beihang Univ.
15:06-15:14	SatA2.13

172 A Method for Modeling and Deploying Kill Web

Pei Chi	Beihang Univ.
Chen Liu	Beihang Univ.
Jiang Zhao	Beihang Univ.
Kun Wu	Beihang Univ.
Yingxun Wang	Beihang Univ.
15:14-15:22	SatA2.14

175 Evaluation of Cluster Target Sensing and Tracking Algorithms

Jiang Zhao	Beihang Univ.
Shukun Chen	Beihang Univ.
Pei Chi	Beihang Univ.
Yan Ma	Beijing Institute of Control & Electronics Technology
Guangyi Wang	Northwestern Polytechnical Univ.
Yingxun Wang	Beihang Univ.
15:22-15:30	SatA2.15

211 Evaluation of Cluster Region Search and Route Planning Algorithms

Yuhan Liu	Beihang Univ.
Jiang Zhao	Beihang Univ.
Pei Chi	Beihang Univ.
Jiang Lou	Xi'an Modern Control Technology Research Institute
Yingxun Wang	Beihang Univ.

SatA3 **3rd Floor Meeting Room 307**

Swarm GNC **三层会议室 307**

Chairs: Jie Li	National Univ.of Defense Technology
Yangguang Yu	National Univ.of Defense Technology
13:30-13:38	SatA3.1

203 IMM-based ballistic retracing method for the boost-phase of ballistic vehicles

Yinghe Zhou	Northwestern Polytechnical Univ.
Jun Zhou	Northwestern Polytechnical Univ.
Jianguo Guo	Northwestern Polytechnical Univ.
13:38-13:46	SatA3.2

523 Formation control of multiple unmanned surface vehicles based on dynamic deadband intermittent event-triggered strategy

Xinyu Xing	Harbin Engineering Univ.
Peng Li	Harbin Engineering Univ.
Yang Xu	Northwestern Polytechnical Univ.
13:46-13:54	SatA3.3

566 3D Route Planning of Unmanned Aerial Vehicles in Dense and Complex Urban Environment

Guoxin Zhou	Jilin Institute of Chemical Technology
Ting Liu	Jilin Institute of Chemical Technology
Yang Xu	Northwestern Polytechnical Univ.
13:54-14:02	SatA3.4

573 融合信息图的优化哈里斯鹰多无人机动态目标搜索

Ting Liu	Jilin Institute of Chemical Technology
Guoxin Zhou	Jilin Institute of Chemical Technology
Yang Xu	Northwestern Polytechnical Univ.
Delin Luo	Xiamen Univ.
Zhengyu Guo	Chinese Airborne Missile Academy
14:02-14:10	SatA3.5

878 Dual-domain high-precision tracking control for PMLSMs

Xuchen Wang	Fudan Univ.
Yu Jin	Fudan Univ.
Yang Xu	Northwestern Polytechnical Univ.
Xiaofeng Yang	Fudan Univ.
Yuping Liu	Fudan Univ.
14:10-14:18	SatA3.6

1459 Integrated Navigation Algorithm for High-Dynamic Aircraft Based on Launch Point North-Up-East Frame

Ying He	China Aerospace Science and Industry Corporation Limited
Shanshan Wei	Guizhou Police College
14:18-14:26	SatA3.7

1597 Finite-time bearing-based formation maneuver control of quadrotor UAVs

Yuanchun Ren	AVIC First Aircraft Design and Research Institute
Xuchen Wang	Fudan Univ.
Yang Xu	Northwestern Polytechnical Univ.
14:26-14:34	SatA3.8

199 Decoupling Control for a Flying-Wing Aircraft Based on Linear Extended State Observer

Mian Wu	Beihang Univ.
Jia Song	Beihang Univ.
Yunlong Hu	Beihang Univ.

Mingfei Zhao	Beihang Univ.
14:34-14:42	SatA3.9

281 *Multi-Object Tracking with Graph-aided Structure Correction and Motion Prediction*

Peiqi Liu	Beihang Univ.
Wenling Li	Beihang Univ.
14:42-14:50	SatA3.10

651 *Leader-Follower Consensus Control of Cyber-Physical Systems under Asynchronous DoS Attacks*

Hangwu He	Beihang Univ.
Yang Liu	Beihang Univ.
14:50-14:58	SatA3.11

1671 *Local Path Planning of Unmanned Surface Vehicle based on Improved DWA Algorithm*

Chenjia Ji	Harbin Engineering Univ.
Lanyong Zhang	Harbin Institute of Technology
14:58-15:06	SatA3.12

770 *Elliptical multi-orbit circumnavigation control of UAVs in three-dimensional space depending on angle information only*

Zhen Wang	Northeastern Univ.
Yannan Li	Northeastern Univ.
15:06-15:14	SatA3.13

1499 *Cascaded Optimization-based Motion Planning for Dual-UAV Transportation System*

Jinjiang Gao	Nankai Univ.
Zhaopeng Zhang	Nankai Univ.
Tengfei Pei	Nankai Univ.
Xiao Liang	Nankai Univ.
Jianda Han	Nankai Univ.
15:14-15:22	SatA3.14

1695 *Finite-Time Cooperative Moving-Target Circumnavigating Control of Multiple Nonholonomic Robots*

Yannan Li	Northeastern Univ.
Yanhong Luo	Northeastern Univ.
Zhen Wang	Northeastern Univ.
15:22-15:30	SatA3.15

886 *Assisted Integrated Navigation System Based on CNN-BiGRU Model during GNSS Outage*

Xuebin Zhuang	Sun Yat-sen Univ.
Ben Niu	Sun Yat-sen Univ.
Liwei Xie	Sun Yat-sen Univ.
Xiaohui Zeng	Sun Yat-sen Univ.
Bolin Zhang	Sun Yat-sen Univ.

SatA4	**3rd Floor Meeting Room 309**
Confrontation GNC	**三层会议室 309**
Chairs: Chen Fan	National Univ.of Defense Technology
Tongqiao Miao	National Univ.of Defense Technology
13:30-13:38	SatA4.1

278 *Model predictive controller design for discrete singular systems based on state decomposition method*

Jiajun Wang	Anhui Normal Univ.
Wenbin Chen	Anhui Normal Univ.
Runzhang Zhang	Anhui Normal Univ.
Xuyang Yuan	Anhui Normal Univ.
Fang Gao	Anhui Normal Univ.
13:38-13:46	SatA4.2

436 *Load frequency control of multi-area power system in network environment*

Ziran Chen	Qufu Normal Univ.
Yifan Tian	Qufu Normal Univ.
Hongtao Sun	Qufu Normal Univ.
Cheng Tan	Qufu Normal Univ.
13:46-13:54	SatA4.3

485 *Fixed-Time Stabilization Control for Stochastic Single-Link Robot Arm Systems*

Zhuosheng Kuang	Nanjing Univ. of Science and Technology
Zhicheng Wei	Nanjing Univ. of Science and Technology
Huifang Min	Nanjing Univ. of Science and Technology
13:54-14:02	SatA4.4

546 *An Improved BI-RRT* Algorithm for AGV Path Planning*

Linxiao Leng	Nanjing Univ. of Science and Technology
Qian Ma	Nanjing Univ. of Science and Technology
Peng Jin	Nanjing Univ. of Science and Technology
Guopeng Zhou	Wuhan Textile University
14:02-14:10	SatA4.5

671 *Networked Control Systems Event Triggering Control Based on Markov Random Packet Loss Under DoS Attack*

Qian Ding	Jiangsu Univ. of Technology
Bo Li	Jiangsu Univ. of Technology
Youwu Du	Jiangsu Univ. of Technology
Junjie Zhao	Jiangsu Univ. of Technology
14:10-14:18	SatA4.6

664 *Distributed UAVs Noncooperative Game: A Predefined Time Approach*

Meijie Geng	China Univ. of geosciences
Huafeng Ding	China Univ. of geosciences
Xiangyu Yao	China Univ. of geosciences
Chenbo Ding	Air Force Engineering Univ.
14:18-14:26	SatA4.7

799 *Micro-thruster Fault Classification of Drag-free Spacecraft Using Deep Neural Network*

Zhibo Liang	Beihang Univ.
Xiaodong Shao	Beihang Univ.
Yongxia Shi	Nanyang Technological Univ.
Qinglei Hu	Beihang Univ.
Yonghe Zhang	Innovation Academy for Microsatellites, CAS
Pengcheng Wang	Innovation Academy for Microsatellites, CAS
14:26-14:34	SatA4.8

1025 *基于战术场景状态的近距空战对抗策略研究*

Dongchang Li	Beijing Institute of Technology
Chao Xia	Chengdu Aircraft Design and Research Institute
Li Mo	Beijing Institute of Technology
Maolong Lv	Air Force Engineering Univ.
Linhua Cai	Chengdu Aircraft Design and Research Institute
14:34-14:42	SatA4.9

1038 *Adaptive prescribed-time formation control of surface vehicles using dynamic surface method*

Ping Wang	Southern Univ. of Science and Technology
Chengpu Yu	Beijing Institute of Technology
Maolong Lv	Air Force Engineering Univ.
14:42-14:50	SatA4.10

347 *Target allocation of small UAVs for coordinated strike considering payload constraints*

Xujing Wang	Air Force Engineering Univ.
Duo Qi	Air Force Engineering Univ.
Xingyu He	Air Force Engineering Univ.
Xiaoyue Ren	Air Force Engineering Univ.
Jirui Tang	Air Force Engineering Univ.
14:50-14:58	SatA4.11

354 *Switched Observer-Based Distributed Consensus Control for Multiagent Nonlinear Systems under DoS Attacks*

Yang Du	Qingdao Univ. of Science and Technology
Liting Lu	Qingdao Univ. of Science and Technology
Yaxi Wu	Xidian Univ.
Dongmei Wang	Qingdao Univ. of Science and Technology
Jing Li	Xidian Univ.
Maolong Lv	Air Force Engineering Univ.
Qixuan Yin	Air Force Engineering Univ.
14:58-15:06	SatA4.12

795 *Learning-based Drag-free and Attitude Control of Spacecraft with State Constraints*

Haoran Li	Beihang Univ.
Xiaodong Shao	Beihang Univ.
Qinglei Hu	Beihang Univ.
Yonghe Zhang	Innovation Academy for Microsatellites, CAS
Pengcheng Wang	Innovation Academy for Microsatellites, CAS
15:06-15:14	SatA4.13

1686 *Robot Manipulator Tracking Control on Basis of Iterative Sequential Action Control*

Hanwen Zhang	Central South Univ.
Guanhua Huang	Central South Univ.
Zeyang Yin	Central South Univ.
Caisheng Wei	Central South Univ.
Yongfang Xie	Central South Univ.
15:14-15:22	SatA4.14

1690 *Classification and verification Assessment Methods for Unmanned Swarm Autonomous Coordination Capabilities*

Chubing Guo	The 20th Research Institute of China Electronics Technology Group Corporation
Lulu Zhao	The 20th Research Institute of China Electronics Technology Group Corporation
Sule Wang	The 20th Research Institute of China Electronics Technology Group Corporation
Zhigang Wang	The 20th Research Institute of China Electronics Technology Group Corporation
Hao Wu	The 20th Research Institute of China Electronics Technology Group Corporation
Xing Zhang	The 20th Research Institute of China Electronics Technology Group Corporation
15:22-15:30	SatA4.15

1288 *Multi-UAV Target Coverage Path Planning using Attention Neural Networks*

Guodong Yang	Univ. of Science and Technology of China
Shaofeng Chen	Univ. of Science and Technology of China
Yang Cao	Univ. of Science and Technology of China

SatA5	**3rd Floor Meeting Room 310**
Optimization GNC	**三层会议室 310**
Chairs: Ziquan Yu	Nanjing Univ. of Aeronautics and Astronautics
Ning Sun	Beihang Univ.
13:30-13:38	SatA5.1

434 *Towards Intelligent Fault-Tolerant Attitude Control of Fixed-Wing Aircraft*

Alex B.Zongo	Tsinghua Univ.
Qing Li	Tsinghua Univ.
13:38-13:46	SatA5.2

869 *Non-initial value fault-tolerant prescribed performance control for small fixed-wing UAVs with actuator faults*

Bo Huang	Henan Polytechnic Univ.
Zhonghua Wu	Henan Polytechnic Univ.
13:46-13:54	SatA5.3

559 *Cloud Manufacturing Resource Allocation Considering Task Occupancy*

Junjie Zhu	Nanjing Univ. of Aeronautics and Astronautics
Ziquan Yu	Nanjing Univ. of Aeronautics and Astronautics
Ting Wang	Nanjing Univ. of Aeronautics and Astronautics
Youmin Zhang	Concordia Univ.

Bin Jiang	Nanjing Univ. of Aeronautics and Astronautics
13:54-14:02	SatA5.4

571 *Small Target Detection Algorithm Based on Lightweighted YOLOv5*

Shaowei Cao	Xi'an Univ. of Technology
Lingxia Mu	Xi'an Univ. of Technology
Youmin Zhang	Concordia Univ.
Ban Wang	Northwestern Polytechnical Univ.
Yulong Zhang	Xi'an Univ. of Technology
Xianghong Xue	Xi'an Univ. of Technology
14:02-14:10	SatA5.5

577 *Adaptive Fault-Tolerant Control for Multi-UAVs with Time-varying Communication Delay on Markov Random Packet Loss Under DoS Attack*

Liang Han	Nanjing Univ. of Aeronautics and Astronautics
Ziquan Yu	Nanjing Univ. of Aeronautics and Astronautics
Yuehua Cheng	Nanjing Univ. of Aeronautics and Astronautics
Lingxia Mu	Xi'an Univ. of Technology
Youmin Zhang	Concordia Univ.
14:10-14:18	SatA5.6

578 *Optimized Backstepping Control for Spacecraft Formation Flying Using Bearing Measurements*

Mengna Li	Nanjing Univ. of Aeronautics and Astronautics
Ziquan Yu	Nanjing Univ. of Aeronautics and Astronautics
Lingxia Mu	Xi'an Univ. of Technology
Youmin Zhang	Concordia Univ.
14:18-14:26	SatA5.7

1269 *Relationship Learning Based Robot Navigation in Crowd Environment*

Yu Zhai	China Univ. of Mining and Technology
Libing Zhou	Tiandi Automation Co., Ltd
Xiaojing Chen	Tiandi Automation Co., Ltd
Yanzi Miao	China Univ. of Mining and Technology
14:26-14:34	SatA5.8

1316 *Multi-agent Cluster Target Coverage Control Based on Hierarchical Planning*

Jinxuan Shi	Shanghai Jiao Tong Univ.
Zhe Liu	Shanghai Jiao Tong Univ.
Kefan Jin	Shanghai Jiao Tong Univ.
14:34-14:42	SatA5.9

1467 *A study on frontal lobe hemodynamics in SCD and MCI patient by fNIRS*

ChuanYu Zhu	Soochow Univ.
Haoming Wu	Soochow Univ.
Mingyun Wang	Soochow Univ.
Chao Liu	Soochow Univ.
14:42-14:50	SatA5.10

1468 *Fusing Multiple Maps into Error-Bounded Segmented VIO: Preliminary Study*

Chenyang Wan	Zhejiang Univ.
Zhuqing Zhang	Zhejiang Univ.
Rong Xiong	Zhejiang Univ.
Yue Wang	Zhejiang Univ.
14:50-14:58	SatA5.11

1531 *Scene Graph-Enhanced Embodied Decision Making for Autonomous Object Search*

Yachao Wang	Shandong Univ.
Yinchuan Wang	Shandong Univ.
Jin Liu	Shandong Univ.
Chaoqun Wang	Shandong Univ.
Xiang Zhang	Shandong Univ.
14:58-15:06	SatA5.12

1712 *Non-cooperative Target Tracking Control for Video Satellites Based on Genetic Algorithm*

Chenglong Wang	National Univ. of Defense Technology
Caizhi Fan	National Univ. of Defense Technology
Haibo Song	National Univ. of Defense Technology
Zikai Zhong	National Univ. of Defense Technology
Yongqiang Zhang	Beijing Institute of Tracking and Telecommunications Technology
15:06-15:14	SatA5.13

984 *RSO-based autonomous navigation for satellites with optical observation*

Yanxin Yi	Univ. of Science and Technology of China
Haibo Ji	Univ. of Science and Technology of China
15:14-15:22	SatA5.14

1429 *Hemostatic Robot Control Based on Reinforcement Learning From Human Feedback*

Zhen Chen	Shenzhen Institute of Advanced Technology, CAS
Na Li	Shenzhen Institute of Advanced Technology, CAS
Fangmin Sun	Shenzhen Institute of Advanced Technology, CAS
Chunyang Li	Shenzhen Institute of Advanced Technology, CAS
Ye Li	Shenzhen Institute of Advanced Technology, CAS
Chunling Fan	Shenzhen Institute of Advanced Technology, CAS
15:22-15:30	SatA5.15

1584 *A Hybrid Model for EEG Decoding: Integrating*

Transformer and Multi-Dimensional Convolution

Guangyu Yang	Shenyang Institute of Automation, CAS
Jinguo Liu	Shenyang Institute of Automation, CAS

SatA6	**3rd Floor Meeting Room 311**
Knowledge-driven GNC	**三层会议室 311**
Chairs: Dapeng Zhou	AVIC Shenyang Aircraft Design and Research Institute
Lanbo Wu	Beihang Univ.
13:30-13:38	SatA6.1

931 *基于滑模观测器和动态逆技术的舰载机直接升力控制*

Chong Zhen	AVIC Shenyang Aircraft Design and Research Institute
Xinyu Feng	AVIC Shenyang Aircraft Design and Research Institute
13:38-13:46	SatA6.2

934 *基于知识引导智能优化的舰载机着舰控制*

Dapeng Zhou	AVIC Shenyang Aircraft Design and Research Institute
Xiaolei Qu	Northwestern Polytechnical Univ.
13:46-13:54	SatA6.3

976 *Research on Dynamic Inverse Direct Lift Carrier Based Landing Control Method Based on Online Aerodynamic Identification*

Zeyu Jin	Dalian Univ. of Technology
Zhibing Zhang	AVIC Shenyang Aircraft Design and Research Institute
Dapeng Yang	AVIC Shenyang Aircraft Design and Research Institute
Shuaibin An	Dalian Univ. of Technology
13:54-14:02	SatA6.4

1002 *Modeling and Longitudinal Adaptive Tracking Control for Sweep-Variation Hypersonic Vehicles*

Yanqi Feng	Sun Yat-Sen Univ.
Zhigang Wu	Sun Yat-Sen Univ.
Shuo Pan	AVIC Shenyang Aircraft Design and Research Institute
Xiaoye Bi	AVIC Shenyang Aircraft Design and Research Institute
Jian-wen Zang	Dalian Univ. of Technology
Guan Wang	Dalian Univ. of Technology
14:02-14:10	SatA6.5

1040 *Research on an Offline and Online Hybrid Intelligent Optimization Landing Control Method on Markov Random Packet Loss Under DoS Attack*

Guoqing Wang	Dalian Univ. of Technology
Bing Chu	AVIC Shenyang Aircraft Design and Research Institute
Haitong Zhou	AVIC Shenyang Aircraft Design and Research Institute
Hailiang Feng	AVIC Shenyang Aircraft Design and Research Institute
14:10-14:18	SatA6.6

1063 *基于 PER-SAC 的舰载机着舰复飞操纵策略研究*

Zhibing Zhang	AVIC Shenyang Aircraft Design and Research Institute
Xingjia Wang	AVIC Shenyang Aircraft Design and Research Institute
Tinghui Yuan	Nanjing Univ. of Aeronautics and Astronautics
14:18-14:26	SatA6.7

1100 *Investigation on Intelligent Dynamic Inverse Control Method for Hypersonic Vehicle*

Jianan Qin	Dalian Univ. of Technology
Weidong Yu	AVIC Shenyang Aircraft Design and Research Institute
YanHong Lu	AVIC Shenyang Aircraft Design and Research Institute
Wenya Zhou	Dalian Univ. of Technology
Shuaibin An	Dalian Univ. of Technology
14:26-14:34	SatA6.8

1406 *Prescribed Performance-based Adaptive Sliding Mode Maneuvering Guidance Method with Energy Boundary*

Zhe Dong	Dalian Univ. of Technology
Dapeng Zhou	AVIC Shenyang Aircraft Design and Research Institute
Weining Huang	AVIC Shenyang Aircraft Design and Research Institute
Zhenwei Wang	Dalian Univ. of Technology
14:34-14:42	SatA6.9

1444 *Observer-based Adaptive Dynamic Programming for Tracking Control of Haptic Manipulator*

Junhui Liu	Northwestern Polytechnical Univ.
Xiaolong Duan	Northwestern Polytechnical Univ.
Hanlin Dong	Northwestern Polytechnical Univ.
Zhiqiang Ma	Northwestern Polytechnical Univ.
14:42-14:50	SatA6.10

618 *Bipartite Consensus Control of Multi-Agent Systems with Region-Dependent Intermittent Communication*

RuoTong Wang	Dalian Minzu Univ.
Jian Sun	Dalian Minzu Univ.
JianXing Zhang	Dalian Minzu Univ.
XueYan Ding	Dalian Minzu Univ.
GuoPeng Wang	Dalian Minzu Univ.
Yanming Wu	Shenyang Aerospace Univ.
14:50-14:58	SatA6.11

1594 *切换拓扑下无人机集群的分布式预设时间自适应跟踪控制*

Ji Ma	Linyi Univ.
Xiangyong Chen	Linyi Univ.
Guanghui Wen	Southeast Univ.
Feng Zhao	Linyi Univ.
Long Cheng	Linyi Univ.

Jianlong Qiu	Linyi Univ.
14:58-15:06	SatA6.12

1650 *Virtual-Pheromone-Aware Path Planning for Collaborative Patrolling on Road Networks*

Yan Zhang	Northwestern Polytechnic Univ.
Panfeng Huang	Northwestern Polytechnic Univ.
Fan Zhang	Northwestern Polytechnic Univ.
15:06-15:14	SatA6.13

1707 *A Real-time Optimization and Control Platform for Analysis of Gas-Steam Combined Cycle Cogeneration System*

Xi Chen	Inspur Group Co., Ltd
Chao Wang	Inspur Group Co., Ltd
Qingshan Chen	Inspur Group Co., Ltd
Yue Wang	Inspur Group Co., Ltd
Fei Wang	Inspur Group Co., Ltd
Houbo He	Inspur Group Co., Ltd
15:14-15:22	SatA6.14

662 *基于遗传算法和径向基函数神经网络的测试用例自动生成方法研究*

Yongyi Liu	AVIC Shenyang Aircraft Design and Research Institute
Hao Liu	AVIC Shenyang Aircraft Design and Research Institute
Qi Zhang	AVIC Shenyang Aircraft Design and Research Institute
Ting Wang	AVIC Shenyang Aircraft Design and Research Institute
15:22-15:30	SatA6.15

855 *Active Disturbance Rejection-based Nonsingular Terminal Sliding Mode Control for UAV under Wind Environments*

Yeguang Wang	AVIC Shenyang Aircraft Design and Research Institute
Shipeng Wang	AVIC Shenyang Aircraft Design and Research Institute
Yang Zhang	AVIC Shenyang Aircraft Design and Research Institute

SatA7	**3rd Floor Meeting Room 312**
Safety GNC	**3层会议室 312**
Chairs: Di Liu	Beihang Univ.
Qiang Fu	Univ. of Science and Technology Beijing
13:30-13:38	SatA7.1

220 *Biological Eagle-Eye-Based Infrared Small Target Detection and Recognition*

Jiaxu Liu	University of Science and Technology Beijing
Qiang Fu	University of Science and Technology Beijing
Zhijie Liu	University of Science and Technology Beijing
Chunhua Zhang	Automation Research Institute Co. Ltd. of China South Industries Group Corporation
Wei He	University of Science and Technology Beijing
13:38-13:46	SatA7.2

594 *Composite Event-triggered Model Predictive Control for Constrained Perturbed Discrete Systems*

Zhigang Luo	Beihang University
Bing Zhu	Beihang University
13:46-13:54	SatA7.3

899 *Impact Angle Constraint Guidance Law of Air-based Aircraft Based on Power Reaching Law and Considering Input Saturation*

Ruiqi Liu	Beijing Institute of Technology
Wenlong Yang	Test and Measuring Academy of China North Industries Group Corporation
Kuanrong Hu	Northwest Industries Group Company Ltd.
Shiyu Zhang	Beijing Institute of Technology
Wei Wang	Beijing Institute of Technology
13:54-14:02	SatA7.4

1631 *Image-Based prescribed performance control for quadrotor to track an unknown target*

Bingjin Liu	Beijing Institute of Technology
Yi Huang	Beijing Institute of Technology
14:02-14:10	SatA7.5

259 *Flight Quality Constraint Based AFTC Strategy for Near Space Vehicle with New Type Dissimilar Redundant Actuation System*

Jun Wang	Beijing Institute of Automatic Control Equipment
Jian Huang	Beijing Institute of Automatic Control Equipment
Fan Zhang	Beijing Institute of Automatic Control Equipment
Weikang Li	Beijing Institute of Automatic Control Equipment
14:10-14:18	SatA7.6

402 *Design and trajectory planning of 6-DOF reconfiguration parallel platform*

Fan Zhang	Beijing Institute of Automatic Control Equipment
Jian Huang	Beijing Institute of Automatic Control Equipment
Jun Wang	Beijing Institute of Automatic Control Equipment
Xijian Huo	Beijing Institute of Automatic Control Equipment
Xiangyu Liu	Beijing Institute of Automatic Control Equipment
14:18-14:26	SatA7.7

906 *Multi-parameter Step-by-Step Identification of Permanent Magnet Synchronous Motor*

Hongyu Gu	Beijing Institute of Automatic Control Equipment
ZhaoKai Zhang	Beijing Institute of Automatic Control

	Equipment
Jian Huang	Beijing Institute of Automatic Control Equipment
Zhiyi Song	Beijing Institute of Automatic Control Equipment
Zhijia Cheng	Beijing Institute of Automatic Control Equipment
14:26-14:34	SatA7.8

1369 *Switching control logic for dual-redundancy electro-hydrostatic actuator*

Siming Fan	Beihang University
Chaofan Tu	China Tianjin Navigation Instrument Research Institute
Xingjian Wang	Beihang University
Haoran Zhai	China Tianjin Navigation Instrument Research Institute
Yingjun Hu	China Tianjin Navigation Instrument Research Institute
Di Liu	Beihang University
Qiyang Wang	Beihang University
14:34-14:42	SatA7.9

1551 *Dynamic hysteresis self-adaptive control of amplified piezoelectric actuators for complex operating conditions*

Xiao Wu	Tianmushan Laboratory
Taike Yao	AECC Aero Engine Control System Institute
Xingjian Wang	Tianmushan Laboratory
Di Liu	Tianmushan Laboratory
Shaoping Wang	Tianmushan Laboratory
Yaoxing Shang	Tianmushan Laboratory
14:42-14:50	SatA7.10

635 *Research on the Control Mode Design of Direct Lift Glide Trajectory Based on Dynamic Inverse Control Method*

Hao Li	AVIC First Aircraft Design and Research Institute
LeTian Zhao	AVIC First Aircraft Design and Research Institute
Junhong Zhang	AVIC First Aircraft Design and Research Institute
Hang Chen	AVIC First Aircraft Design and Research Institute
Shimin Liu	AVIC First Aircraft Design and Research Institute
Wei Zhang	AVIC First Aircraft Design and Research Institute
14:50-14:58	SatA7.11

580 *Simulation and Control of Aircraft High Angle of Attack Stall Spin Based on Bifurcation Analysis Results*

Zhouhang Wei	Northwestern Polytechnical University
Jingping Shi	Northwestern Polytechnical University
Yongxi Lyu	Northwestern Polytechnical University
Shan Huang	Northwestern Polytechnical University
14:58-15:06	SatA7.12

191 *Design of a Configurable Generic Architecture for Unmanned Aerial Vehicle Flight Control System Application Software*

Xin Liu	AVIC First Aircraft Design and Research Institute
Delong Cui	AVIC First Aircraft Design and Research Institute
Man Xia	AVIC First Aircraft Design and Research Institute
Xuan Yang	AVIC First Aircraft Design and Research Institute
Yuxiang Zhang	AVIC First Aircraft Design and Research Institute
Jingang Shi	Xi'an Jiaotong University
15:06-15:14	SatA7.13

295 *Feedback mechanism and controller design for lateral control of Propulsion-Controlled Aircraft*

Lei Gong	AVIC First Aircraft Design and Research Institute
Shuguang Zhang	Beihang University
Feihong Jiang	AVIC First Aircraft Design and Research Institute
Junhong Zhang	AVIC First Aircraft Design and Research Institute
Wenjing Hei	AVIC First Aircraft Design and Research Institute
15:14-15:22	SatA7.14

362 *UML-Based IVMS Redundancy Monitoring Modeling*

Beilei Yang	AVIC First Aircraft Design and Research Institute
Junhong Zhang	AVIC First Aircraft Design and Research Institute
Yuxiang Zhang	AVIC First Aircraft Design and Research Institute
15:22-15:30	SatA7.15

606 *A Real-Time Jumping-flying Trajectory Generation Method for the Jumping Quadrotor*

Xiaopeng Huang	Sun Yat-sen University
Hui Cheng	Sun Yat-sen University

SatA8	**3rd Floor Meeting Room 313**
Aerospace GNC	**三层会议室 313**
Chairs: Yuanlong Zhang	National Univ.of Defense Technology
Xinyu Liao	Central South University
13:30-13:38	SatA8.1

581 *Three Dimensional Guidance for Enclosing a Stationary Target in Arbitrary Specified Planes*

Haoge Jiang	Beijing Institute of Technology
Jianan Wang	Beijing Institute of Technology
Kewei Xia	Beijing Institute of Technology
Fuxiang Liu	Beijing Institute of Technology
13:38-13:46	SatA8.2

826 *Distributed Model Predictive Control Method for Multi-*

Spacecraft System Near Asteroids

Leqin Zhou	Beijing Institute of Technology
Kewei Xia	Beijing Institute of Technology
Jianan Wang	Beijing Institute of Technology
13:46-13:54	SatA8.3

971 *Multi-UAV Cooperative Detection and Assignment algorithm on Multiple targets based on Genetic Algorithm*

Yihong Zhan	Beijing Institute of Technology
Changyu Bi	Beijing Institute of Technology
Haoge Jiang	Beijing Institute of Technology
Yu Cao	Beijing Institute of Technology
Xiumin Li	Beijing System Design Institute of Electro-Mechanical Engineering
Jianan Wang	Beijing Institute of Technology
13:54-14:02	SatA8.4

1223 *Nonsingular Predefined-time Control with Dynamic Parameter and its Application on Visual Target Tracking of UAVs*

Yanting Huang	Beijing University of Technology
ChenGuang Han	Beijing University of Technology
Honggui Han	Beijing University of Technology
14:02-14:10	SatA8.5

183 *Data-driven Formation Control of Multiple Uncertain Hypersonic Vehicles*

Ming Cheng	Beihang University
Hao Liu	Beihang University
Qing Gao	Beihang University
Haibin Duan	Beihang University
14:10-14:18	SatA8.6

592 *高超声速变形飞行器时间协同再入滑翔制导律*

Xiang Li	Beihang University
Wanchun Chen	Beihang University
Liang Yang	Beihang University
14:18-14:26	SatA8.7

1174 *Robust Cooperative Control for Heterogeneous Multi-agent System with Uncertain Communication Links*

Deyuan Liu	Beihang University
Zeng Zhao	Beijing Electro-Mechanical Engineering Institute
Hao Liu	Beihang University
Haibo Gu	Beihang University
Shangheng Li	Beihang University
Ruitao Fan	Beihang University
14:26-14:34	SatA8.8

1354 *一种支持预警时效调节的异常检测模型评估方法*

Xu Gao	Harbin Institute of Technology
Baoling Ning	Heilongjiang University
Wenbo Li	Beijing Institute of Control Engineering
14:34-14:42	SatA8.9

167 *A scale adaptive tracking algorithm based on feature point fitting*

Xizhong Yang	Science and Technology on Avionics Integration Laboratory
Ling Zhang	Nanjing University of Aeronautics and Astronautics
Yongrong Sun	Nanjing University of Aeronautics and Astronautics
14:42-14:50	SatA8.10

313 *Quadrotor Trajectory Tracking Based on Adaptive Backstepping Active Disturbance Rejection Control*

Xin Zhao	Nanjing University of Aeronautics and Astronautics
Tianyu Luo	Nanjing University of Aeronautics and Astronautics
Qianli Ma	Nanjing University of Aeronautics and Astronautics
Xue Wang	Nanjing University of Aeronautics and Astronautics
14:50-14:58	SatA8.11

502 *Multi-source Fusion Navigation Method for Aerospace Vehicles Based on Adaptive Factor Graph*

Huiyu He	Nanjing University of Aeronautics and Astronautics
Zhi Xiong	Nanjing University of Aeronautics and Astronautics
Jun Kang	Nanjing University of Aeronautics and Astronautics
XinRui Zhang	Nanjing University of Aeronautics and Astronautics
14:58-15:06	SatA8.12

619 *DQN-Optimized MPC for Spacecraft Rendezvous and Docking*

Xue Gao	Nanjing University of Aeronautics and Astronautics
Bing Hua	Nanjing University of Aeronautics and Astronautics
15:06-15:14	SatA8.13

790 *Fault-Tolerant IMU Array Fusion Algorithm Based on Error Similarity Weighting*

Wentao Gao	Nanjing University of Aeronautics and Astronautics
Jizhou Lai	Nanjing University of Aeronautics and Astronautics
Pin Lyu	Nanjing University of Aeronautics and Astronautics
Rui Liu	Nanjing University of Aeronautics and Astronautics
Xin Sun	Nanjing University of Aeronautics and Astronautics
Jing Xu	Nanjing University of Aeronautics and Astronautics
15:14-15:22	SatA8.14

989 *面向巨星座态势感知的小规模星座优化设计*

Yi Jiang	Nanjing University of Aeronautics and Astronautics
Yunhua Wu	Nanjing University of Aeronautics and Astronautics
Yuhe Mao	Nanjing University of Aeronautics and

	Astronautics
15:22-15:30	SatA8.15

1427 *高精度旋转调制惯导系统在高纬度海区航行（极区导航）中的应用*

Weiping Yang	AVIC Xi'AN Flight Automatic Control Research Institute
Lu Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Guoliang Yang	AVIC Xi'AN Flight Automatic Control Research Institute

SatA9	**3rd Floor Meeting Room VIP 01**
Recognition GNC	**三层会议室 VIP 01**
Chairs: Bing Cui	Beijing Institute of Technology
Ganghui Shen	Northwestern Polytechnical Univ.
13:30-13:38	SatA9.1

1058 *Vision-Inertial Fusion Navigation for Autonomous Landing Navigation of Large Aircraft*

Jiahe Shen	AVIC Xi'AN Flight Automatic Control Research Institute
Xiaodong Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Yazhou Yue	AVIC Xi'AN Flight Automatic Control Research Institute
Qi Zhou	AVIC Xi'AN Flight Automatic Control Research Institute
Nan Liu	AVIC Xi'AN Flight Automatic Control Research Institute
Shu Wang	AVIC Xi'AN Flight Automatic Control Research Institute
13:38-13:46	SatA9.2

892 *Magnetometer compensation for magnetic interference in aircraft maneuvers by using INS*

Guanjie Wang	AVIC Xi'an Flight Automatic Control Research Institute
Yazhou Yue	AVIC Xi'an Flight Automatic Control Research Institute
Jiahang Dong	AVIC Xi'an Flight Automatic Control Research Institute
Qi Zhou	AVIC Xi'an Flight Automatic Control Research Institute
Haoming Wang	AVIC Xi'an Flight Automatic Control Research Institute
Jingjiang Wang	AVIC Xi'an Flight Automatic Control Research Institute
Haofeng Jiang	AVIC Xi'an Flight Automatic Control Research Institute
13:46-13:54	SatA9.3

1023 *A Precision Evaluation Method for Initial Alignment Algorithm of Rotating Inertial Navigation System*

Zhu Jin	AVIC Xi'AN Flight Automatic Control Research Institute
Jingwen Huang	AVIC Xi'AN Flight Automatic Control Research Institute
Weiping Yang	AVIC Xi'AN Flight Automatic Control Research Institute
Liu Gao	AVIC Xi'AN Flight Automatic Control Research Institute
Zhaozi ZU	AVIC Xi'AN Flight Automatic Control Research Institute
13:54-14:02	SatA9.4

357 *On Target Recognition of Cone Sleeve Based on Aggregation Refinement Network*

Xiaoping Chen	University of Electronic Science and Technology of China
Zhenyu Zhou	University of Electronic Science and Technology of China
Chi Gao	Avic Chengdu Aircraft Design and Research Institute
Rui Hong	University of Electronic Science and Technology of China
Tiancai Wan	Avic Chengdu Aircraft Design and Research Institute
Yuyao Xie	Chengdu Plane Technology Co., Ltd
14:02-14:10	SatA9.5

1317 *Analysis on the effect of the aerial refueling cone sleeve on atmospheric data measurements*

Yukai Feng	Chengdu Aircraft Design and Research Institute
Shuangshuang Yang	Chengdu Aircraft Design and Research Institute
Yi Guo	Chengdu Aircraft Design and Research Institute
Saihu Pu	Chengdu Aircraft Design and Research Institute
14:10-14:18	SatA9.6

222 *NPU-OM: Non-cooperation Pursuit-evasion Universal-frame of Orbital Maneuver: a Case Study of rolling prediction Game Control*

Wenjuan Li	Northwestern Polytechnical University
Shuoheng Ma	Northwestern Polytechnical University
Yuxin Li	Northwestern Polytechnical University
Yaoyao Guo	Northwestern Polytechnical University
Ximing Zhang	Xi'an Institute of Optics and Precision Mechanics of CAS
Hanlin Dong	Northwestern Polytechnical University
Bo Zhang	Aerospace System Engineering Shanghai
Zhiqiang Ma	Northwestern Polytechnical University
Panfeng Huang	Northwestern Polytechnical University
14:18-14:26	SatA9.7

1240 *Real-time Collision Detection Algorithm with Redundancy based on Intention and Trajectory Prediction*

Jialong Yang	Beijing Institute of Technology
Zhen He	Beijing Institute of Technology
Zhongqi Sun	Beijing Institute of Technology
Yuanqing Xia	Beijing Institute of Technology
Changkun Du	Intelligent Science & Technology Academy Limited of CASIC
14:26-14:34	SatA9.8

1481 *Fixed-time Sliding Mode Control for the Deployment of Space Tethered System with Input Saturation*

Xiaolei Li	Harbin Institute of Technology
Baizheng Huan	Harbin Institute of Technology
Qixin Kui	Harbin Institute of Technology
Peng Cheng	Harbin Institute of Technology
14:34-14:42	SatA9.9

312 *Predefined-time control for Mars entry vehicle under uncertainties*

Yifan Liu	Northwestern Polytechnical University
Lijing Gong	Northwestern Polytechnical University
Haidong Hu	Beijing Institute of Control Engineering
Ganghui Shen	Northwestern Polytechnical University
Weijian Zhao	Northwestern Polytechnical University
Sijie Wen	Northwestern Polytechnical University
Zhiqiang Ma	Northwestern Polytechnical University
Panfeng Huang	Northwestern Polytechnical University
14:42-14:50	SatA9.10

443 *RGB-D SLAM in indoor Dynamic Environment Based on Instance Segmentation*

Jingxuan Xiang	ChongQing University
Yujuan Wang	ChongQing University
Ruping Ceng	ChongQing University
Qing Chen	ChongQing University
Ziguo Liu	ChongQing University
Zheng Zhou	ChongQing University
Qing Zhang	ChongQing University
Yufan Wang	ChongQing University
14:50-14:58	SatA9.11

626 *Improved algorithm of RRT path planning and the application in complex environment*

Le Chang	Beijing Aerospace Times Laser Inertial Technology Company，Ltd
Dongyang Zhang	Beijing Aerospace Times Laser Inertial Technology Company，Ltd
Yueling Dai	Beijing Aerospace Times Laser Inertial Technology Company，Ltd
Chao Yang	Beijing Aerospace Times Laser Inertial Technology Company，Ltd
14:58-15:06	SatA9.12

761 *Research on nonlinear dynamic modeling and vibration response simulation of laser inertial measurement damping system*

Xingfa Zhao	Nanjing University of Science and Technology
Wenhe Liao	Nanjing University of Science and Technology
Le Chang	Beijing Aerospace Times Laser Inertial Technology Company, Ltd
Dongyang Zhang	Beijing Aerospace Times Laser Inertial Technology Company, Ltd
Chao Yang	Beijing Aerospace Times Laser Inertial Technology Company, Ltd
15:06-15:14	SatA9.13

961 *Constrained disturbance rejection control design of drag-free spacecraft for test mass capture*

Shiji Zhang	Beijing Institute of Technology
Guotao Zhao	Beijing Institute of Technology
Qianjiao Xu	Beijing Institute of Technology
Bing Cui	Beijing Institute of Technology
Pengcheng Wang	Innovation Academy for Microsatellites, Chinese Academy of Sciences
Yuanqing Xia	Beijing Institute of Technology
15:14-15:22	SatA9.14

1114 *Design of Satellite Virtual Test Platform Based on Co-simulation*

Jin Li	Institute of Remote Sensing Satellite, China Academy of Space Technology
Hejie Sun	Institute of Remote Sensing Satellite, China Academy of Space Technology
Qiong Ling	Institute of Remote Sensing Satellite, China Academy of Space Technology
15:22-15:30	SatA9.15

1450 *基于动态传感器的无人机平面搜索研究*

Haochen Yang	Northwestern Polytechnical University
Aijun Li	Northwestern Polytechnical University
Yong Guo	Northwestern Polytechnical

	University
SatA10	**3rd Floor Meeting Room VIP 02**
Precision GNC	**三层会议室 VIP 02**
Chairs: Tianqing Liu	National Univ.of Defense Technology
Jian Yang	South China University Of Technology
13:38-13:46	SatA10.1

223 *Multidisciplinary Design Optimization for Launch Vehicle with Solid Motors based on Sensitivity Analysis*

Jia Zheng	Beihang Univ.
Wanchun Chen	Beihang Univ.
Qi Yu	Beihang Univ.
13:46-13:54	SatA10.2

1042 *Attitude Control Design of Bi-Copter Using Incremental Nonlinear Dynamic Inversion Approach*

Jia Zheng	Beihang Univ.
Wanchun Chen	Beihang Univ.
Qi Yu	Beihang Univ.
13:54-14:02	SatA10.3

1374 *Fault Diagnosis of the Satellite Attitude Control System Based on Tradaboost*

Luxuan Li	Beihang Univ.
Xurui Bao	Beihang Univ.
Yan Yang	Beihang Univ.
Hua Song	Beihang Univ.
14:02-14:10	SatA10.4

1031 *Ultrasound Channel Attention-Full Resolution Residual Network for Local Sound Speed Estimation*

Yihang Wei	Beihang Univ.
Shangchun Fan	Beihang Univ.
Peng Liu	Tianjin Univ.
Chujian Ren	Beihang Univ.
Zihao Wang	Beihang Univ.
Xiaolei Qu	Beihang Univ.
14:10-14:18	SatA10.5

1284 *A Dynamic Magnetometer Calibration Algorithm based on IEKF state observers*

Meng Yang	Beihang Univ.
Xinmiao Teng	CNPC Engineering Technology Research and Development Company Limited
Liexin Peng	CNPC Engineering Technology Research and Development Company Limited
Lingling Wang	Beihang Univ.
Li Fu	Beihang Univ.
Kang Guan	CNPC Engineering Technology Research and Development Company Limited
Xin Xiong	CNPC Engineering Technology Research and Development Company Limited
14:18-14:26	SatA10.6

383 *Addressing the AX=YB Problem in Trajectory Alignment for Precision Analysis*

Baozhen Nie	Beihang Univ.
Zhihao Cai	Beihang Univ.
Jiang Zhao	Beihang Univ.
Yingxun Wang	Beihang Univ.
14:26-14:34	SatA10.7

1190 *A neural network-based method for online prediction of aircraft landing distance*

Xi Huang	Beihang Univ.
Sipeng Song	AVIC Xi'AN Flight Automatic Control Research Institute
Xinxin Wang	Beihang Univ.
Qingxian Li	Beihang Univ.
Pengyuan Qi	Beihang Univ.
14:34-14:42	SatA10.8

1322 *Composite Disturbance Separation and Utilization-Based Maneuver Control for Spacecrafts With Reaction Wheel Errors*

Hao Teng	Beihang Univ.
Yaokun Lu	Beihang Univ.
Jianzhong Qiao	Beihang Univ.
Lei Guo	Beihang Univ.
14:42-14:50	SatA10.9

1178 *Iterative Covariance Steering for Stochastic Atmospheric Entry Trajectory Optimization*

Wenjie Su	Beihang Univ.
Haichao Gui	Beihang Univ.
Rui Zhong	Beihang Univ.
14:50-14:58	SatA10.10

916 *Integrated Control of High Dynamic Position and Attitude for Micro Unmanned Aerial Vehicles*

Bo Zhang	Beihang Univ.
Zhihao Cai	Beihang Univ.
Jiang Zhao	Beihang Univ.
Yingxun Wang	Beihang Univ.
14:58-15:06	SatA10.11

426 *On-orbit Servicing Mission Planning Based on Greedy Strategy Genetic Algorithm*

Yabo Hao	Beihang Univ.
Wenbo Dai	Beihang Univ.
Shenggang Liu	Beihang Univ.
Ming Xu	Beihang Univ.
Xue Bai	Beihang Univ.
15:06-15:14	SatA10.12

427 *Multi-satellite Imagine Mission Planning Algorithm Based on Improved Dynamic Programming Algorithm*

Yabo Hao	Beihang Univ.
Wenbo Dai	Beihang Univ.
Shenggang Liu	Beihang Univ.
Ming Xu	Beihang Univ.
Xue Bai	Beihang Univ.
15:14-15:22	SatA10.13

732 *Collision Risk Quantification Method for Trajectories with Uncertainty*

Zhanwei Hu	Beihang Univ.
Fengzhe Zhang	Beijing Institute of Astronautical

	Systems Engineering
Jinyong Chen	Beihang Univ.
Rui Zhou	Beihang Univ.
15:22-15:30	SatA10.14

1532 *Design and Control Method of Biomimetic Gill Side Window Actuator for Ducted Fan UAV*

Youhuizi Lu	Beihang Univ.
Xinyu Cai	Beihang Univ.
Zhen Dong	Hangzhou Innovation Institute
Xiao Zhang	Beihang Univ.

SatA11 **3rd Floor Aisle**

Poster Session 1 **三层廊厅**

Chairs: Bin Jiang Nanjing Univ. of Aeronautics and Astronautics

Youmin Zhang Concordia Univ.

13:30-15:30	SatA11.1

1184 *Self-Organized Reynolds Swarms of Unmanned Aerial Vehicles in Dense Environments*

Yaozu Ding	Tiangong Univ.
Hui Xiong	Tiangong Univ.
Xiuzhi Shi	Tiangong Univ.
Jinzhen Liu	Tiangong Univ.
Yimei Chen	Tiangong Univ.
Jiaxing Wang	AVIC Shenyang Aircraft Design and Research Institute
13:30-15:30	SatA11.2

131 *Trajectory control of car-like vehicles and altitude control o quadrotors with variable loads under air-ground specific tasks*

Lei Cui	Tianjin Univ.
13:30-15:30	SatA11.3

1320 *A Modified Fixed-Time Terminal Sliding Mode Controller Wit Extended State Observer for USVs Trajectory Tracking*

Kaiwei Zhu	Peking Univ.
Shihan Kong	Peking Univ.
Ruifeng Fan	Peking Univ.
Chenghua Li	Guangzhou Shenghui Cleaning Service Co., Ltd
Junzhi Yu	Peking Univ.
13:30-15:30	SatA11.4

1337 *Reconfiguration Control for Ground and Aerial Robots withi Underground Tunnel Environment*

Kenan Yong	Nanjing Univ. of Aeronautics and Astronautics
Mou Chen	Nanjing Univ. of Aeronautics and Astronautics
13:30-15:30	SatA11.5

1361 *Simulation and analysis of high and low temperatur characteristics of airborne gas-liquid hybrid energy systems*

Hongjun Pang	Qingan Group .,Co., Ltd
Weijuan Zheng	Qingan Group .,Co., Ltd
13:30-15:30	SatA11.6

156 *Mode logic design of the autothrottle system for civil aircraft considering take-off and go around scenarios*

Hui Shao	Commercial Aircraft Corporation of China
Kezhi Zhang	Commercial Aircraft Corporation of China
Feng Yue	Commercial Aircraft Corporation of China
13:30-15:30	SatA11.7

1725 *An Off-Axle Full-Trailer Vehicle Control Method Based on Adaptive LQR*

Guochen Niu	Civil Aviation Univ. of China
Hui Xia	Civil Aviation Univ. of China
Dandan Hu	Civil Aviation Univ. of China
13:30-15:30	SatA11.8

421 *Multi-UAV Collaborative Search Decision Making via Consensus-Based Potential Game*

Daifeng Zhang	Qilu Univ. of Technology
Jiliang Zhang	Taishan College of Science and Technolog
13:30-15:30	SatA11.9

465 *Design of Active Disturbance Rejection Controller for UA Aerial Refueling Based on Hybrid Pigeon-inspired Optimizatio Algorithm with Marine Predators*

Jiawei Gong	AVIC Shenyang Aircraft Design and Research Institute
Yanming Fan	Graduate School of Chinese Aeronautical Establishment
13:30-15:30	SatA11.10

541 *Aerodynamic Parameter Online Identification Based o LSTM-BP Hybrid Network*

Yutao Zhuang	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Mingrui Hao	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
13:30-15:30	SatA11.11

691 *A consensus sliding mode formation control of multiple fixed wing UAVs for autonomous aerial refueling*

Tieli Niu	Northwestern Polytechnical Univ.
Ban Wang	Northwestern Polytechnical Univ.
Ni Li	Northwestern Polytechnical Univ.
Youmin Zhang	Concordia Univ.
Lingxia Mu	Xi'an Univ. of Technology
Jiangtao Huang	China Aerodynamics Research and Development Center
Xin Du	China Aerodynamics Research and Development Center
13:30-15:30	SatA11.12

696 *Dynamic Path Planning for AUV Based on Improved Doubl DQN Algorithm under Ocean Environment*

Yujing Yang	Harbin Engineering Univ.
Enjiao Zhao	Harbin Engineering Univ
Yuxin Zhao	Harbin Engineering Univ
13:30-15:30	SatA11.13

715 *Dynamic Event-Triggered Distributed Optimal Control o Nonlinear Multi-Agent Systems Based on Integral Reinforcemen*

Learning

Ying Xu	Liaoning Univ. of Technology
Kewen Li	Liaoning Univ. of Technology
Yongming Li	Liaoning Univ. of Technology
13:30-15:30	SatA11.14

***737** Robust Controller Design for Unmanned Aerial Vehicles with Unsymmetrical Wing Damage*

Yunyan Wu	AVIC Xi'AN Flight Automatic Control Research Institut
Donghui Wang	AVIC Xi'AN Flight Automatic Control Research Institut
Wu Liu	AVIC Xi'AN Flight Automatic Control Research Institut
Tianpeng Huang	AVIC Xi'AN Flight Automatic Control Research Institut
Sui Xu	AVIC Xi'AN Flight Automatic Control Research Institut
13:30-15:30	SatA11.15

***784** 高性能无人机视觉自主着陆控制实践*

Tuo Gou	Chengdu Aircraft Design and Research Institute of Aviation Industry
Bo Ma	Chengdu Aircraft Design and Research Institute of Aviation Industry
Chengang Tao	Chengdu Aircraft Design and Research Institute of Aviation Industry
Zhaoxu Yang	Chengdu Aircraft Design and Research Institute of Aviation Industry
Tiancai Wan	Chengdu Aircraft Design and Research Institute of Aviation Industry
Yong Tang	Chengdu Aircraft Design and Research Institute of Aviation Industry
13:30-15:30	SatA11.16

***922** Deep Learning-Based Flight Trajectory Prediction Using Tim Series Decomposition*

Yue Liu	Beijing Institute of Technology
Jing Sun	Beijing Aerospace Institute for Metrology and Measurement Technology
Wei Dong	Beijing Institute of Technology
Lele Zhang	Beijing Institute of Technology
Chunyan Wang	Beijing Institute of Technology
Fang Deng	Beijing Institute of Technology
13:30-15:30	SatA11.17

***928** 面向飞控半实物仿真试验台的舵面加载系统研制*

Dapeng Zhou	AVIC Shenyang Aircraft Design and Research Institute
ZhiQiang Ai	AVIC Shenyang Aircraft Design and Research Institute
Yunji Gao	AVIC Shenyang Aircraft Design and Research Institute
Ming Zhang	AVIC Shenyang Aircraft Design and Research Institute
Wenyi Sun	
13:30-15:30	SatA11.18

***992** Intelligent Optimization Method of Control Parameters for Direct Lift Landing of Carrier-based Aircraft*

Ming Yan	Dalian Univ. of Technology
Chong Zhen	AVIC Xi'AN Flight Automatic Control Research Institut
Man Zhang	AVIC Xi'AN Flight Automatic Control Research Institut
Kai Liu	Dalian Univ. of Technology
13:30-15:30	SatA18.19

***3** 多星座条件下低轨航天器定位性能 STK 仿真分析*

Jiangfeng Lai	Space Engineering Univ.
Yanfeng Hu	Space Engineering Univ.
Xiangtai Ma	Space Engineering Univ.
Wenjian Li	Unit 96726
13:30-15:30	SatA11.20

***107** 基于非线性动态逆的主动电驱式对接机构位姿跟踪方法*

Jinglong Liu	Shanghai Institute of Aerospace System Engineering
Haitao Jing	Nanjing Univ. of Aeronautics and Astronautics
Xiaolong Ma	Shanghai Institute of Aerospace System Engineering.
Chenguang Xu	Shanghai Institute of Aerospace System Engineering
Huayong Qiu	Shanghai Institute of Aerospace System Engineering
Chongfeng Zhang	Shanghai Institute of Aerospace System Engineering
13:30-15:30	SatA11.21

***108** A Deep Learning Predictor-Proportional Guidance Corrector method for Rocket Deceleration Guidance*

Yue Zhao	Beijing Institute of Technology
Kun Guo	Beijing Institute of Mechanical and Electrical Engineering
Cheng Xu	Beijing Institute of Mechanical and Electrical Engineering
Chao Li	Beijing Institute of Technology
Lianbihe Zhu	Beijing Institute of Technology
Yan Zheng	Beijing Institute of Technology
Fenfen Xiong	Beijing Institute of Technology
13:30-15:30	SatA11.22

***111** Dynamic Structural Reliability Analysis of Hypersonic Vehicles Based on Stochastic Processes*

Jiale He	Nanjing Univ. of Aeronautics and Astronautics
Mengqun Ou	Nanjing Univ. of Aeronautics and Astronautics

Yuhui Wang	Nanjing Univ. of Aeronautics and Astronautics
Zhongge Guo	Nanjing Univ. of Aeronautics and Astronautics
13:30-15:30	SatA11.23

117 *Study On Design and Verification Method of Civil Aircraft Onboard Flight Management System Performance Database*

Lizhao Liu	Shanghai Aircraft Design and Research Institute
13:30-15:30	SatA11.24

119 *Ship Detection via Center Segmentation and Angle Predictio*

Yongchun Lei	China Helicopter Research and Development Institute
Hao Meng	China Helicopter Research and Development Institute
Lei Li	China Helicopter Research and Development Institute
Jinlei Ma	China Helicopter Research and Development Institute
Hongwei Zhang	China Helicopter Research and Development Institute
13:30-15:30	SatA11.25

121 *Optimal Parameter Estimation-Assisted Event-Triggered Model Predictive Guidance for Launch Vehicle*

Tengfei Zhang	Northwestern Polytechnical Univ.
Hua Su	Northwestern Polytechnical Univ.
Songyu Liu	Northwestern Polytechnical Univ.
Chunlin Gong	Northwestern Polytechnical Univ.
13:30-15:30	SatA11.26

124 *考虑多禁飞区规避的高速巡航飞行器轨迹优化方法*

Rui Cao	Yangzhou Univ.
Huitao Lv	Shenyang Aircraft Design and Research Institute Yangzhou Collaborative Innovation Research Institute Co., Ltd
Liang Xu	Shenyang Aircraft Design and Research Institute Yangzhou Collaborative Innovation Research Institute Co., Ltd
Yang Yang	Shenyang Aircraft Design and Research Institute Yangzhou Collaborative Innovation Research Institute Co., Ltd
13:30-15:30	SatA11.27

134 *软件架构演进：伺服系统软件架构的创新与验证*

Erfeng Su	AVIC Xi’AN Flight Automatic Control Research Institute
Shaoyang Dong	AVIC Xi’AN Flight Automatic Control Research Institute
Rui Li	AVIC Xi’AN Flight Automatic Control Research InstituteOptoelectronic Integrated Device
13:30-15:30	SatA11.28

140 *Similarity Parameters of Inviscid High Speed Flows Around Affine Similar Bodies*

Haoliang Wang	The First Academy of China Aerospace Science and Technology Corporation
Mengying Ma	The First Academy of China Aerospace Science and Technology Corporation
Xiaoyuan Ma	The First Academy of China Aerospace Science and Technology Corporation
13:30-15:30	SatA11.29

145 *A denoising method for MEMS gyroscopes based on improved wavelet transform*

Ming Liu	Navy Submarine Academy
Wenlong Wang	Navy Submarine Academy
Zhaozhen Jiang	Navy Submarine Academy
Na Zhang	Navy Submarine Academy
Jinhui Liu	Navy Submarine Academy
13:30-15:30	SatA11.30

150 *Orbit Plane Control of Inclined Geosynchronous Satellit Based on Particle Swarm Optimization*

Xinglong Wang	China Academy of Space Technology
Ran Wang	China Academy of Space Technology
Jiaming Wang	China Academy of Space Technology
13:30-15:30	SatA11.31

153 *Two-Layer Adaptive Composite Anti-Disturbance Control fo Robotic Manipulator With Multiple Disturbances*

Lina Zhang	Beijing Jiaotong Univ.
Xiuming Yao	Beijing Jiaotong Univ.
13:30-15:30	SatA11.32

155 *Design of Civil Aircraft Surveillance System Based on BeiDo Short Message*

Lei Guo	Shanghai Aircraft Design and Research Institute
Zhiming Zheng	Shanghai Aircraft Design and Research Institute
Wei Li	Shanghai Aircraft Design and Research Institute
13:30-15:30	SatA11.33

158 *Robust Guidance Law Design of Launch Vehicles via Deep Reinforcement Learning Algorithm*

Chenhui Jia	Beijing Aerospace Automatic Control Institute
Xiaodong Liu	Beijing Aerospace Automatic Control Institute
Xiaomin Li	Beijing Aerospace Automatic Control Institute
Qinghai Gong	Beijing Aerospace Automatic Control Institute
Zhaolei Wang	Beijing Aerospace Automatic

	Control Institute
Ran Li	Beijing Aerospace Automatic Control Institute
13:30-15:30	SatA11.34

159 *Feasibility analysis of participate in UTC calculations using Beidou PPP time link*

Xiaolei Wang	Beijing Satellite Navigation Center
Jingxuan Li	Beijing Satellite Navigation Center
13:30-15:30	SatA11.35

162 *基于非线性优化双目 VIO 的在线时间偏差标定方法*

Ziyu Cao	Northwestern Polytechnical Univ.
13:30-15:30	SatA11.36

164 *智能技术在飞控领域应用研究综述*

Chao Jiang	AVIC Xi'AN Flight Automatic Control Research Institut
Yuwei Cui	AVIC Xi'AN Flight Automatic Control Research Institut
Wenjin Liu	AVIC Xi'AN Flight Automatic Control Research Institut
13:30-15:30	SatA11.37

170 *Design of New Real-time Online ECM Performance Evaluation Scheme of Radar Seeker*

Longjun Zhai	Naval Aviation Univ.
Wenquan Feng	Beihang Univ.
Yidong Wang	Naval Research Academy
Jun Fang	Naval Aviation Univ.
13:30-15:30	SatA11.38

171 *Design of a novel distributed diffusion maximum correntropy CKF algorithm*

Jingang Liu	Harbin Institute of Technology
Guorui Cheng	Harbin Institute of Technology
Shenmin Song	Harbin Institute of Technology
13:30-15:30	SatA11.39

174 *Research on airworthiness test technology of engineering simulator based on high risk subjects*

Kui Xu	Northwestern Polytechnical Univ.
Chengfu Wu	Northwestern Polytechnical Univ.
Shengliang Wu	Shanghai Aircraft Design and Research Institute
Jiawei Yang	Shanghai Aircraft Design and Research Institute
13:30-15:30	SatA11.40

178 *Threat Prediction Method for Large-Scale Beyond-Visual Range Air Confrontation*

Leyan Li	Air Force Engineering Univ.
Maolong Lv	Air Force Engineering Univ.
Ao Wu	Air Force Engineering Univ.
Anxin Guo	Air Force Engineering Univ.
Qi Song	Air Force Engineering Univ.
Qixuan Yin	Air Force Engineering Univ.
13:30-15:30	SatA11.41

179 *Research on Synchronization Mechanism of Time Triggered Ethernet*

Yichuan Song	AVIC Xi’AN Flight Automatic Control Research Institute
Cheng Zhou	AVIC Xi’AN Flight Automatic Control Research Institute
Yige Luo	AVIC Xi’AN Flight Automatic Control Research Institute
Jianjun Huang	AVIC Xi’AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.42

182 *Optimization Design of Two-impulse Abort Trajectory for a Crewed Lunar Mission Based on the Quasi-Lambert Problem*

Tianshan Dong	Beijing Institute of Spacecraft System Engineering
Wenyan Zhou	Beijing Institute of Spacecraft System Engineering
Lin Lu	National University of Defense Technology
Chao Han	Beihang Univ.
13:30-15:30	SatA11.43

187 *Research on General Software Architecture of Flight Control and Management System for UAV*

Delong Cui	AVIC The First Aircraft Institute
Xin Liu	AVIC The First Aircraft Institute
Jiangjiang Qi	The First Military Representative Bureau Resident in Xi'AN Region for The Air Force
Anquan Sun	The First Military Representative Bureau Resident in Xi'AN Region for The Air Force
13:30-15:30	SatA11.44

188 *电传飞行控制系统余度管理监控阈值研究*

Weiwei Yang	AVIC Xi’AN Flight Automatic Control Research Institute
Zhengyuan Liu	AVIC Xi’AN Flight Automatic Control Research Institute
Yue Chi	AVIC Xi’AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.45

192 *Estimation of Melt Pond Depth Based on Deep Learning*

Zhihao Wang	Aircraft Strength Research Institute
Shuaishuai Lyu	Aircraft Strength Research Institute
Xiaoyi Shen	Nanjing Univ.
13:30-15:30	SatA11.46

193 *Full Flight Envelope Controllability Assessment Method for Supersonic Transport Aircraft*

Xun Sun	Beihang Univ.
Shang Tai	Beihang Univ.
Lixin Wangi	Beihang Univ.
Ting Yue	Beihang Univ.
Hailiang Liu	Beihang Univ.
13:30-15:30	SatA11.47

194 *On the Security Enhancement Method for Hybrid Software Based on Container of Flight Control System and VMS*

Yuxiang Zhang	AVIC First Aircraft Design and Research Institute

Yi Yang	AVIC First Aircraft Design and Research Institute
Yu Li	AVIC First Aircraft Design and Research Institute
Xin Liu	AVIC First Aircraft Design and Research Institute
Delong Cui	AVIC First Aircraft Design and Research Institute
13:30-15:30	SatA11.48

201 *Research on vibration isolation of precision electroni equipment of spacecraft under severe load*

Ke Duan	Xi'an ASRIC Aviation Technology Co., Ltd.
Feng Hou	Xi'an ASRIC Aviation Technology Co., Ltd.
Yuxing Duan	Xi'an ASRIC Aviation Technology Co., Ltd.
13:30-15:30	SatA11.49

204 *面向高速直升机的主动侧杆操纵装置应用思路与展望*

An Yan	AVIC Xi'AN Flight Automatic Control Research Institute
Zhengyong Zhan	AVIC Xi'AN Flight Automatic Control Research Institute
Zhao Ma	AVIC Xi'AN Flight Automatic Control Research Institute
Song Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Wuji Sun	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.50

205 *Research on Obstacle Avoidance Motion Planning of Space Manipulator Based on Reinforcement Learning*

Zixuan Zhang	The 208 Research Institute of China Ordnance Industries
Wei Dong	Beijing Institute of Technology
Chunyan Wang	Beijing Institute of Technology
Jing Sun	Beijing Aerospace Institute for Metrology and Measurement Technology
13:30-15:30	SatA11.51

206 *Prescribed Performance Guidance of LBRS Interceptor wit Distance Limitation*

Shiwei Chen	Beijing Institute of Technology
ShiYao Lin	Ordnance Science and Research Academy of China
Peng Huang	Northwest Industries Group Company'Ltd.
Junhui Li	Beijing Institute of Technology
Junfang Fan	Beijing Information Science and Technology Univ.
13:30-15:30	SatA11.52

210 *Impact Angle Control Guidance Law Against Maneuverin Targets*

He Du	Harbin Institute of Technology
Ming Yang	Harbin Institute of Technology
Songyan Wang	Harbin Institute of Technology
Tao Chao	Harbin Institute of Technology
13:30-15:30	Sat A11.53

214 *Cooperative Path Planning and Prescribed Performance Control with Input Saturation for UAV Formation*

Shichao Ma	AVIC Xi'AN Flight Automatic Control Research Institute
Wenqian Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Xianglun Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Qiang Tang	AVIC Xi'AN Flight Automatic Control Research Institute
Zhiyu Li	AVIC Xi'AN Flight Automatic Control Research Institute
Yukun Yang	AVIC Xi'AN Flight Automatic Control Research Institute
Hao Li	AVIC Xi'AN Flight Automatic Control Research Institute
Jiayun Wen	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.54

215 *Unified Control Architecture for Hybrid UAVs Using Incremental Nonlinear Dynamic Inversion*

Xutao Qu	Beihang Univ.
Zhihao Cai	Beihang Univ.
Yingxun Wang	Beihang Univ.
13:30-15:30	SatA11.55

217 *基于随机振动理论的收放式应急冲压口疲劳寿命评估*

Pan Xie	Qing'an Group Co., Ltd.
Lan Gao	Qing'an Group Co., Ltd.
Pengfei Zhu	Qing'an Group Co., Ltd.
13:30-15:30	SatA11.56

218 *不确定环境下多机器人协同区域搜索与覆盖方法*

Kai Cao	Xi’an Technological Univ.
Yunbo Wei	Xi’an Technological Univ.
Song Gao	Xi’an Technological Univ.
Yangquan Chen	Univ. of California
Kun Yan	Xi’an Technological Univ.
Yufei Ding	Xi’an Technological Univ.
13:30-15:30	SatA11.57

224 *TTE 网络在飞控系统中的应用*

Linguan Jiao	AVIC Xi'AN Flight Automatic Control Research Institute
Dandan Tang	AVIC Xi'AN Flight Automatic Control Research Institute
Yige Luo	AVIC Xi'AN Flight Automatic Control Research Institute
Jianjun Huang	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.58

225 *电离层闪烁环境下 PPP/INS 组合导航性能分析*

Jianhua Cheng	Harbin Engineering Univ.

Sixiang Cheng	Harbin Engineering Univ.
Bing Qi	Harbin Engineering Univ.
Shilong Fan	Harbin Engineering Univ.
Guojing Zhao	Harbin Engineering Univ.
Sicheng Chen	Harbin Engineering Univ.
13:30-15:30	SatA11.59

226 *摩擦副表面结构对传动线系运转阻尼影响研究*

Guangfeng Qi	Department of Naval Armament
Tingting Wang	Qing'an Group Co., Ltd.
Lisong Cao	Qing'an Group Co., Ltd.
13:30-15:30	SatA11.60

227 *WR-IMT: A time series predictive model for Remaining Usefu Life Prediction*

Fei Xiao	Shanghai Jiao Tong Univ.
Haibo Xing	Shanghai Jiao Tong Univ.
Jun Huang	Shanghai Aircraft Airworthiness Certification Center of CAAC
Jianxun Li	Shanghai Jiao Tong Univ.
13:30-15:30	SatA11.61

228 *Fault Recognition and Design of Experiments for Industria Data*

Chuandong Wang	Shanghai Jiao Tong Univ.
Wenxuan Zhang	Shanghai Jiao Tong Univ.
Fei Xiao	Shanghai Jiao Tong Univ.
Jun Huang	Shanghai Aircraft Airworthiness Certification Center of CAAC
Jianxun Li	Shanghai Jiao Tong Univ.
13:30-15:30	SatA11.62

229 *UAV Swarm Cooperative Hunting Based on Cruise-Trap Capture*

Haiyang Bi	AVIC Shenyang Aircraft Design and Research Institute
Mingsheng Zhao	AVIC Shenyang Aircraft Design and Research Institute
Xiangyu Sun	AVIC Shenyang Aircraft Design and Research Institute
Lidong Zhao	AVIC Shenyang Aircraft Design and Research Institute
13:30-15:30	SatA11.63

231 *Dynamic Event-Triggered Consensus Control for Nonlinear MultiAgent Systems with External Disturbances*

Fuqiang Di	Xi’an Modern Control Technology Research Institute
Junmin Zhao	Xi’an Modern Control Technology Research Institute
Kang Zhao	Xi’an Modern Control Technology Research Institute
Tao Yu	Xi’an Modern Control Technology Research Institute
Kun Zhang	Xi’an Modern Control Technology Research Institute
Lei Su	Xi’an Modern Control Technology Research Institute
Yang Xu	Northwestern Polytechnical Univ.
13:30-15:30	SatA11.64

232 *An Improved Coarse Alignment Method with Parameter Identification and Bias Compensation*

Xiang Xu	Nanjing Univ. of Science and Technology
Zhenyu Yang	The Univ. of Sheffield
Junpeng Wang	Nanjing Univ. of Science and Technology
Fu Wang	East China Institute of Photo-Electron IC
13:30-15:30	SatA11.65

236 *Event-triggered Adaptive Consensus for Multiagent System Under Actuator and Sensor Attacks*

Bohan Li	Beihang Univ.
Qing Gao	Beihang Univ.
Zhenqian Wang	Beihang Univ.
Wei Wang	Beihang Univ.
Jinhu Lyu	Beihang Univ.
13:30-15:30	SatA11.66

237 *Research on Security Authentication Methods for Unmanne Aerial Vehicle Systems in Mosaic Warfare Scenarios*

Xiaoya Xu	China Aerospace Science and Industry Corporation 706 Research institute
Weijie Zhu	China Aerospace Science and Industry Corporation 706 Research institute
Ran Li	China Aerospace Science and Industry Corporation 706 Research institute
Xiufeng Fu	China Aerospace Science and Industry Corporation 706 Research institute
Fan Zhang	China Aerospace Science and Industry Corporation 706 Research institute
Pengcheng Wang	Beihang Univ.
13:30-15:30	SatA11.67

239 *Review of Drone Swarm Navigation Control Technologyi Complex Environments*

Feilong Tao	Beijing Institute of Mechanical and Electrical Engineering
Jiajia Zhao	Beijing Institute of Mechanical and Electrical Engineering
Bingbing Lv	Beijing Institute of Mechanical and Electrical Engineering
13:30-15:30	SatA11.68

240 *固定翼飞行器编队控制律设计与仿真*

Xudong Huang	AVIC Xi'AN Flight Automatic Control Research Institute
Hao Wang	AVIC Xi'AN Flight Automatic Control Research Institute

Guanlin Li	AVIC Xi'AN Flight Automatic Control Research Institute
Mingming Tian	AVIC Xi'AN Flight Automatic Control Research Institute
Qiangwei Yang	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.69

241 *Distribu ted high-lift system architecture design for transport aircraft*

Zhenyun Shi	AVIC First Aircraft Design and Research Institute
Feihong Jiang	AVIC First Aircraft Design and Research Institute
Junhong Zhang	AVIC First Aircraft Design and Research Institute
13:30-15:30	SatA11.70

243 *Causal structure learning based on mutual informatio initialization*

Xinge Huang	Sun Yat-Sen Univ.
Guanjun Wang	Sun Yat-Sen Univ.
Qiliang Zhang	Sun Yat-Sen Univ.
Hongbo Chen	Sun Yat-Sen Univ.
13:30-15:30	SatA11.71

244 *基于模型的电传飞行控制系统功能危险性评估*

Weiwei Yang	AVIC Xi'AN Flight Automatic Control Research Institute
Zhenxin Yan	AVIC Xi'AN Flight Automatic Control Research Institute
Siyuan Cai	AVIC Xi'AN Flight Automatic Control Research Institute
Dong San	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.72

245 *A fault-tolerant multi-sensor altitude data fusion scheme based on chi-square test*

Bingzhi Su	China Helicopter Research and Development Institute
Lei Li	China Helicopter Research and Development Institute
Hongwei Zhang	China Helicopter Research and Development Institute
Quanrong He	China Helicopter Research and Development Institute
13:30-15:30	SatA11.73

246 *On Safety Design of Civil Aircraft Flight Control System*

Xinhui Zhang	AVIC First Aircraft Design and Research Institute
Wenjing Liao	AVIC First Aircraft Design and Research Institute
13:30-15:30	SatA11.74

251 *ASVF-IPSO based airport photoelectric camera coverage enhancement algorithm*

Hui Sun	Civil Aviation Univ. of China
Shiwei Zhang	Civil Aviation Univ. of China
Rui Wang	Civil Aviation Univ. of China
13:30-15:30	SatA11.75

252 *北斗 B1 信号调制与捕获算法分析*

Lijun Xu	Space Engineering Univ.
Yanfeng Hu	Space Engineering Univ.
Wenkui Li	Naval Engineering Univ.
13:30-15:30	SatA11.76

253 *综合多约束制导与机动突防的高捷变控制方法*

Sibo Zhao	Xidian Univ.
Jianwen Zhu	Xidian Univ.
Hao Zhang	Xidian Univ.
13:30-15:30	SatA11.77

256 *Distributed Attitude Synchronization Control for Multiple Agents via Event Triggering Mechanism*

Zhanjie Zhou	Avic Harbin Aircraft Industry Group Co., Ltd.
Chunde Wang	Avic Harbin Aircraft Industry Group Co., Ltd.
13:30-15:30	SatA11.78

257 *Automatic Carrier Landing Control based on a Finitetim Convergence Method*

Zhuoer Yao	Beihang Univ.
Zi Kan	Beihang Univ.
Daochun Li	Beihang Univ.
Yunkai Zhou	Beihang Univ.
13:30-15:30	SatA11.79

260 *基于改进麻雀搜索算法的航材初始备件优化研究*

Rui Wang	Civil Aviation Univ. of China
Yiming Zhong	Civil Aviation Univ. of China
Zhikai Wang	Civil Aviation Univ. of China
Hui Sun	Civil Aviation Univ. of China
13:30-15:30	SatA11.80

265 *An improved lightweight YOLOv5 network for small targets detection*

Zhihao Cai	Beihang Univ.
Xiangjie Luo	Beihang Univ.
Jiang Zhao	Beihang Univ.
Yingxun Wang	Beihang Univ.
13:30-15:30	SatA11.81

266 *Intelligent Mission Commander: A Novel Voice Interaction Framework for Air Confrontation Scenarios*

Ao Wu	Air Force Engineering Univ.
Yang Jin	Air Force Engineering Univ.
Maolong Lv	Air Force Engineering Univ.
Huanyu Li	Air Force Engineering Univ.
Yu Zhao	Air Force Engineering Univ.
Duo Qi	Air Force Engineering Univ.
13:30-15:30	SatA11.82

267 *基于改进人工蜂群算法的 PID 参数优化方法研究*

Guanlin Li	AVIC Xi'AN Flight Automatic

	Control Research Institute
Qiangwei Yang	AVIC Xi'AN Flight Automatic
	Control Research Institute
Guoqiang Yang	AVIC Xi'AN Flight Automatic
	Control Research Institute
Zhao Ma	AVIC Xi'AN Flight Automatic
	Control Research Institute
Xudong Huang	AVIC Xi'AN Flight Automatic
	Control Research Institute
13:30-15:30	SatA11.83

268 *基于 MPC 的多目标防撞优化算法*

Rui Wang	Civil Aviation Univ. of China
Xuedong Zhang	Civil Aviation Univ. of China
Hui Sun	Civil Aviation Univ. of China
13:30-15:30	SatA11.84

269 *一种空射折叠展开无人机发射与回收制导控制方法*

Ranran Wang	AVIC Xi'AN Flight Automatic
	Control Research Institute
Mingming Tian	AVIC Xi'AN Flight Automatic
	Control Research Institute
Boxiao Zhou	AVIC Xi'AN Flight Automatic
	Control Research Institute
Tianlun Huan	AVIC Xi'AN Flight Automatic
	Control Research Institute
13:30-15:30	SatA11.85

271 *Multi-camera Visual Odometry for Motion-constrained Environments*

Yingxun Wang	Beihang Univ.
Jiawei Ji	Beihang Univ.
Yumin Liu	Beihang Univ.
Zhihao Cai	Beihang Univ.
Jiang Zhao	Beihang Univ.
13:30-15:30	SatA11.86

272 *Modeling and Simulation of Airborne Photoelectric Turret with Disturbance Observer*

Wei Yang	Shaanxi Institute of Technology
Dejun Wu	Shaanxi Institute of Technology
13:30-15:30	SatA11.87

274 *Analysis of Model Based Airborne Laser Weapon AntiUAV Swarm*

Dejun Wu	Shaanxi Institute of Technology
Wei Yang	Shaanxi Institute of Technology
13:30-15:30	SatA11.88

275 *3D Path Planning Technique For Fixed-Wing UAV Based On Complex Constrained Optimization*

Chenrui Guo	Beijing Automatic and Contrc
	Institut
Zhihui Zheng	Beijing Automatic and Contrc
	Institut
13:30-15:30	SatA11.89

277 *基于改进“当前”统计模型的再入目标跟踪算法*

Yangchao He	Air Force Engineering Univ.
Jiong Li	Air Force Engineering Univ.
Lei Shao	Air Force Engineering Univ.
Jinlin Zhang	Air Force Engineering Univ.
Boyang Ji	Air Force Engineering Univ.
Xiangwei Bu	Air Force Engineering Univ.
13:30-15:30	SatA11.90

279 *Fragility analysis of prescribed performance control fo waverider vehicles*

Ruining Luo	Air Force Engineering Univ.
Guangjun He	Air Force Engineering Univ.
Xiangwei Bu	Air Force Engineering Univ.
Zhao Sun	Air Force Engineering Univ.
13:30-15:30	SatA11.91

285 *Vision-based UAV precision landing via Invariant Extended Kalman Filtering*

Yiqi Fu	Northwestern Polytechnical Univ.
Qingqing Dang	Northwestern Polytechnical Univ.
Wen Zhao	Northwestern Polytechnical Univ.
Liqiao Li	Northwestern Polytechnical Univ.
Zhu Zhu	Shanghai Institute of Satellite
	Engineering
13:30-15:30	SatA11.92

287 *Trajectory Prediction Method under Low Information Suppoı Condition*

Wenjie Yuan	Beihang Univ.
Tonggang Zhao	Chengdu Aircraft Design &
	Research Institute
Qi Yu	Beihang Univ.
Xiaopeng Gong	Beihang Univ.
Wanchun Chen	Beihang Univ.
13:30-15:30	SatA11.93

296 *Hypersonic Vehicle Maneuver Trajectory Multi-Labe Classification Based on Seq2Seq Model*

Yulong Lin	Sun Yat-sen Univ.
	China Academy of Launch Vehicle
Haipeng Chen	Technology
Xuebin Zhuang	Sun Yat-sen Univ.
Kun Zeng	Sun Yat-sen Univ.
13:30-15:30	SatA11.94

297 *The ANN for Flow Angles Estimation with Input from Physicai geometric Constraints*

Jianhao Cheng	Nanjing Univ. of Aeronautic and
	Astronautic
Rongbing Li	Nanjing Univ. of Aeronautic and
	Astronautic
Jianye Liu	Nanjing Univ. of Aeronautic and
	Astronautic
13:30-15:30	SatA11.95

298 *风扰下无人机栖落机动的强化学习控制设计*

Weizhen Zhang	Nanjing Univ. of Aeronautic and
	Astronautic
Zhen He	Nanjing Univ. of Aeronautic and
	Astronautic
Zhangfan Tang	Nanjing Univ. of Aeronautic and
	Astronautic
13:30-15:30	SatA11.96

300 *软件可测试性设计助力装备敏捷研发及质量提升*

Li Yang	AVIC Xi'AN Flight Automatic Control Research Institute
Xianghu Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Yuliang Gao	AVIC Xi'AN Flight Automatic Control Research Institute
Weijian Zhou	AVIC Xi'AN Flight Automatic Control Research Institute
Shaolong Song	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.97

301 *基于改进麻雀搜索算法的路径规划方法*

Hui Sun	Civil Aviation Univ. of China
Yannan Lou	Civil Aviation Univ. of China
Yiqing Shan	Civil Aviation Univ. of China
Rui Wang	Civil Aviation Univ. of China
13:30-15:30	SatA11.98

302 *Model Predictive Control-based Formation Tracking c Heterogeneous Multi-unmanned Systems with Communicatio Restriction*

Kaili Wu	Nanjing Univ. of Aeronautics and Astronautics
Yuanqing Fang	Nanjing Univ. of Aeronautics and Astronautics
Qiang Qu	Nanjing Univ. of Aeronautics and Astronautics
Min Zhang	Nanjing Univ. of Aeronautics and Astronautics
Mingyang Xie	Nanjing Univ. of Aeronautics and Astronautics
13:30-15:30	SatA11.99

303 *基于自适应遗传粒子群混合算法的光纤陀螺温度建模方法*

Xiaorui Zheng	Beijing Aerospace Times Optical-electronic Co., Ltd
Liwei Qiu	Beijing Aerospace Times Optical-electronic Co., Ltd
Shuangze Yang	Beijing Aerospace Times Optical-electronic Co., Ltd
Shan Wang	Beijing Aerospace Times Optical-electronic Co., Ltd
13:30-15:30	SatA11.100

304 *A multi-field coupling model for rotary lip seal with textured shaft*

Enrui Wang	Guangzhou Mechanical Engineering Research Institute Co.Ltd
Shaoping Wang	Beihang Univ.
Di Liu	Guangzhou Mechanical Engineering Research Institute Co.Ltd
Xiaochuan Duan	Beihang Univ.
Yaoxing Shang	Beihang Univ.
Yunlong Guo	Guangzhou Mechanical Engineering Research Institute Co.Ltd
Bo Zhang	Guangzhou Mechanical Engineering Research Institute Co.Ltd
13:30-15:30	SatA11.101

305 *A degradation modeling method based on Gamma process with artificial neural network utilizing two types of testing data*

Xiaochuan Duan	Tianmushan Laboratory
Shaoping Wang	Tianmushan Laboratory
Di Liu	Tianmushan Laboratory
Enrui Wang	Tianmushan Laboratory
Yaoxing Shang	Tianmushan Laboratory
13:30-15:30	SatA11.102

308 *Research on Redundancy Restart Condition of Flight Contro Computer*

Xin Zhang	AVIC First Aircraft Design and Research Institute
Xin Liu	AVIC First Aircraft Design and Research Institute
Delong Cui	AVIC First Aircraft Design and Research Institute
13:30-15:30	SatA11.103

314 *基于 ARCADIA 的 MBSE 方法在民机飞控系统中的应用研究*

Zilin Huang	AVIC Xi'AN Flight Automatic Control Research Institute
Hang Zhang	AVIC Aerospace System Co., Ltd
Li Li	AVIC Xi'AN Flight Automatic Control Research Institute
Zhuang Xie	AVIC Xi'AN Flight Automatic Control Research Institute
Fan Yang	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.104

315 *An algorithm for estimating the number of targets within a dense group based on a cardinality probability hypothesis densit filter*

Peng Huang	Nanjing Univ. of Science and Technology
Guoqing Qi	Nanjing Univ. of Science and Technology
Yinya Li	Nanjing Univ. of Science and Technology
Andong Sheng	Nanjing Univ. of Science and Technology
13:30-15:30	SatA11.105

320 *基于增量式反步的低成本小型无人机应急控制律设计*

Wu Liu	AVIC Xi'AN Flight Automatic Control Research Institute
Yueping Wang	AVIC Xi'AN Flight Automatic Control Research Institute
Yunyan Wu	AVIC Xi'AN Flight Automatic Control Research Institute
Mingming Tian	AVIC Xi'AN Flight Automatic

	Control Research Institute
Tianpeng Huang	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.106

321 *Modeling and Analysis of Deployment Quantity for Multipl Drones Encircling Drone Swarm*

Peiyu Li	Nanjing Univ. of Science and Technology
Guoqing Qi	Nanjing Univ. of Science and Technology
Yinya Li	Nanjing Univ. of Science and Technology
Andong Sheng	Nanjing Univ. of Science and Technology
13:30-15:30	SatA11.107

324 *Flight Control Design for eVTOL Aircraft Using Nonlinea Dynamic Inversion and H∞ Control*

Wenxuan Gao	Shanghai Jiao Tong Univ.
Wenhong Jiang	Shanghai Jiao Tong Univ.
Bei Lu	Shanghai Jiao Tong Univ.
Qifu Li	Shanghai Jiao Tong Univ.
13:30-15:30	SatA11.108

326 *Trajectory Prediction Based on Damped Oscillation Model*

Xinpeng Xu	Northwestern Polytechnical Univ.
Jianguo Guo	Northwestern Polytechnical Univ.
Mengxuan Li	Xi'AN ASN UAV Technology Co., Ltd
13:30-15:30	SatA11.109

327 *一种改进的主从式无人机协同导航算法*

Yang Shang	AVIC Xi'AN Flight Automatic Control Research Institute
JingTing Su	AVIC Xi'AN Flight Automatic Control Research Institute
Shuai Wei	AVIC Xi'AN Flight Automatic Control Research Institute
Jiang Jing	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.110

328 *基于变分贝叶斯滤波的惯性/地形匹配组合导航算法*

Shuai Wei	AVIC Xi'AN Flight Automatic Control Research Institute
Yang Shang	AVIC Xi'AN Flight Automatic Control Research Institute
Jingting Su	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.111

329 *Game Maneuver Decision-Making for Multi-UAV via PPO-A3C-PER Learning Method*

Beibei Qiao	Northwestern Polytechnical Univ.
Zhenshuai Jia	Northwestern Polytechnical Univ.
Bing Xiao	Northwestern Polytechnical Univ.
Hanyu Qian	Northwestern Polytechnical Univ.
13:30-15:30	SatA11.112

333 *Optimal Formation-Containment Control for A Cooperative Unmanned Air-Ground Vehicle Group Under Switching Topologies*

Hao Liu	Beihang Univ.
Ming Cheng	Beihang Univ.
Qing Gao	Beihang Univ.
Haibin Duan	Beihang Univ.
13:30-15:30	SatA11.113

334 *Adaptive Control via Variable Strategies for High-Dynamic Flight Vehicles*

Ding Zhong	Beijing Institute of Technology
Haocheng Peng	Beijing Institute of Technology
Kai Shen	Beijing Institute of Technology
Wenjun Guo	Beijing Institute of Technology
Pengxiang Yang	Xi'AN Modern Control Technology Research Institute
13:30-15:30	SatA11.114

335 *Attitude Control Schemes of Yaw Steering with Front and Bac Pointing to the Sun Alternately*

Xi Wang	Beijing Institute of Spacecraft Engineering
Changqing Chen	Beijing Institute of Control Engineering
Xiaoping Xu	Beijing Institute of Spacecraft Engineering
Zhen Huang	Beijing Institute of Spacecraft Engineering
13:30-15:30	SatA11.115

337 *一种无人机编队的自适应滑模控制算法*

Chao Dong	Naval Aviation Univ.
Junwei Lei	Naval Aviation Univ.
Qiang Wang	Naval Aviation Univ.
Lei Meng	Naval Aviation Univ.
13:30-15:30	SatA11.116

339 *基于轻量化 YOLOv7-tiny 的滑坡检测算法研究*

Hui Sun	Civil Aviation Univ. of China
Shuguang Yang	Civil Aviation Univ. of China
Rui Wang	Civil Aviation Univ. of China
13:30-15:30	SatA11.117

340 *Deep Reinforcement Learning-Based Multi-Constrair Guidance with Field-of-View Limitation*

Yuhui Pu	Beijing Institute of Technology
Yuru Bin	Beijing Institute of Technology
Hui Wang	Beijing Institute of Technology
Haorui Yang	Beijing Institute of Technology
13:30-15:30	SatA11.118

341 *Temperature Control of Cryogenic Wind Tunnel Based o Adaptive Robust Sliding Mode Control*

Bo Sang	China Aerodynamics Research and Development Center
Houyuan Xiao	China Aerodynamics Research and Development Center
Fujing Tian	China Aerodynamics Research and Development Center
Wei Zhang	China Aerodynamics Research and

	Development Center
Bowen Wang	Huazhong Univ. of Science and Technology
13:30-15:30	SatA11.119

342 *Aircraft Braking Control Using an LMI-based Linear Paramete Varying PID Method*

Wenhong Jiang	Shanghai Jiao Tong Univ.
Wenxuan Gao	Shanghai Jiao Tong Univ.
Bei Lu	Shanghai Jiao Tong Univ.
Qifu Li	Shanghai Jiao Tong Univ.
13:30-15:30	SatA11.120

343 *飞翼无人机着陆抗地效控制方法*

Mingming Tian	AVIC Xi'AN Flight Automatic Control Research Institute
Wei Liu	AVIC Xi'AN Flight Automatic Control Research Institute
Yueping Wang	AVIC Xi'AN Flight Automatic Control Research Institute
Wu Liu	AVIC Xi'AN Flight Automatic Control Research Institute
Ranran Wang	AVIC Xi'AN Flight Automatic Control Research Institute
Xudong Hang	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.121

349 *Aircraft Control Surface Fault Stepwise Diagnosis Metho Based on Deep Learning*

Jin Wang	Beihang Univ.
Shang Tai	Beihang Univ.
Lixin Wang	Beihang Univ.
Ting Yue	Beihang Univ.
Hailiang Liu	Beihang Univ.
Jinhua Zhang	China Special Vehicle Research Institute
13:30-15:30	SatA11.122

350 *基于 AADL 模型的系统安全性分析方法研究与实践*

Yan Ge	Innovation Center of Xi an Automatic Flight Control Institute of Aviation Industry
Dantao Zhang	Innovation Center of Xi an Automatic Flight Control Institute of Aviation Industry
Yong Wang	Innovation Center of Xi an Automatic Flight Control Institute of Aviation Industry
Fangfang Wu	Xi'an Automatic Flight Control Institute of Aviation Industry
13:30-15:30	SatA11.123

358 *On Pose Estimation Algorithm of Cone Sleeve Based o Monocular Vision*

Xiaoping Chen	Univ. of Electronic Science and Technology of China
Zhenyu Zhou	Univ. of Electronic Science and Technology of China
Chi Gao	Avic Chengdu Aircraft Design and Research Institute
Rui Hong	Univ. of Electronic Science and Technology of China
Hui Liu	Univ. of Electronic Science and Technology of China
Yuyao Xie	Chengdu Plane Technology Co., Ltd
13:30-15:30	SatA11.124

359 *基于 SysML 和 SYSMOD 的系统建模方法*

Wenhao Wang	AVIC Xi'AN Flight Automatic Control Research Institute
Yong Wang	AVIC Xi'AN Flight Automatic Control Research Institute
Zhangjun Sun	AVIC Xi'AN Flight Automatic Control Research Institute
Dantao Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Fangfang Wu	AVIC Xi'AN Flight Automatic Control Research Institute
Zelin Li	AVIC Xi'AN Flight Automatic Control Research Institute
Xiangqiao Li	AVIC Xi'AN Flight Automatic Control Research Institute
Shuyang Wang	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.125

360 *Inter-UAV State Estimation of Swarmed UAVs wit Communication Constraints*

Hao Li	AVIC Xi'AN Flight Automatic Control Research Institute
Dongliang Song	AVIC Xi'AN Flight Automatic Control Research Institute
Yang Yukun	AVIC Xi'AN Flight Automatic Control Research Institute
Ling Zuo	AVIC Xi'AN Flight Automatic Control Research Institute
Zhiyu Li	AVIC Xi'AN Flight Automatic Control Research Institute
Shichao Ma	AVIC Xi'AN Flight Automatic Control Research Institute
Jiayun Wen	AVIC Xi'AN Flight Automatic Control Research Institute
Lin Hou	AVIC Xi'AN Flight Automatic Control Research Institute
Qiang Tang	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	SatA11.126

361 *Satellite Selection Algorithm for LPV-200 Requirement Based on Dual-constellation System*

Shaohua Yang	Northwestern Polytechnical Univ.
Xiaodong Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Qixuan Sun	AVIC Xi'AN Flight Automatic

	Control Research Institute
Zhiyu Yin	AVIC Xi'AN Flight Automatic
	Control Research Institute
Haoming Wang	AVIC Xi'AN Flight Automatic
	Control Research Institute
Bin Xu	Northwestern Polytechnical Univ.
13:30-15:30	SatA11.127

365 *确定式和灵活式结合的 MIL-STD-1553B 数据总线控制策略*

Tianlun Huan	AVIC Xi'AN Flight Automatic
	Control Research Institute
ZhenXin Yan	AVIC Xi'AN Flight Automatic
	Control Research Institute
Zhi Li	AVIC Xi'AN Flight Automatic
	Control Research Institute
Ranran Wang	AVIC Xi'AN Flight Automatic
	Control Research Institute
13:30-15:30	SatA11.128

366 *The Application of GNSS/IMU Integrated Navigation systen in Automobile*

Lei Shi	Guangzhou ASENSING technology CO.,Ltd
Yingcai Wu	Guangzhou ASENSING technology CO.,Ltd
Liangen Yuan	Guangzhou ASENSING technology CO.,Ltd
13:30-15:30	SatA11.129

368 *基于 UP 范式的自动飞行控制系统模式转换需求验证*

Hongzhu Chen	AVIC Xi'AN Flight Automatic
	Control Research Institute
Pei Yang	AVIC Xi'AN Flight Automatic
	Control Research Institute
Dantao Zhang	AVIC Xi'AN Flight Automatic
	Control Research Institute
13:30-15:30	SatA11.130

369 *Civil Aircraft Flight Guidance Mode Scheduling Logic and Switching Transient Suppression*

Shaobo Zhai	Northwestern Polytechnical Univ.
Le Yang	China Academy of Civil Aviation Science and Technology
Yubin Xu	China Academy of Civil Aviation Science and Technology
Yiyan Hou	Northwestern Polytechnical Univ.
Guangwen Li	Northwestern Polytechnical Univ.
13:30-15:30	SatA11.131

370 *Distributed Consensus of High-Order Nonlinear MASs with Fixed-Time Prescribed Performance*

Yuyuan Shi	Xidian Univ.
Jing Li	Xidian Univ.
Maolong Lv	Air Force Engineering Univ.
Ning Wang	Naval Aviation Univ.
13:30-15:30	SatA11.132

373 *A mixed-fidelity modeling and analysis method via systen architecture with an application on embedded system*

Zelin Li	AVIC Xi'AN Flight Automatic
	Control Research Institute
Yazhou Yue	AVIC Xi'AN Flight Automatic
	Control Research Institute
Zhangjun Sun	Xi'AN JIAOTONG Univ.
Yong Wang	AVIC Xi'AN Flight Automatic
	Control Research Institute
Fangfang Wu	AVIC Xi'AN Flight Automatic
	Control Research Institute
Dantao Zhang	AVIC Xi'AN Flight Automatic
	Control Research Institute
Pei Yang	AVIC Xi'AN Flight Automatic
	Control Research Institute
Yan Ge	AVIC Xi'AN Flight Automatic
	Control Research Institute
Wenhao Wang	AVIC Xi'AN Flight Automatic
	Control Research Institute
13:30-15:30	SAT A11.133

377 *A Finite-Time Convergence Guidance Law for Axial Force - Controlled Missile*

Bowei Zhou	Beijing Institute of Electronic System Engineering
Junyan Xu	Beijing Institute of Electronic System Engineering
13:30-15:30	SAT A11.134

382 *GNSS 拒止下多源自主导航鲁棒滤波方法研究*

Zihan Nan	Beijing Aerospace Control Technology Institute
Dayu Liu	Beijing Institute of Electronic System Engineering
Ming Dong	Beijing Institute of Tracking and Telecommunication Technology
Wenning Liang	China Aerospace Science and Technology Corporation
Xuewei Zhao	Beijing Aerospace Control Technology Institute
Yilin Ma	Beijing Aerospace Control Technology Institute
13:30-15:30	SAT A11.135

387 *Research on Analysis and Application of AFDX Protocol Based on OSI Model*

Yan Liu	AVIC Xi'an Flight Automatic Control Research Institute
YongGuan Guo	China Flight Test Establishment
Fan Yang	AVIC Xi'an Flight Automatic Control Research Institute
KeYi Zhu	AVIC Xi'an Flight Automatic Control Research Institute
Jun Zhang	AVIC Xi'an Flight Automatic Control Research Institute
13:30-15:30	SAT A11.136

388 *Bezier Curve Based Path Planning for UAV Rendezvous*

Jiulong Wang	Univ. of Science and Technology of China
Jian Di	Univ. of Science and Technology of

	China
Haibo Ji	Univ. of Science and Technology of China
13:30-15:30	SAT A11.137

391 *Multi-UAV Rendezvous Trajectory Planning Based on PPO Algorithm*

Ye Wang	Zhejiang Univ.
Shangjun Ye	Zhejiang Univ.
Bo Han	Zhejiang Univ.
Yuling Dong	Zhejiang Univ.
13:30-15:30	SAT A11.138

392 *具有输出边界保护的飞行器姿态控制律设计*

Shu Yang	Northwestern Polytechnical Univ.
Ting Yang	Beijing Aerospace Technology Institute
Xinran Wang	Tsinghua Univ.
13:30-15:30	SAT A11.139

394 *Research on Running-in Test Technology of Hydraulic Motor Based on Distributed Independent Control*

Kun Li	AVIC Qing'an Group Co.
Yongtao Luo	AVIC Qing'an Group Co.
Yongpeng Wang	AVIC Qing'an Group Co.
Yunlong Gao	AVIC Qing'an Group Co.
Wei Xu	AVIC Qing'an Group Co.
Tao Zhang	AVIC Qing'an Group Co.
13:30-15:00	SAT A11.140

396 *Effect of Infrared Image Point Centroiding Accuracy on Spatial Positioning in Helmet-mounted Sight System*

Xiang Liu	Aerospace Life-Support Industries
Rubing Wang	Aerospace Life-Support Industries
Yajie Qiao	Aerospace Life-Support Industries
13:30-15:30	SAT A11.141

398 *An Improved Ship Target Detection Algorithm Under Complex Port Based on YOLOv5*

Yao Sun	Chinese Flight Test Establishment
13:30-15:30	SAT A11.142

400 *Evaluation of the Reachable Domain of Launch Vehicles Under Thrust Fault*

Keshu Li	Beijing Institute of Astronautical Systems Engineering
Wanqing Zhang	Beijing Institute of Astronautical Systems Engineering
Xinyuan Miao	Beijing Institute of Astronautical Systems Engineering
Ying Ma	Beijing Institute of Astronautical Systems Engineering
13:30-15:30	SAT A11.143

403 *Adaptable Deep Learning Based Depth Refinement for Infrared Stereo Camera*

Bowen Liu	Beihang Univ.
Le An	Beihang Univ.
Pei Chi	Beihang Univ.
Jiang Zhao	Beihang Univ.
Cancan Tao	Beihang Univ.
Yingxun Wang	Beihang Univ.
13:30-15:30	SAT A11.144

404 *Oscillatory Failure and Monitor Strategy in Civil Aircraft Electrical Flight Control System*

Jun Sima	Shanghai Aircraft Design and Research Institute
Qingwei Shen	Shanghai Aircraft Design and Research Institute
Xinyu Jiang	Shanghai Aircraft Design and Research Institute
13:30-15:30	SAT A11.145

405 *Research on Autonomous Landing of Drones Based on Experimental Systems*

Lingling Wang	Naval Aviation Univ.
Chen Yang	Naval Aviation Univ.
Jin Yu	Naval Aviation Univ.
13:30-15:30	SAT A11.146

406 *Model-Free Control of Triple Pendulum Crane Systems With Distributed Mass Payloads*

Qingxiang Wu	Nankai Univ.
Ning Sun	Nankai Univ.
Tong Yang	Nankai Univ.
13:30-15:30	SAT A11.147

408 *Multi-USV area coverage path planning based on electronic charts*

Shixiong Wang	Harbin Engineering Univ.
Enjiao Zhao	Harbin Engineering Univ.
Kefei Yuan	Wuhan Second Ship Design and Research Institute
13:30-15:30	SAT A11.148

410*Study on Dual-Spin Ballistic Modeling for Spin-Stabilized Projectile with an Aft Control Kit*

Hao Yu	Beijing Institute of Technology
Ding Zhong	Beijing Institute of Technology
Zhihong Deng	Beijing Institute of Technology
Kai Shen	Beijing Institute of Technology
Pengxiang Yang	Xi'an Modern Control Technology Research Institute
13:30-15:30	SAT A11.149

415 *Event-Triggered Consensus of Matrix-Weighted Multiple Euler-Lagrange Systems*

Liang Xiao	Huazhong Univ. of Science and Technology
Suoxia Miao	Nanchang Institute of Technology
Fan Meng	Zhengzhou Electric Power College
Yong Wang	Army Academy of Artillery and Air Defense
Housheng Su	Huazhong Univ. of Science and Technology
13:30-15:30	SAT A11.150

419 *An azimuthal oscillation improvement method based on grating error identification for dual-axis HINS*

Xiaoxi Zhao	Beihang Univ.

Hao Zhang	Beijing Institute of Computer Technology and Application
Kui Li	Beihang Univ.
Fei Qi	Beihang Univ.
13:30-15:30	SAT A11.151

429 *A Multi-source Fusion Navigation Method for USUV*

Duanyang Gao	Dalian Naval Academy
Hong Cheng	Dalian Naval Academy
Jingwei Du	Dalian Naval Academy
Yunhai Zhong	Dalian Naval Academy
Rihong Pan	92987 Troops
13:30-15:30	SAT A11.152

430 *Strapdown Inertial Navigation Trajectory Generator Based or Six Degree of Freedom Flight Model*

Zhiheng Bai	Nanjing Univ. of Science and Technology
Chao Ming	Nanjing Univ. of Science and Technology
Zihe Xu	Nanjing Univ. of Science and Technology
Tong Feng	Nanjing Univ. of Science and Technology
13:30-15:30	SAT A11.153

431 *A Real-time Detection Method for SMT Chip Component Defects based on Adaptive Collaborative Feature*

Yunbo Zhao	Univ. of Science and Technology of China
Wangyou Gui	Univ. of Science and Technology of China
Lijun Zhao	Yangtze River Delta Hart robot industry Technology Research Institute
Yu Kang	Univ. of Science and Technology of China
Kehao Shi	Univ. of Science and Technology of China
Zhenyi Xu	Hefei Comprehensive National Science Center
13:30-15:30	SAT A11.154

432 *Control Design for UAV Perching Maneuvers Based on Iterative Learning MPC*

Zijun Zhou	Nanjing Univ. of Aeronautics and Astronautics
Zhen He	Nanjing Univ. of Aeronautics and Astronautics
Yu Feng	Nanjing Univ. of Aeronautics and Astronautics
Siying Lin	Nanjing Univ. of Aeronautics and Astronautics
13:30-15:30	SAT A11.155

433 *Modeling and Equilibrium Analysis of Civil Aircraft Crosswind Landing under Gradient Wind Field Conditions*

Pengcheng Ren	Beihang Univ.
Youhua Pu	AVIC Xi'an Flight Automatic Control Research Institute
Jing Zhang	Beihang Univ.
Lingyu Yang	Beihang Univ.
13:30-15:30	SAT A11.156

438 *Prediction-based Cooperative Tracking Strategy of Fixed-wing UAV Swarm for Dynamic Targets with Maneuvers*

Song Jiang	Beihang Univ.
Pei Chi	Beihang Univ.
Jiang Zhao	Beihang Univ.
Guangyi Wang	Northwestern Polytechnical Univ.
Kelin Lu	Southeast Univ.
Yingxun Wang	Beihang Univ.
13:30-15:30	SAT A11.157

439 *Design and Analysis of an Underactuated Lateral Coupling Control System for High-Performance Re-entry Vehicles*

Jiahui Zhang	Beijing Institute of Technology
Qiuqiu Wen	Beijing Institute of Technology
Zhen Chen	Beijing Institute of Technology
Fei Peng	Science and Technology on Near-Surface Detection Laboratory
13:30-15:30	SAT A11.158

440*Game learning-based target allocation of the UAV confrontation system*

Yaxu Hu	Univ. of Science and Technology Beijing
Yanling Zhang	Univ. of Science and Technology Beijing
Feng Xiao	North China Electric Power Univ.
13:30-15:30	SAT A11.159

441 *A Q-Learning Based Path Planning Method with Adaptive Steering Constraints for USV*

Shirui Song	Harbin Engineering Univ.
Enjiao Zhao	Harbin Engineering Univ.
13:30-15:30	SAT A11.160

447 *Motion planning for fixed-wing UAV using modified Dubins-RRT* algorithm*

Changyu Bi	Beijing Institute of Technology
Junhui Liu	Beijing Institute of Technology
Jianan Wang	Beijing Institute of Technology
Jiayuan Shan	Beijing Institute of Technology
13:30-15:30	SAT A11.161

448 *国外制导炮弹组合导航系统发展现状*

Kai Chen	Northwestern Polytechnical Univ.
Zhenhao Li	Northwestern Polytechnical Univ.
Chengzhi Zeng	Northwestern Polytechnical Univ.
Tao Yang	Northwestern Polytechnical Univ.
Shuangjie Li	Northwestern Polytechnical Univ.
13:30-15:30	SAT A11.162

450 *Control Strategy of Guiding system in High-speed Flight Maglev Vehicle*

Chuanshu Meng	National Univ. of Defense Technology
Jianbin Chen	National Univ. of Defense Technology
Mingda Zhai	National Univ. of Defense Technology

13:30-15:30 SAT A11.163

884 *LOS Guidance Law Based on Adaptive Iterative Learning Control Method for Path Following of Underactuated USVs*

Qi Zheng	Harbin Institute of Technology
Qinghua Luo	Harbin Institute of Technology
Ke Xu	Harbin Institute of Technology

13:30-15:30 SAT A11.164

455 *Adaptive Active Defense Guidance for Hypersonic Vehicle with Incomplete Information Based on Reinforcement Learning*

Weilin Ni	Sun Yat-sen Univ.
Peihuan Qiu	Sun Yat-sen Univ.
Haizhao Liang	Sun Yat-sen Univ.

13:30-15:30 SAT A11.165

456 *GNSS/INS Tightly Integrated Navigation and Performance Testing Aided by Augmented Zero-velocity Constraint*

Jingru Guo	Nanjing Univ. of Aeronautics and Astronautics
Qieqie Zhang	Nanjing Univ. of Aeronautics and Astronautics
Jingyun Duo	Beijing Wuzi Univ.

13:30-15:30 SAT A11.166

457 *Two Fast Satellite Selection Methods Based on Minimum GDOP*

Le Fang	Nanjing Univ. of Aeronautics and Astronautics
Qieqie Zhang	Nanjing Univ. of Aeronautics and Astronautics
Jizhou Lai	Nanjing Univ. of Aeronautics and Astronautics

13:30-15:30 SAT A11.167

459 *民用飞机面向适航性的 IPD 流程在电传飞控系统开发中的应用*

Pengdong Sun	AVIC Xi'an Flight Automatic Control Research Institute
Hang Zhang	AVIC Aerospace System Co.
Zhiyong Tan	AVIC Xi'an Flight Automatic Control Research Institute
Yuechao Ding	AVIC Xi'an Flight Automatic Control Research Institute
Ruiting Cao	AVIC Xi'an Flight Automatic Control Research Institute
Zilong Jing	AVIC Xi'an Flight Automatic Control Research Institute

13:30-15:30 SAT A11.168

464 *Fuzzy-Based Distributed Formation Control of Multiple QUAVs with Time-Varying State Constraints*

Jia Fu	Nanjing Univ. of Science and Technology
Qian Ma	Nanjing Univ. of Science and Technology
Peng Jin	Nanjing Univ. of Science and Technology
Guopeng Zhou	Wuhan Textile Univ.

13:30-15:30 SAT A11.169

466 *Carrier-based UAV Landing via Exploratory Grey Wolf Optimized Model Prediction Controller*

Ning Sun	Beihang Univ.
Haibin Duan	Beihang Univ.
Mengzhen Huo	Beihang Univ.
Hao Wu	China Electronics Technology Group Corporation

13:30-15:30 SAT A11.170

472 *Characteristic Modeling a Class of Nonliear Systems with Different Parameter Estimation Methods*

Yiyang Zeng	Beijing Institute of Technology
Haoshuai Wang	Beijing Institute of Technology
Lei Chen	Beijing Institute of Technology
Zhaoqi Dong	Beijing Institute of Technology

13:30-15:30 SAT A11.171

482 *Deep Learning-Based IMU Errors Compensation with Dynamic Receptive Field Mechanism*

Meng Liu	Harbin Engineering Univ.
Wei Wang	Harbin Engineering Univ.
Zhongchen Shi	Academy of Military Sciences
Liang Xie	Academy of Military Sciences
Wei Chen	Academy of Military Sciences
Ye Yan	Academy of Military Sciences
Erwei Yin	Academy of Military Sciences

13:30-15:30 SAT A11.172

483 *基于多传感器融合的城市轨道交通列车定位方法研究*

Jin Ye	Leador Spatial Information Technology Corporation
Huichao Shao	Leador Spatial Information Technology Corporation
Xiangxin Guo	Leador Spatial Information Technology Corporation
Jian Liu	Leador Spatial Information Technology Corporation
Yan Zhang	Leador Spatial Information Technology Corporation

13:30-15:30 SAT A11.173

487 *Verification Method of Oscillation Monitors for Flight Parameters in Civil Aircraft FBW System*

Jun Sima	Shanghai Aircraft Design and Research Institute
Fan Yue	Shanghai Aircraft Design and Research Institute
Zhen Zhao	Shanghai Aircraft Design and Research Institute

13:30-15:30 SAT A11.174

491 *基于混合算法的多无人机任务分配研究*

Guanfeng Ji	Research & Development Institute of Northwestern Polytechnical Univ. in Shenzhen
Zhuo Zhang	Research & Development Institute of Northwestern Polytechnical Univ. in Shenzhen
Guan Huang	Research & Development Institute of

	Northwestern Polytechnical Univ. in Shenzhen
13:30-15:30	SAT A11.175

493 *Development of Autonomous Coverage Analysis fo Spacecraft*

Meng Li	China Academy of Space Technology
Fan-lu Bai	China Academy of Space Technology
13:30-15:30	SAT A11.176

494*Parameter Analysis and Design for Coupled-Proportional Guidance-based Glide Slope Capture of Commercial Aircraft*

Zi-Bo Wei	Shanghai Aircraft Design and Research Institute
Zeyu Kang	Shanghai Aircraft Design and Research Institute
Ling Zhou	Shanghai Aircraft Design and Research Institute
13:30-15:30	SAT A11.177

498 *Research on geomagnetic sensor error correction method fo rotary-wing UAV*

Wei Xu	Shenzhen Yijiahe Technology R & D Co., LTD.
Ying Zhou	Guangdong Huitian Aerospace Technology Co., LTD.
Yongjun Wang	Guilin Institute of Aerospace Technology
Zhuo Chen	Guilin Institute of Aerospace Technology
13:30-15:30	SAT A11.178

499*Model Updating Method for Digital Twin of Unmanned Aerial Vehicle Based on Bayesian Inference and Improved Pigeon-Inspired Algorithm*

Yuchen Zhang	Beihang University
Chen Wei	Beihang University
Haibin Duan	Beihang University
Hao Wu	China Electronics Technology Group Corporation
13:30-15:30	SAT A11.179

1387 *Effects of the three-axis magnetic field on the SERF co-magnetometer used for rotation sensing*

Kai Zhang	Beihang University
Wei Quan	Beihang University
Hang Gao	Beihang University
Ze Cai	Beihang University
Rui Wang	Beihang University
Linlin Yuan	Beihang University
Lihong Duan	Beihang University
13:30-15:30	SAT A11.180

1501 *基于抽运光调制的原子自旋惯性测量响应特性分析方法*

Zeyi Hu	Beihang University
Lihong Duan	Beihang University
Lele Ma	Beihang University
Ruixi Tian	Beihang University
Shilong Jiang	Beihang University
Wei Quan	Beihang University

SATA12	**3rd Floor Meeting Room 314**
Best Paper	**3 层会议室 314**
Chairs: Hong Qiao	Institute of Automation, CAS
Yanming Fan	AVIC Shenyang Aircraft Design and Research Institute
13:30-13:40	SatA12.1

1400 *Cluster Space Formation of Manned/Unmanned Aerial Team via Generalized Homogenization Control*

Mengzhen Huo	Beihang Univ.
Siyuan Wang	Beihang Univ.
Jichuan Liu	The 54th Research Institute of China Electronics Technology Group Corporation
Hao Wu	China Electronics Technology Group Corporation
Chen Wei	Beihang Univ.
13:40-13:50	SatA12.2

1017 *INS/Stellar/RSO Tightly Coupled Celestial Navigation*

Jiayu Wang	AVIC Flight Automatic Control Research Institute
Weiping Yang	AVIC Flight Automatic Control Research Institute
Guoliang Yang	AVIC Flight Automatic Control Research Institute
Yu Tian	AVIC Flight Automatic Control Research Institute
Xiaokun Ding	AVIC Flight Automatic Control Research Institute
13:50-14:00	SatA12.3

1413 *Rapid Trajectory Planning Considering Uncertainties for Hypersonic Glide Vehicles*

Yu Xie	National Univ. of Defense Technology
Yuanlong Zhang	National Univ. of Defense Technology
Jianwen Zhu	Rocket Force Univ. of Engineering
14:00-14:10	SatA12.4

1252 *Autonomous navigation method for planetary landing based on observability degree of sequential image*

Jiaxing Li	Beijing Institute of Spacecraft System Engineering
Dayi Wang	Beijing Institute of Spacecraft System Engineering
Runran Deng	Beijing Institute of Spacecraft System Engineering
Tianshu Dong	Beijing Institute of Spacecraft System Engineering
14:10-14:20	SatA12.5

652 *Distributed Task Allocation Algorithm for Heterogeneous Unmanned Aerial Vehicle Cluster Based on Coalition Formation*

Game

Shuxin Xue	Nanjing Univ. of Aeronautics and Astronautics
Yajie Ma	Nanjing Univ. of Aeronautics and Astronautics
Bin Jiang	Nanjing Univ. of Aeronautics and Astronautics
Wenbo Li	Beijing Institute of Control Engineering
Chengrui Liu	Beijing Institute of Control Engineering
14:20-14:30	SatA12.6

693 *Self-Learning Metamodel Disturbance Observer-Based Composite Control for Coarse Pointing Assembly*

Yongjian Yang	Beihang Univ.
Jianzhong Qiao	Beihang Univ.
Yukai Zhu	Beihang Univ.
Lei Guo	Beihang Univ.
14:30-14:40	SatA12.7

862 *Residual Energy Metric for Efficient Filter Pruning*

Yucheng Jiang	Northwestern Polytechnical Univ.
Xiwen Yao	Northwestern Polytechnical Univ.
Xuguang Yang	Northwestern Polytechnical Univ.
Shuai Wang	Northwestern Polytechnical Univ.
Yaxuan Jia	Northwestern Polytechnical Univ.
Gong Cheng	Northwestern Polytechnical Univ.
Junwei Han	Northwestern Polytechnical Univ.
14:40-14:50	SatA12.8

1439 *A Novel Fatigue Detection Method based on Video Transformer*

Yuqing Zhong	Capital Normal Univ.
Tie Liu	Capital Normal Univ.
Yonghong Yang	Capital Normal Univ.
Zhuhong Shao	Capital Normal Univ.
Yuanyuan Shang	Capital Normal Univ.
Hui Ding	Capital Normal Univ.
14:50-15:00	SatA12.9

1727 *Enhancing Quadrotor Control in Wind Disturbances using Hybrid RL-Augmented MPC*

Mengyun Wang	National Univ. of Defense Technology
Yunzhuo Liu	National Univ. of Defense Technology
Yifeng Niu	National Univ. of Defense Technology
15:00-15:10	SatA12.10

488 *Research on autonomous decision-making scheme of beyond visual range air combat*

Wenfei Wang	Air Force Engineering Univ.
Le Ru	Air Force Engineering Univ.
Maolong Lv	Air Force Engineering Univ.
Jinhe Wang	Air Force Engineering Univ.
15:10-15:20	SatA12.11

1084 *Data-Based Spacecraft Rendezvous Control by SINDy*

Jin Tan	Sichuan Univ.
Guangren Duan	Harbin Institute of Technology
Mingming Shi	Sichuan Univ.
Bin Li	Sichuan Univ.
15:20-15:30	SatA12.12

957 *Covariance-Switch based Invariant Extended Kalman Filter fo Multi-Source Fusion*

Jiale Han	Shanghai Jiao Tong Univ.
Wei Ouyang	Shanghai Jiao Tong Univ.
Maoran Zhu	Shanghai Jiao Tong Univ.
Yuanxin Wu	Shanghai Jiao Tong Univ.
15:50-16:00	SatA12.13

673 *A Weight-Based Group Decision Controller For Air-Ground Collaborative Multi-Unmanned Systems*

Haichao Liu	Shanghai Univ.
Juntong Qi	Shanghai Univ.
Yan Peng	Shanghai Univ.
Yuan Ping	EFY Intelligent Control (Hainan) Technology Co. ltd
Chong Wu	EFY Intelligent Control (Hainan) Technology Co. ltd
Mingming Wang	Tianjin Univ.
16:00-16:10	SatA12.14

1530 *Evasion Maneuver Strategy and Timing Optimization Method for UAVs*

Mengke Zhao	Tsinghua Univ.
Heng Shi	Tsinghua Univ.
Minchi Kuang	Tsinghua Univ.
Jihong Zhu	Tsinghua Univ.
16:10-16:20	SatA12.15

1200 *Finite-Time Tracking Control for Output-Constrained Flexible-Joint Robot*

Qingtan Meng	Nanjing Univ. of Science and Technology
Qian Ma	Nanjing Univ. of Science and Technology
Yingkang Xie	Nanjing Univ. of Science and Technology
Zhen Wang	Shandong Univ. of Science and Technology
16:20-16:30	SatA12.16

1355 *An orbit design method for a single spacecraft to visit multiple targets*

Zenan Zhong	Harbin Institute of Technology
Zhengxiang Sun	Beijing Institute of Space Long March Vehicle
Songyan Wang	Harbin Institute of Technology
Tao Chao	Harbin Institute of Technology
Ming Yang	Harbin Institute of Technology
16:30-16:40	SatA12.17

555 *Novel Fractional-order ESO based distributed control within a curve virtual tube for multi-agent systems*

Shike Long	Guilin Univ. of Aerospace technology

Shanlin Sun	Guilin Univ. of Aerospace technology
Yongjun Wang	Guilin Univ. of Aerospace technology
Wenhao Xia	Beijing Zhuoyi Intelligent Technology Co., Ltd.
Pengyuan Shao	Xi'an Aeronautical Institute
16:40-16:50	SatA12.18

1461 *Investigating Hypernode Classification of Social Collective Behavior Based on High Order Graph Neural Networks*

Jiawen Chen	Southeast Univ.
Yanyan He	Southeast Univ.
Duxin Chen	Southeast Univ.
Wenwu Yu	Southeast Univ.

SatB1	**3rd Floor Meeting Room 305**
Learning GNC	**三层会议室 305**
Chairs: Xinglong Zhang	National Univ.of Defense Technology
Cong Li	National Univ.of Defense Technology
15:50-15:58	SatB1.1

510 *Maneuver-compensated guidance law for end-guided targets under side-window constraints*

Liya Li	Tiangong Univ.
Xulong Zhang	Tiangong Univ.
Guoyuan Qi	Tiangong Univ.
Shishen Wang	Tiangong Univ.
Hualong Yan	China fire and rescue institute
15:58-16:06	SatB1.2

1265 *Research on human-machine shared control technology based on brain-computer interface*

Hui Xiong	Tiangong Univ.
Jiahe Li	Tiangong Univ.
Jinzhen Liu	Tiangong Univ.
16:06-16:14	SatB1.3

1028 *A Novel Kinematic Model Based Motion Estimation Method of the Non-cooperative Target with Monocular Optical Sensor*

Mingjiang Zhang	Beijing Institute of Spacecraft System Engineering
Rui Xiu	Beijing Institute of Aerospace Control Devices
Bo Shen	Beijing Institute of Astronautical Systems Engineering
16:14-16:22	SatB1.4

1227 *Reliability Prediction Method for Degradation Failures in Reaction Wheels*

Ziyang Lu	Sun Yat-sen Univ.
Fangzhou Fu	Sun Yat-sen Univ.
Muye Yu	Sun Yat-sen Univ.
Zhen Qian	Sun Yat-sen Univ.
16:22-16:30	SatB1.5

238 *Model prediction of observation information based on Koopman operator in optical relative navigation*

Xiaohong Zhang	National Univ.of Defense Technology
Haiyin Zhou	National Univ.of Defense Technology
Bowen Hou	National Univ.of Defense Technology
Yijie Zhang	National Univ.of Defense Technology
Jiongqi Wang	National Univ.of Defense Technology
16:30-16:38	SatB1.6

258 *Detection Method for Abnormal Constant Output of Satellite Star Sensors in Orbit*

Huadong Tian	Beijing Institute of Spacecraft System Engineering
Hongfei Li	Beijing Institute of Spacecraft System Engineering
Rui Qiu	Beijing Institute of Spacecraft System Engineering
Yuanyuan Tu	Beijing Institute of Spacecraft System Engineering
16:38-16:46	SatB1.7

332 *Position protection management method for electric propulsion of geostationary satellites*

Rui Qiu	Beijing Institute of Spacecraft System Engineering
Hongfei Li	Beijing Institute of Spacecraft System Engineering
Mingjiang Zhang	Beijing Institute of Spacecraft System Engineering
Huadong Tian	Beijing Institute of Spacecraft System Engineering
16:46-16:54	SatB1.8

423 *Evaluation research based on entropy weight and multi-index comprehensive health index method*

Jia Weng	Beijing Institute of Spacecraft System Engineering
Meihong Li	Beijing Institute of Spacecraft System Engineering
Weiwei Wang	Beijing Institute of Spacecraft System Engineering
16:54-17:02	SatB1.9

556 *A Method for the Unified Modelling and Estimation of Systematic Errors in Image-Based Relative Navigation Systems*

Bowen Sun	National Univ.of Defense Technology
Dayi Wang	Beijing Institute of Spacecraft System Engineering
Xuanying Zhou	National Univ.of Defense Technology
Haiyin Zhou	National Univ.of Defense Technology
Maodeng Li	Beijing Institute of Spacecraft System Engineering
Jiongqi Wang	National Univ.of Defense Technology
17:02-17:10	SatB1.10

590 *An efficient method for estimating relative orbit parameters of space targets based on sequential images*

Yadan Jiang	National Univ.of Defense Technology
Haiyin Zhou	National Univ.of Defense Technology
Jiongqi Wang	National Univ.of Defense Technology
Jiaxing Li	Beijing Institute of Spacecraft System Engineering
Bowen Hou	National Univ.of Defense Technology
Bowen Sun	National Univ.of Defense Technology
17:10-17:18	SatB1.11

768 *Anomaly Detection of Satellite Power System Based on Long Short-Term Memory Network Prediction*

Juhui Wei	National Univ.of Defense Technology
Jiongqi Wang	National Univ.of Defense Technology
Zhangming He	National Univ.of Defense Technology
Xuanying Zhou	National Univ.of Defense Technology
Bowen Hou	National Univ.of Defense Technology
17:18-17:26	SatB1.12

598 *基于深度强化学习的多无人车协同路径规划方法研究*

Shengtan Dai	Nanjing Univ. of Aeronautics and Astronautics
Yin Wang	Nanjing Univ. of Aeronautics and Astronautics
Chenchen Shang	Nanjing Univ. of Aeronautics and Astronautics
Muqing Su	Nanjing Univ. of Aeronautics and Astronautics
17:26-17:34	SatB1.13

612 *面向逆轨拦截机动目标的深度强化学习制导算法*

Qingcheng Wan	Nanjing Univ. of Aeronautics and Astronautics
Meng Yu	Nanjing Univ. of Aeronautics and Astronautics
Yubao Li	Nanjing Univ. of Aeronautics and Astronautics
17:34-17:42	SatB1.14

1465 *A High-visibility Path Planning for Tracking Moving Targets*

Yu Lan	Beihang Univ.
Dawei Li	Beihang Univ.
Chenlong Zhang	Beihang Univ.

SatB2	**3rd Floor Meeting Room 306**
Planning GNC	**三层会议室 306**
Chairs: Bo Zhu	Sun Yat-sen Univ.
Ershen Wang	Shenyang Aerospace Univ.
15:50-15:58	SatB2.1

189 *The Application of Linear Active Disturbance Rejection Control in Micro Quadro UAV*

Yanjie Min	Beihang Univ.
Dawei Li	Beihang Univ.
Xuyang Gao	Beihang Univ.
15:58-16:06	SatB2.2

283 *Dynamic Trajectory Planning between Continuous Waypoints for the Redundant Cable-Driven Parallel Robot*

Ting Li	Sun Yat-sen Univ.
Bo Zhu	Sun Yat-sen Univ.
Dong Zhang	Sun Yat-sen Univ.
16:06-16:14	SatB2.3

486 *Robust Synchronization Control of Heterogeneous Systems with Underactuated and Overactuated Helicopters*

Shiyao Li	Harbin Institute of Technology
Baoqing Yang	Harbin Institute of Technology
Jie Ma	Harbin Institute of Technology
Zixiao Yang	Sun Yat-sen Univ.
Bo Zhu	Sun Yat-sen Univ.
16:14-16:22	SatB2.4

524 *Virtual Reality-based Solo Teleoperation for Aerial Manipulator Collaboration System*

Jiayu Liu	Harbin Institute of Technology
Zhan Li	Harbin Institute of Technology
Mingjun Wang	Harbin Institute of Technology
Hai Li	Harbin Institute of Technology
Chen Dong	Harbin Institute of Technology
Quman Xu	Harbin Institute of Technology
16:22-16:30	SatB2.5

1130 *Research on Active Disturbance Rejection Control Method for Electro-Hydrostatic Actuators*

Haoyang Li	Beijing Univ. of Posts and Telecommunications
Lei Han	Beijing Univ. of Posts and Telecommunications
16:30-16:38	SatB2.6

497 *Attitude Calculation of Unmanned Underwater Vehicle Based on Multi sensor Data Fusion*

Gao Wang	Guilin Univ. of Electronic Technology
Yongjun Wang	Guilin Univ. of Electronic Technology
Zhi Li	Guilin Univ. of Electronic Technology
16:38-16:46	SatB2.7

786 *Integrated navigation yaw correction based on underwater polarized light assistance*

Jicheng Ding	Harbin Engineering Univ.
Jiaxuan Hou	Harbin Engineering Univ.
Na Liu	Harbin Engineering Univ.
Zhijian Pan	Harbin Engineering Univ.
Jianhua Cheng	Harbin Engineering Univ.
16:46-16:54	SatB2.8

1118 *A Robust Filtering Algorithm for GNSS/INS Integrated Navigation System Based on CKF*

Bin Lan	Guilin Univ. of Aerospace Technology
Ershen Wang	Shenyang Aerospace Univ.
Yongjun Wang	Guilin Univ. of Aerospace Technology
Yilin He	Shenyang Aerospace Univ.
Zeyu Tang	Guilin Univ. of Aerospace Technology
16:46-16:54	SatB2.9

1176 *Intelligent visual monitoring terminal for low-altitude UAV detection*

Qian Gao	Liaoning General Aviation Academy
Mingqi Zhou	Shenyang Aerospace Univ.
Teng Ma	Shenyang Aerospace Univ.
Chuanyun Wang	Shenyang Aerospace Univ.
Tian Wang	Beihang Univ.
16:54-17:02	SatB2.10

1179 *Audio bird repellent system for airport clearance protection*

Qian Gao	Liaoning General Aviation Academy
Mingqi Zhou	Shenyang Aerospace Univ.
Teng Ma	Shenyang Aerospace Univ.
Chuanyun Wang	Shenyang Aerospace Univ.
Tian Wang	Beihang Univ.
17:02-17:10	SatB2.11

708 *A Whole-Body Compliance Control Strategy of Truss Crawling for Multi-Arm Space Robots*

Zijian Dai	Harbin Institute of Technology Shenzhen
Peiji Wang	Harbin Institute of Technology Shenzhen
Tao Lin	Harbin Institute of Technology
Chengfei Yue	Harbin Institute of Technology Shenzhen
17:10-17:18	SatB2.12

710 *基于预定时间收敛滑模控制的上面级姿态控制*

Mingze Wang	Beijing Electronic Engering System Insitute
Haibin Li	Beijing Electronic Engering System Insitute
Tao Shen	Beijing Electronic Engering System Insitute
Tong Liang	Beijing Electronic Engering System Insitute
17:18-17:26	SatB2.13

937 *Convex optimization guidance of ascent trajectory sequence with free final time*

Haopeng Wang	Northwestern Polytechnical Univ.
Yibo Ding	Northwestern Polytechnical Univ.
Xiaokui Yue	Northwestern Polytechnical Univ.
17:26-17:34	SatB2.14

1046 *Null-space-based Connectivity Preservation Control for Spacecraft Formation Flying*

Xianghong Xue	Xi'an Univ. of Technology
Tianhang Song	Xi'an Univ. of Technology
Youmin Zhang	Concordia Univ.
Bojun Liu	Xi'an Univ. of Technology
Wenya Wan	Xi'an Univ. of Technology
Lingxia Mu	Xi'an Univ. of Technology
17:42-17:50	SatB2.15

1721 *Review of path planning algorithms for mobile robots*

Yining Zhi	Xi'an Univ. of Science and Technology
Keke Shi	Xi'an Univ. of Science and Technology
Xingchen Liu	Xi'an Univ. of Science and Technology

SatB3	**3rd Floor Meeting Room 307**
Chairs: Xiao Liang	Nankai Univ.
Hang Su	Beihang Univ.
15:50-15:58	SatB3.1

250 *A new nonlinear design for the elastic hanging model and control law of quadrotor UAV*

Hang Guo	Tianjin University of Technology
Sen Yang	Tianjin University of Technology
Jigang Tong	Tianjin University of Technology
Tian Xie	Tianjin University of Technology
15:58-16:06	SatB3.2

893 *Coordinated Transportation of Tethered Multi-rotor UAVs under Wind Disturbance*

Ya Liu	Shanghai Jiao Tong University
Yanling Lai	Shanghai Jiao Tong University
Fan Zhang	Northwestern Polytechnical University
16:06-16:14	SatB3.3

932 *Velocity Observer-based Safety-critical Vision Landing of a Quadrotor on a Ground Vehicle*

Qianqian Cao	Nankai University
Shizhen Wu	Nankai University
Yongchun Fang	Nankai University
Xiao Liang	Nankai University
16:14-16:22	SatB3.4

1292 *Nonlinear MPC-Based Gains Auto-Tuning Control for Aerial Transportation System with Double-Pendulum Swing Effects*

Bingbing Liu	Nankai University
Hai Yu	Nankai University
Wei He	Nankai University
Yongchun Fang	Nankai University
Jianda Han	Nankai University
Xiao Liang	Nankai University
16:22-16:30	SatB3.5

1296 *An Installation Error Analysis Method of Prism in Mirrored Structured Light Vision System*

Xiao Li	China University of Petroleum East China.
Yanpeng Yang	China University of Petroleum East China
Wei Li	China University of Petroleum East China
Jingyu Zhou	China University of Petroleum East China.
Xin'an Yuan	China University of Petroleum East China
16:30-16:38	SatB3.6

454 *Enhancing the Heuristic Function of Improved A* Algorithm for UAV Robotic Arm Path Planning Using Dynamic Pigeon-Inspired Optimization*

Lihaoqi Zheng	Beihang University
Haibin Duan	Beihang University
Mengzhen Huo	Beihang University
Hao Wu	China Electronics Technology

Dynamic GNC	**3 层会议室 307**

	Group Corporation
16:38-16:46	SatB3.7

470 *Enhanced Harris Hawk Optimized Image Segmentation Model for Unmanned Aerial Vehicle Remote Sensing Scene Segmentation*

Hang Su	Beihang University
Yongbin Sun	Beihang University
Haibin Duan	Beihang University
16:46-16:54	SatB3.8

1113 *LPV Modeling and Robust Gain Scheduling Control of a Class of Quadrotor UAVs with Tilt Rotors*

Mengyu Gao	Northwestern Polytechnical University.
Yue Li	Northwestern Polytechnical University
Jun Yang	Northwestern Polytechnical University
16:54-17:02	SatB3.9

1186 *UAV-Assisted Secure Communication System with Dynamic Constraints*

Hongyun Zhang	Sichuan University
Bin Li	Sichuan University
Zhen-Qing He	Sichuan University
17:02-17:10	SatB3.10

317 *Predefined-Time Fault Tolerant Control for Hypersonic Vehicles Under Actuator Faults*

FangZheng Chen	Beihang University
Qinglei Hu	Beihang University
Tuo Han	Beihang University
17:10-17:18	SatB3.11

814 *Enhancing Active Defense with a Predictive Guidance Law Based on Constant Maneuvering Envelope*

Luhua Yang	Tsinghua University
Heng Shi	Tsinghua University
Minchi Kuang	Tsinghua University
Jihong Zhu	Tsinghua University
17:18-17:26	SatB3.12

1299 *Research on modeling method of adaptive cycle engine based on intelligent hybrid solving algorithm*

Zhidan Liu	Tsinghua University
Xiangyang Wang	Tsinghua University
Yunjie Yang	Tsinghua University
Jihong Zhu	Tsinghua University
17:26-17:34	SatB3.13

1699 *Design of a Three-Dimensional Visualization System for Path Planning in Unmanned Aerial Vehicles*

Xiangyuan Fan	Deep Space Exploration Laboratory
Danfeng Wu	Beijing Union University
Longjie Gao	Xinjiang University
17:34-17:42	SatB3.14

703 *基于近端策略优化的动作切换导航算法*

Yuhang Zhang	Beijing Institute of Technology
Yanmin Liu	Beijing Institute of Technology
Zuowei Wang	QCRAFT Limited
Haikuo Liu	Beijing Institute of Technology
Zhen Li	Beijing Institute of Technology
Wenjie Chen	Beijing Institute of Technology
17:42-17:50	SatB3.15

1610 *PCIe-based Multi-node Efficient Interconnection Mechanism Design*

Zhenpeng Xu	Jiangsu Automation Research Institute
Yunxiang Xianyu	Jiangsu Automation Research Institute
Chuan Xia	Jiangsu Automation Research Institute

SatB4	**3rd Floor Meeting Room 309**
Formation GNC	**3 层会议室 309**
Chairs: Mengyun Wang	National Univ.of Defense Technology
Zhihong Liu	National Univ.of Defense Technology
15:50-15:58	SatB4.1

1234 *On the Rotation and Stop Time of Rotary Inertial Navigation System*

Ruitao Li	Naval Aviation University
Shenghong Xu	Naval Aviation University
15:58-16:06	SatB4.2

336 *一种基于无人机编队统一模型的自适应反演控制方法*

Junwei Lei	Naval Aviation University
Bing Wan	Naval Aviation University
Lei Meng	Naval Aviation University
Chao Dong	Naval Aviation University
Qiang Wang	Naval Aviation University
Xiuzhen Wu	Naval Aviation University
16:06-16:14	SatB4.3

475 *Time-Optimal Path Following Control of Multi-Rotor UAV Based on Waypoints*

ZhiCai Xiao	Naval Aviation University
Lingsong Di	Naval Aviation University
Haonan Wu	Naval Aviation University
Xiuzhen Wu	Naval Aviation University
Yahui Qi	Naval Aviation University
16:14-16:22	SatB4.4

532 *Research on Trajectory Tracking and Point Control Strategies for Multi-rotor UAVs*

Lingsong Di	Naval Aviation University
Yahui Qi	Naval Aviation University
Defeng Sun	Naval Aviation University
Zhicai Xiao	Naval Aviation University
Peng Zhang	Naval Aviation University
16:22-16:30	SatB4.5

597 *Motion target detection method based on optical flow and motion vector fusion*

Shangcong Li	Naval Aviation University
Luyu Liu	Naval Aviation University
Liang Qin	Naval Aviation University
Haiyu Li	Naval Aviation University
16:30-16:38	SatB4.6

284 *Improved Glasius Bio-inspired Neural Network for Target Search*

Jian Yang	Wuhan Second Ship Design and Research Institute
Cai Xu	The Third Military Representative Office of the Naval Equipment Department in Wuhan
Wang Li	Wuhan Second Ship Design and Research Institute
Yabo Wang	Wuhan Second Ship Design and Research Institute
XuDong Yu	National University of Defense Technology
16:38-16:46	SatB4.7

1052 *Design on Measurement and Control Scheme of Multi-beam Sounding System Segmentation*

Na Zhang	Nanjing University of Posts and Telecommunications
Shuhan Chen	Nanjing University of Posts and Telecommunications
Shixun Xiong	Nanjing University of Posts and Telecommunications
Fengying Zhang	Hengmei Optoelectronic Corporation
16:46-16:54	SatB4.8

1143 *Autonomous Decision-Making of Drone Swarm based on Deep Reinforcement Learning*

Na Zhang	Nanjing University of Posts and Telecommunications
Shuhan Chen	Nanjing University of Posts and Telecommunications
Shixun Xiong	Nanjing University of Posts and Telecommunications
Fengying Zhang	Hengmei Optoelectronic Corporation
16:54-17:02	SatB4.9

1350 *Decision-making for Ship Formation Centroid Jamming Based on Reinforcement Learning*

Yiran Chen	Harbin Institute of Technology
Guoxing Yi	Harbin Institute of Technology
Hao Wang	Harbin Institute of Technology
Yisong Zhang	Harbin Institute of Technology
Yu Cheng	Harbin Institute of Technology
Zhennan Wei	Harbin Institute of Technology
17:02-17:10	SatB4.10

420 *Path planning of unmanned surface vessel based on improved Dyna-Sarsa algorithm*

Peng Zhao	Harbin Engineering University
Enjiao Zhao	Harbin Engineering University
Yujing Yang	Harbin Engineering University
Kefei Yuan	Wuhan Second Ship Design and Research Institute
17:10-17:18	SatB4.11

834 *Multi-AUV Cooperative Positioning Algorithm Based on Factor Graph*

Jian Yang	Wuhan Second Ship Design and Research Institute
Hong Zhu	Harbin Institute of Technology
Yabo Wang	Wuhan Second Ship Design and Research Institute
Wei Gao	Harbin Institute of Technology
Cai Xu	The Third Military Representative Office of Naval Equipment Department in Wuhan
17:18-17:26	SatB4.12

775 *A Novel Frame-Event Fusion Framework for High-frequency Tracking*

Heyi Quan	Beihang University
Qingdong Li	Beihang University
Jianglong Yu	Beihang University
Xiwang Dong	Beihang University
17:26-17:34	SatB4.13

1088 *Configuration optimization for dynamic pressure-assisted measurement based Mars atmosphere entry navigation*

Pengzhi Li	Beijing Institute of Technology
Jiateng Long	Beijing Institute of Technology
Xini Niu	Beijing Institute of Technology
Zhengjia Fan	Beijing Institute of Technology
17:34-17:42	SatB4.14

1357 *Trajectory Optimization for Hypersonic Gliding Vehicle Using Lossless Convexification*

Zhenghao Shi	Beijing Institute of Technology
Xiaosong Li	China Academy of Launch Vehicle Technology
Lei Zhang	China Academy of Launch Vehicle Technology
Zixuan Liang	Beijing Institute of Technology
17:42-17:50	SatB4.15

1640 *Simultaneous Weapon-Target Assignment for Cooperating UAVs Based on Spatio-Temporal Constraints*

Boyang Shen	Beijing university of technology
Heng Deng	Beijing university of technology
Yangguang Cai	Shanghai Electro-Mechanical Engineering Institute
Duhao Li	Beijing university of technology

SatB5	**3rd Floor Meeting Room 310**
Modelling GNC	**3 层会议室 310**
Chairs: Cong Peng	Nanjing Univ. of Aeronautics and Astronautics
Yanbin Liu	Nanjing Univ. of Aeronautics and Astronautics
15:50-15:58	SatB5.1

890 *Digital Twin-Driven Online Health Status Prediction of Power MOSFETs*

Jinquan Yang	Nanjing University of Aeronautics and Astronautics
Jiangnan Ji	Nanjing University of Aeronautics and Astronautics

Xinyu Li	Nanjing University of Aeronautics and Astronautics
Quanzhou Chen	Nanjing University of Aeronautics and Astronautics
Cong Peng	Nanjing University of Aeronautics and Astronautics

15:58-16:06 SatB5.2

902 *Adaptive Tracking Control for Unmanned Helicopter based on Multi-Dimensional Taylor Network*

Yudong Li	Nanjing University of Aeronautics and Astronautics
Zhiyang He	Nanjing University of Aeronautics and Astronautics
Haibo Wang	Nanjing University of Aeronautics and Astronautics
Shuang Shi	Nanjing University of Aeronautics and Astronautics

16:06-16:14 SatB5.3

676 *A High Fidelity Modeling Method for Aircraft Engine Degradation Tracking*

Bei Li	Nanjing University of Aeronautics and Astronautics
Cong Peng	Nanjing University of Aeronautics and Astronautics
Sumu Shi	Nanjing University of Aeronautics and Astronautics
Sijia Yu	Nanjing University of Aeronautics and Astronautics
Zheyan Ji	Nanjing University of Aeronautics and Astronautics

16:14-16:22 SatB5.4

733 *A Real-time Prediction Method for SOH of Lithium-ion Batteries Based on Digital Twins*

Jiayin Zhu	Nanjing University of Aeronautics and Astronautics
Yu Wang	Nanjing University of Aeronautics and Astronautics
Cong Peng	Nanjing University of Aeronautics and Astronautics

16:22-16:30 SatB5.5

827 *Formation Tracking of UAV Cluster Systems Based on Disturbance Observer*

Xinle Zhang	Nanjing University of Aeronautics and Astronautics
Ju Jiang	Nanjing University of Aeronautics and Astronautics

16:30-16:38 SatB5.6

885 *Remaining Useful Life Prediction of Power MOSFETs Based on UnetTSF*

Jinquan Yang	Nanjing University of Aeronautics and Astronautics
Quanzhou Chen	Nanjing University of Aeronautics and Astronautics
Xinyu Li	Nanjing University of Aeronautics and Astronautics
Jiangnan Ji	Nanjing University of Aeronautics and Astronautics
Cong Peng	Nanjing University of Aeronautics and Astronautics

16:38-16:46 SatB5.7

945 *基于动态逆的飞行器质心突变L1 自适应控制*

Xiang Kong	Nanjing University of Aeronautics and Astronautics
Zunshi Shui	Beijing Institute of Aerospace Technology
Yanbin Liu	Nanjing University of Aeronautics and Astronautics
Haidong Shen	Nanjing University of Aeronautics and Astronautics

16:46-16:54 SatB5.8

981 *折叠翼垂直起降飞行器多体动力学建模和控制*

Hailong Lv	Nanjing University of Aeronautics and Astronautics
Yanbin Liu	Nanjing University of Aeronautics and Astronautics
Boyi Chen	Nanjing University of Aeronautics and Astronautics

16:54-17:02 SatB5.9

1177 *Air data estimation based on integrating FADS/INS for flight control of UAV*

DiBo Xiao	Chengdu University of Information and Technology
JunJie Wang	Chengdu University of Information and Technology

17:02-17:10 SatB5.10

1311 *具有不确定性的倾转旋翼机过渡模态模糊控制设计*

Kun Yan	Xi'an Technology University
Mengyao Niu	Xi'an Technology University
Chaobo Chen	Xi'an Technology University
Haidong Shen	Nanjing University of Aeronautics and Astronautics

17:10-17:18 SatB5.11

1535 *Global Sliding Mode Guidance Law with Intersection Angle Constraint Based on Reinforcement Learning*

Changhai Wang	Beihang University
Rongqi Zhang	Beihang University
Qingdong Li	Beihang University
Jianglong Yu	Beihang University
Xiwang Dong	Beihang University
Zhang Ren	Beihang University

17:18-17:26 SatB5.12

604 *基于事件触发的柔性机械臂执行器故障补偿*

Shengjie Xing	Anhui University
Dong Zhao	Anhui University
Wenjing Ren	Hefei University of Technology

17:26-17:34 SatB5.13

716 *基于自适应神经网络的四旋翼无人机固定时间指令滤波控制*

Li Nie	Nanjing University of Aeronautics and Astronautics
Chenliang Li	Nanjing University of Aeronautics and Astronautics
Wangkui Liu	Beijing Institute of Aerospace Technology
Haidong Shen	Nanjing University of Aeronautics and Astronautics
Yanbin Liu	Nanjing University of Aeronautics and Astronautics
Jinbao Chen	Nanjing University of Aeronautics and Astronautics

17:34-17:42 SatB5.14

870 *面向控制的变构型空天飞行器建模及特性分析*

Zepeng Gao	Nanjing University of Aeronautics and Astronautics
Yanbin Liu	Nanjing University of Aeronautics and Astronautics
Haidong Shen	Nanjing University of Aeronautics and Astronautics
Jinbao Chen	Nanjing University of Aeronautics and Astronautics
Zepeng Gao	Nanjing University of Aeronautics and Astronautics

17:18-17:26 SatB5.12

991 *Navigation Fusion Method with Improving Sensor Failure Tolerance for Rocket Formation Landings*

Chenhui Li	Kyushu University
Mai Bando	Kyushu University
Shinji Hokamoto	Kyushu University

SatB6 Reliable GNC — **3rd Floor Meeting Room 311 三层会议室 311**

Chairs: Kai Shen	Beijing Institute of Technology
Jinwen Hu	Northwestern Polytechnical Univ.

15:50:15:58 SatB6.1

805 *Munition Roll Stabilization Control Method 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
Wentao Tang	Beijing Information Science and Technology University

15:58:16:06 SatB6.2

1083 *De-Spinning Wing Design and Aerodynamic Characteristics Analysis of High-Spinning Flight Body with Aft Control Kit*

Xinrui Luo	Beijing Institute of Technology
Meng Zhang	Beijing Institute of Technology
Kai Shen	Beijing Institute of Technology
Lijuan Wang	Beijing Institute of Technology

16:06:16:14 SatB6.3

1220 *Sensitivity-Guided Multi-Stage Sequential Quadratic Programming for Launch Sequence Optimization*

Kai Shen	Beijing Institute of Technology
Wenjun Guo	eijing Institute of Technology
Zheng Xu	Beijing Institute of Technology
Haocheng Peng	Beijing Institute of Technology
Xinye Zhang	Beijing Institute of Technology

16:14:16:22 SatB6.4

1225 *Spacecraft Robust Pose Control for Contactless Detumbling of High-Spinning Space Debris via 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

16:22-16:30 SatB6.5

1438 *Guidance Design for the Escape Flight Vehicle Using Dynamic Programming Method Based on Virtual Calculation Technique*

Xiao Hu	Tsinghua University
Hongbo Wang	China Academy of Launch Vehicle Technology
Min Gong	China Academy of Launch Vehicle Technology
Tianshu Wang	Tsinghua University
Kerui Jin	Nanjing University of Science and Technology
Shuai Xue	Nanjing University of Science and Technology

16:30-16:38 SatB6.6

248 *Research on Airflow Angle Estimation Algorithm under Low-Cost Sensors*

Xiaochen Lyu	Northwestern Polytechnical University
Jingping Shi	Northwestern Polytechnical University
GengNong Li	Northwestern Polytechnical University
Kang Qyu	Northwestern Polytechnical University
Ruoyi Jiao	Northwestern Polytechnical University

16:38:16:46 SatB6.7

1564 *A deep stall recovery control based on the proximal policy optimization*

Xinlong Xu	Northwestern Polytechnical University
Ruichen Ming	Northwestern Polytechnical University
Xiaoxiong Liu	Northwestern Polytechnical University

16:46:16:54 SatB6.8

363 *Research on the Design of Maneuver Library and Control*

Algorithm for Air Combat Decision-making

GengNong Li	Northwestern Polytechnical University
Yongxi Lyu	Northwestern Polytechnical University
Dapeng Yang	AVIC Shenyang Aircraft Design and Research Institute
Huanying Jin	AVIC Shenyang Aircraft Design and Research Institute
Jinwei Zhao	AVIC Shenyang Aircraft Design and Research Institute
Haitong Zhou	AVIC Shenyang Aircraft Design and Research Institute

16:54:17:02 SatB6.9

585 *Direct lift Carrier landing control based on adaptive nonlinear dynamic inversion for carrier-based aircraft*

Tongwen Chen	Northwestern Polytechnical University
Xiaoxiong Liu	Northwestern Polytechnical University
Kecheng Li	Northwestern Polytechnical University
Jiaxin Chen	Northwestern Polytechnical University

17:02-17:10 SatB6.10

674 *Wing-Damaged Aircraft Fault-Tolerant Control Laws Design Based on ADRC*

Kecheng Li	Northwestern Polytechnical University
Yuewen Wang	Northwestern Polytechnical University
Tongwen Chen	Northwestern Polytechnical University
Shan Huang	Northwestern Polytechnical University
Xiaoxiong Liu	Northwestern Polytechnical University

17:10:17:18 SatB6.11

1662 *Study on the multi-source variable resolution data fusion of seabed terrain in typical area of Arctic ocean*

Xun Gong	CSSC Marine Technology Company
Wang Qingzhe	CSSC Marine Technology Company
Chong Zhang	Capital Normal University
Houyu Zhou	CSSC Marine Technology Company
Wei An	CSSC Marine Technology Company

17:18:17:26 SatB6.12

1587 *A Gravity-Aided Navigation Matching Area Selection Algorithm Based on Triangulation*

Yu Wang	Beijing Institute of Technology
Zhihong Deng	Beijing Institute of Technology
Wenzhe Zhang	Beijing Institute of Technology

17:26:17:34 SatB6.13

102 *Optimal Deployment in Pursuit-evasion Game based on Apollonius Circle for Multi-UAV System*

Xinning Wu	National University of Defense Technology
Huangchao Yu	National University of Defense Technology
Xiangke Wang	National University of Defense Technology
Yongbin Zheng	National University of Defense Technology

17:34:17:42 SatB6.14

371 *Multi-target Penetration Path Planning for UAV Swarms Based on Time Synchronization Constraints*

Jiusong Feng	Northwestern Polytechnical University
Liyuan Fan	Northwestern Polytechnical University
Jinwen Hu	Northwestern Polytechnical University
Zhao Xu	Northwestern Polytechnical University
Junwei Han	Northwestern Polytechnical University

17:42:17:50 SatB6.15

1676 *Modeling and Control of High Angle of Attack Maneuvering Flight for Fixed-Wing UAVs with Consideration of Hysteresis Effects*

Yufan Peng	National University of Defense Technology
Huangchao Yu	National University of Defense Technology
Su Cao	National University of Defense Technology

SatB7 3rd Floor Meeting Room 312

Fusion GNC 三层会议室 312

Chairs: Maosong Wang National Univ.of Defense Technology

Jun Mao National Univ.of Defense Technology

15:50:15:58 SatB7.1

139 *A New Integrated Navigation Algorithm Framework Based on LG-EKF for Underwater Vehicles*

Wenguo Yang	National University of Defense Technology
Maosong Wang	National University of Defense Technology
Wenqi Wu	National University of Defense Technology
Jiarui Cui	National University of Defense Technology

15:58:16:06 SatB7.2

1324 *Observability analysis on DVL and range assisted AUV navigation in presence of unknown current and range drift*

on cloud model and AHP

Jiarui Cui	National Univercity of Defense Tecnology
Maosong Wang	National Univercity of Defense Tecnology
Wenqi Wu	National Univercity of Defense Tecnology
Xianfei Pan	National Univercity of Defense Tecnology
16:06:16:14	SatB7.3

1449 *An Improved EKF-based Localization Method for Underwater Single Beacon*

Shian Sun	Hohai University
Haoqian Huang	Hohai University
Di Wang	Hohai University
Junwei Wang	Hohai University
16:14:16:22	SatB7.4

1480 *A Sequential Sage-Husa Adaptive Filter for Cooperative Localization*

Zhang Han	Harbin Engineering University
Jianqiang Zhang	School of intelligent science and Engineering
Chao Xue	Harbin Engineering University
Fengchi Zhu	Harbin Engineering University
Yulong Huang	Harbin Engineering University
16:22-16:30	SatB7.5

413 *A Hybrid Cooperative Navigation Method for UAV Swarm based on Range Optimization and State Transformation Extended Kalman Filter*

Xincan Luo	National University of Defense Technology
Maosong Wang	National Univercity of Defense Tecnology
Wenqi Wu	National Univercity of Defense Tecnology
Jiarui Cui	National Univercity of Defense Tecnology
16:30-16:38	SatB7.6

913 *Leg odometry assisted GNSS/INS integrated navigation system for the quadruped robot*

Yarong Luo	Wuhan University
Yichao Chen	Wuhan University
Anbo Tao	Wuhan University
Chi Guo	Wuhan University
16:38:16:46	SatB7.7

997 *An Underwater SINS/DVL Integrated Navigation Method Considering Unknow and Constant Ocean Current Velocity*

Yunyun Xie	National University of Defense Technology
Zhiming Xiong	National University of Defense Technology
Juliang Cao	National University of Defense Technology
Shaokun Cai	National University of Defense Technology
Kaixin Luo	National University of Defense Technology
16:46:16:54	SatB7.8

1303 *A Novel Underwater PSO-SVR Calibration Method for SINS/DVL*

Haoqian Huang	Hohai university
Rong Qiu	Hohai university
Aoqi Lv	Hohai university
Mengdie Zhang	Hohai university
16:54:17:02	SatB7.9

1313 *A residual-based state transformation sequential adaptive filter for dynamic attitude measurement*

Yuanxin Gu	National University of Defense Technology
Wenqi Wu	National University of Defense Technology
Chenchen Liu	China Academy of Launch Vehicle Technology
Chang Longkang	National University of Defense Technology
Maosong Wang	National University of Defense Technology
17:02-17:10	SatB7.10

500 *Convolutional Neural Network Model Compression for Gearbox Fault Diagnosis Based on Knowledge Distillation*

Zonghan Han	Beihang University
Zhisheng Cao	The System Design Institute of Mechanical-Electrical Engineering
Xinyu Zou	Beihang University
Xue Liu	Beihang University
Jian Ma	Beihang University
17:10:17:18	SatB7.11

1425 *Optimization Strategies for Maintenance Schemes Based on Large Language Models and Prompt Engineering*

Laifa Tao	Beihang University
Qi xuan Huang	Beihang University
Dong Qian	The Tenth Research Institute of China Electronics Technology Group Gorporation
Jia Wen	The Tenth Research Institute of China Electronics Technology Group Gorporation
Chengcheng Wang	Instrumentation Technology and Economy Institute
Weiwei Zhang	Beihang University
Bin Li	Beihang University
Yunlong Wu	Beihang University
17:18:17:26	SatB7.12

1660 *Fault diagnosis with imbalanced data:a stable sample generation approach based on CWGAN-GP model*

Tong Zhang	China State Ship-Building Corporation Limited
Tong Zhang	China State Ship-Building Corporation Limited

Yuanxing Huang	China State Ship-Building Corporation Limited
Xianqun Mao	China State Ship-Building Corporation Limited

17:26:17:34 SatB7.13

1261 *Remaining Useful Life Prediction Method Based on Performance Trajectory Similarity and Transfer Fusion*

An Zhou	Beihang University
Yujie Cheng	Beihang University
Dong Qian	The Tenth Research Institute of China Electronics Technology Group Gorporation
Chengcheng Wang	Instrumentation Technology and Economy Institute
Jia Wen	The Tenth Research Institute of China Electronics Technology Group Gorporation
Laifa Tao	Beihang University

17:34:17:42 SatB7.14

1319 *Hybrid Transfer Learning for Fault Diagnosis of Plunger Pumps Based on Features and Models*

Chengen Wang	Beihang University
Minghui Zhang	Beihang University
Yiting Zhou	Beihang University
Junjie Huang	Beihang University
Jian Ma	Beihang University

17:42:17:50 SatB7.15

889 *500KV Transmission Tower Drone Inspection Path Planning Approach Based on Honey Badger Optimization Algorithm*

Ning He	CHN Energy
Tian Xie	CHN Energy
Qiyue Xie	Changsha University of Science and Technology
Wenbin Wang	CHN Energy

SatB8 3rd Floor Meeting Room 313
Robust GNC 三层会议室 313

Chairs: Guang He National Univ.of Defense Technology
Shulong Zhao National Univ.of Defense Technology

15:50:15:58 SatB8.1

1189 *Testing Method for Typical RNP Programs*

Jia Chen	Commercial Aircraft Corporation of China
Yijia Gao	Commercial Aircraft Corporation of China
Huiwen Yu	Commercial Aircraft Corporation of China
Zhan Zhang	Commercial Aircraft Corporation of China

15:58:16:06 SatB8.2

1334 *Research on Trajectory Conflict Detection and Resolution for TBO*

Pengpeng Guo	Tsinghua University
Bohang Liang	Tsinghua University
Shihong Li	Tsinghua University
Kan Yang	Tsinghua University
Qing Li	Tsinghua University

16:06:16:14 SatB8.3

648 *Research on flight control of TRUAVs based on adaptive dynamic programming*

Linxiao Zhang	National University of Defense Technology
Guang He	National University of Defense Technology
Zhiqiang Long	National University of Defense Technology
Shuncai Rao	National University of Defense Technology

16:14:16:22 SatB8.4

749 *Research on model parameter identification of ro-torcraft based on BP neural network*

PengCheng Dong	Beijing Aerospace Automatic Control Institute
Na Yao	Beijing Aerospace Automatic Control Institute
Kunfeng Lu	Beijing Aerospace Automatic Control Institute
Zhaolei Wang	Beijing Aerospace Automatic Control Institute
Zhe Zhang	Beijing Aerospace Automatic Control Institute

16:22-16:30 SatB8.5

974 *Target Tracking Control of Underactuated Unmanned Boats Using an Improved PPO Algorithm*

Yuzhi Hao	Southeast University
Qingling Wang	Southeast University
Kaiyuan Shen	National University of Singapore

16:30-16:38 SatB8.6

1127 *Design and Takeoff Analysis of a Tilt-Body Aquatic VTOL Aerial Vehicle*

Jiong Hu	Beihang university
Longfei Zhao	Beihang university
Haoliang Bian	Beihang university
Zongxia Jiao	Beihang university
Yang Li	Beihang university
Jinhao Lou	Beihang university
Chunzhe Li	State Grid Jilinsheng Baicheng Electric Power Supply Company

16:38:16:46 SatB8.7

1595 *Label-free Multi-UAV Target Surround Collision Avoidance Control with Bearing-only Measurement*

Jun Liu	National University of Defense Technology
Shulong Zhao	National University of Defense Technology
Jiayi Zheng	National University of Defense Technology
Kun Liu	National University of Defense

	Technology
16:46:16:54	SatB8.8

1738 *An Autonomous Positioning Method of UAV Based on Anchor Node Deployment Under GNSS Rejection*

Haoyu Liu	National University of Defense Technology
16:54:17:02	SatB8.9

983 *Hierarchical Trajectory Sequential Convex Programming Method for UAV Based on Safe Flight Corridors*

Hongyu Miao	Beijing Institute of Technology
Teng Long	Beijing Institute of Technology
Jingliang Sun	Beijing Institute of Technology
Junzhi Li	Beijing Institute of Technology
Shaoqi Wang	Xi'an Modern Control Technology Research Institute
Zhenlin Zhou	Beijing Institute of Technology
17:02-17:10	SatB8.10

1297 *基于拦截捕获区的“多对多”能量最优目标分配方法*

Haojian Li	National University of Defense Technology
Kebo Li	National University of Defense Technology
Yangang Liang	National University of Defense Technology
17:10:17:18	SatB8.11

293 *Trajectory stabilization control for cable-drogue-UAV system subject to rapidly varying disturbances in aerial recovery*

Zhuolin Xing	Nanjing University of Aeronautics and Astronautics
Xinru Wang	Nanjing University of Aeronautics and Astronautics
Jialiang Fan	Nanjing University of Aeronautics and Astronautics
Zikang Su	AVIC First Aircraft Design and
Fei Luo	Research Institute
17:18:17:26	SatB8.12

720 *Probe-Drogue Simulation Study of Autonomous Aerial Refueling based on Prediction Model*

Zhu Shao	Chinese Flight Test Establishment
Quan Zou	Chinese Flight Test Establishment
Zhekai Pang	Chinese Flight Test Establishment
17:26:17:34	SatB8.13

935 *UAV Rendezvous Path Planning Method for Aerial Docking*

Jinbai Li	Beihang University
Honglun Wang	Beihang University
Yanxiang Wang	Beihang University
Menghua Zhang	Beihang University
17:34:17:42	SatB8.14

414 *Functional Hazard Assessment Based on Improved Cloud Barycenter Method*

QiuHui LuQuan	Shanghai Aircraft Design and Research Institute
Jun Sima	Shanghai Aircraft Design and Research Institute
Di Fang	Shanghai Aircraft Design and Research Institute
17:42:17:50	SatB8.15

344 *A Method for Predicting Landing Distance Based on the Actual Landing Performance of an Aircraft*

Haijie Zhu	Shanghai Aircraft Design and Research Insititute
Xiaowen Wang	Shanghai University

SatB9	**3rd Floor Meeting Room VIP 01**
Multi-agent GNC	**三层会议室 VIP 01**
Chairs: Yajie Ma	Nanjing Univ. of Aeronautics and Astronautics
Wenbo Li	Beijing Institute of Control Engineering
15:50-15:58	SatB9.1

1653 *Nonlinear Optimization Model for Heliostat Field Layout Based on IDM-PSO (Improved Dynamic Multi-Swarm Particle Swarm Optimization)*

Changsong Yao	National Univ. of Defense Technology
Zhaoyang Wen	National Univ. of Defense
i	Technology
Yingzhen Nie	National Univ. of Defense Technology
Xiaolu Liu	National Univ. of Defense Technology
15:58-16:06	SatB9.2

129 *基于自适应抗扰观测器的随机时变系统故障检测*

Wenli Zhang	Nanjing Tech Univ.
Anning Liu	Nanjing Tech Univ.
Jiantao Shi	Nanjing Tech Univ.
16:06-16:14	SatB9.3

996 *Target Recognition and Tracking Method for UAV Based on Monocular Vision*

Cheng Ni	Nanjing Univ. of Aeronautics and Astronautics
Xunhong Lv	Nanjing Univ. of Aeronautics and Astronautics
Yunrui Li	Nanjing Univ. of Aeronautics and Astronautics
Shiqi Liu	Nanjing Univ. of Aeronautics and Astronautics
Zehui Mao	Nanjing Univ. of Aeronautics and Astronautics
16:14-16:22	SatB9.4

1097 *Automatic Generation of Fault Diagnostic Reports for Satellite Parameters Based on Telemetry Data*

Meijia Pan	Harbin Institute of Technology
Ning Wang	Harbin Institute of Technologys
Ke Zhang	Chongqing Univ.
Zhenhua Wang	Harbin Institute of Technology
16:22-16:30	SatB9.5

1182 *Fault Diagnosis of Civil Aircraft Anti-Skid Braking System Based on 1D-CVSAE and Attention Mechanism System Based on 1D-CVSAE and Attention Mechanism*

Zhaosen Mao	Nanjing Univ. of Aeronautics and Astronautics
Shaojie Zhang	Nanjing Univ. of Aeronautics and Astronautics
Jiayi Huang	Nanjing Univ. of Aeronautics and Astronautics
16:30-16:38	SatB9.6

1381 *切换拓扑下异构多智能体系统自适应输出一致性*

Yu Liu	Nanjing Univ. of Aeronautics and Astronautics
Liyan Wen	Nanjing Univ. of Aeronautics and Astronautics
Bin Jiang	Nanjing Univ. of Aeronautics and Astronautics
16:38-16:46	SatB9.7

1402 *Formation Path Planning for Multi-Robot Systems Based on Dung Beetle Optimizer*

Huiliao Yang	Hohai Univ.
Bo Zhang	Hohai Univ.
Chang Xiao	Hohai Univ.
16:46-16:54	SatB9.8

219 *基于动态密度引导的多机器人编队队形变换方法*

Kai Cao	Xi'an Technological Univ.
Kang Li	Xi'an Technological Univ.
Yangquan Chen	Univ. of California, Merced
16:54-17:02	SatB9.9

530 *Target Grasping of Six-Axis Robotic Arm Based on Deep Reinforcement Learning*

Chen Xu	Anhui Univ.
Keke Yang	Anhui Univ.
Jianbin Dou	Anhui Univ.
Zhicheng Tang	Anhui Univ.
17:02-17:10	SatB9.10

620 *Multi-Source Sensors Plug-and-Play Fault-Tolerant Integrated Navigation Method Based on Factor Graph Optimization*

Yugui Shen	Nanjing Univ. of Aeronautics and Astronautics
Pin Lyu	Nanjing Univ. of Aeronautics and Astronautics
Jizhou Lai	Nanjing Univ. of Aeronautics and Astronautics
Bingqing Wang	Nanjing Univ. of Aeronautics and Astronautics
Juchang Du	Nanjing Univ. of Aeronautics and Astronautics
17:10-17:18	SatB9.11

653 *基于改进蚁群算法的无人艇避碰路径规划研究*

Yijie Liu	Nanjing Univ. of Aeronautics and Astronautics
Bin Jiang	Nanjing Univ. of Aeronautics and Astronautics
Yajie Ma	Nanjing Univ. of Aeronautics and Astronautics
Wenbo Li	Beijing Institute of Control Engineering
Chengrui Liu	Beijing Institute of Control Engineering
17:18-17:26	SatB9.12

666 *Integral reinforcement learning based robust anti-disturbance control of unmanned surface vehicle based on Stackelberg game*

Dong Zhao	Anhui Univ.
Wenjing Ren	Hefei Univ. of Technology
Yizhen Meng	Shanghai Institute of Aerospace Control Technology
17:26-17:34	SatB9.13

1068 *Autonomous Driving Image Optimization Model Based on CycleGAN-vd*

Yuqi Ouyang	Changsha Univ. of Science and Technology
Junjie Yang	Changsha Univ. of Science and Technology
Xuan Li	Peng Cheng Laboratory
Hong Mo	Changsha Univ. of Science and Technology
17:34 -17: 42	SatB9.14

1680 *Resilient Quadrotors Reference Generation and Control Design against Motor Faults and Wind Disturbance*

Xiaobin Zhou	Zhejiang Univ.
Miao Wang	Zhejiang Univ.
Can Cui	Zhejiang Univ.
Chao Xu	Zhejiang Univ.
15:42-15:50	SatB9.15

979 *Improved PPO algorithm for USV path planning*

Yunfeng Zhang	Zhejiang Ocean Univ.
Shujie Yang	Zhejiang Ocean Univ
Junjie Jin	Zhejiang Ocean Univ
Shuaicheng Li	Zhejiang Ocean Univ
Yuchen Gao	Zhejiang Ocean Univ

SatB10	**3rd Floor Meeting Room VIP 02**
Hybrid GNC	**三层会议室 VIP 02**
Chairs: Jiang Wu	Beihang Univ.
Haitao Zhang	Huazhong Univ. of Science and Technology
15:50-15:58	SatB10.1

860 *Loitering Munition Interception Decision-making Technology Based on Deep Reinforcement Learnings*

Qingxi Qi	Luoyang Institute of Electro-Optical Equipment of Avic
Zhirong Cai	Beihang Univ.
Xinke Sun	Beihang Univ.
Tianyi Tan	Beihang Univ.
Jiang Wu	Beihang Univ.
15:58-16:06	SatB10.2

1716 *System Identification for Tilt-body Aircraft Based on Simulated Data*

Ke Li	Beihang Univ.

Runyu Zhao	Beihang Univ.
Jinhao Lou	Beihang Univ.
Longfei Zhao	Beihang Univ.
Zhaoyang Zhang	State Grid Hubei Economic Research Institute
Zhiwei Li	State Grid Hubei Economic Research Institute
16:06-16:14	SatB10.3

896 *Research on Missile Cooperative Adversarial Decision Making Based on Deep Reinforcement Learning*

Helu Yang	Beihang Univ.
Zhirong Cai	Beihang Univ.
Xinke Sun	Beihang Univ.
Jiang Wu	Beihang Univ.
Tianyi Tan	Beihang Univ.
16:14-16:22	SatB10.4

603 *Roto-Translation Invariant Formation of Fixed-Wing UAVs in 3D: Feasibility and Control*

Xiaodong He	Univ. of Science and Technology Beijing
16:22-16:30	SatB10.5

1121 *基于空间周期性的阻抗学习自适应交互控制研究*

Xiaodong Zhou	Beijing Institute of Control Engineering
Qiang Zhang	Beijing Institute of Control Engineering
Rui Zhang	Beijing Institute of Control Engineering
16:30-16:38	SatB10.6

1098 *A Symmetric Stiffness Matrix Design for Robotic On-Orbit Refueling Operations Control*

Rui Zhang	Beijing Institute of Control Engineering
Qiang Zhang	Beijing Institute of Control Engineering
Xiaodong Zhou	Beijing Institute of Control Engineering
16:38-16:46	SatB10.7

379 *A Motion Monitoring System for Flapping Wing Rotor Based on Digital Twin*

Yang Qiaoya	Beijing Institute of Technology
He Yuanyuan	Beijing Institute of Technology
Wang Qichen	Shanghai Electro-Mechanical Engineering Institute
Li ao	Beijing Institute of Technology
Yang Xuan	Beijing Institute of Technology
16:46-16:54	SatB10.8

1209 *An Adaptive Dual-Loop Cascade Robust Control for Miniature Helicopters with Unknown Disturbance*

Ming Liu	Beijing Institute of Technology
Jian Zhang	Northwest Industries Group Company Ltd.
Shiyao Lin	China Research and Development Academy of Machinery Equipment
Yichen Cheng	Beijing Institute of Technology
Bailin Chen	Beijing Institute of Technology
16:54-17:02	SatB10.9

1146 *Trajectory Optimization for Aircraft Evasive Maneuver against a Missile by Convex Optimization*

Guangwei Wang	Beijing Institute of Technology
Xinfu Liu	Beijing Institute of Technology
Runqiu Yang	Beijing Institute of Technology
17:02-17:10	SatB10.10

800 *近红外遥感真实世界图像超分辨率方法*

Qingyuan Yan	Beijing Institute of Technology
Xiangyuan Zeng	Beijing Institute of Technology
17:10-17:18	SatB10.11

882 *序列遥感影像自适应快速镶嵌方法*

Ranlong Xia	Beijing Institute of Technology
Shuyi Shao	Beijing Institute of Technology
17:18-17:26	SatB10.12

723 *点线融合的飞行器视觉-惯性组合导航方法*

Xinyu Yang	Beijing Institute of Technology
Xiangyuan Zeng	Beijing Institute of Technology
17:26-17:34	SatB10.13

1024 *Multi-Delay Mitigation Model Predictive Control Framework for Multirotor UAV Wireless Avionics Intra-Communications Systems*

Jipeng Han	Beijing Institute of Technology
Yankai Wang	Beijing Institute of Technology
17:34-17:42	SatB10.14

1300 *Research on dual three-phase permanent magnet synchronous motor based on dual-speed closed loop*

Siyuan Wang	Beijing Institute of Technology
Ning Dong	Beijing Institute of Technology
Hengzai Hu	Beijing Institute of Technology
17:42-17:50	SatB10.15

1607 *Laser Guided Projectile: From Damp Control to ADRC Autopilot*

Yuanyue Lei	Beijing Institute of Technology
Hui Wang	Beijing Institute of Technology
Luyao Zang	Beijing System Design Institute of Electro-Mechanic Engineering
Shitong Jiang	The 50th Research Institute of China Electronics Technology Group Corporation
Wugang Wang	Northwest Industries Group Co.LTD

SatB11	**3rd Floor Aisle**
Poster Session 2	**三层廊厅**
Chairs: Haoqi Zhengli	Beihang Univ.
Yimin Deng	Beihang Univ.
15:50-17:50	SatB11.1

501 *Optimization Control of Wide-Speed-Range Aircraft's Climb Trajectory with Integrated Flight/Propulsion Based on Adopted Pigeon-Inspired Optimization*

Cheng Liao	Beihang Univ.
Yimin Deng	Beihang Univ.

Haibin Duan	Beihang Univ.
15:50-17:50	SatB11.2

503 *一种用于景象匹配导航的新型图像配准算法*

Hongrui Yang	Xi'an Modern Control Technology Research Institute
Qiju Zhu	Xi'an Modern Control Technology Research Institute
Peixian Cao	Xi'an Modern Control Technology Research Institute
Hao Gu	Institute of Automation, CAS
Dongdong Zhao	AVIC Xi'AN Flight Automatic Control Research Institute
15:50-17:50	SatB11.3

504 *航空电子设备的单粒子效应综合防护设计*

GangWei Hui	AVIC First Aircraft Design and Research Institute
PanFeng Yan	AVIC First Aircraft Design and Research Institute
TongWei Qu	AVIC Xi'AN Flight Automatic Control Research Institute
15:50-17:50	SatB11.4

507 *UAV Decision-making Method based on Assessment*

Rong Ma	National Key Laboratory of Science and Technology on Integrated Technology Control
Zhangjun Sun	AVIC Xi'AN Flight Automatic Control Research Institute
Ning Zhang	National Key Laboratory of Science and Technology on Integrated Technology Control
15:50-17:50	SatB11.5

508 *Collaborative Reconnaissance Mission Planning Considering Task Overlap and Obstacle Avoidance*

Cancan Tao	Beihang Univ.
Li Zha	Beihang Univ.
Wanqiang She	HiWing General Aviation Equipment Co.,Ltd.
Qinghua Hou	Northeastern Univ.
Bowen Liu	Beihang Univ.
Jun Ye	Beihang Univ.
15:50-17:50	SatB11.6

513 *Lesion-Focused Ultrasound Images Super-resolution Reconstruction based on Coarse-to-Fine Diffusion Model*

Zhenzhuo Wang	Anhui Univ.
Zhenyi Xu	Univ. of Science and Technology of China
Yu Kang	Hefei Comprehensive National Science Center
Kehao Shi	Univ. of Science and Technology of China
Xianjun Ye	Univ. of Science and Technology of China
15:50-17:50	SatB11.7

517 *Self-Attention Mechanism Based Reinforcement Learning for Task Assignment in Interception Scenarios*

Bingchen Cai	Beijing Institute of Astronautical Systems Engineering
Naimin Zhang	Beijing Institute of Astronautical Systems Engineering
Han Yu	Beijing Institute of Astronautical Systems Engineering
15:50-17:50	SatB11.8

518 *A Vision-Based Robust Real-Time Method for 3D Localization of Power Line*

Chen Dong	Harbin Institute of Technology
Zhan Li	Harbin Institute of Technology
Jiayu Liu	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
15:50-17:50	SatB11.9

519 *A Key Part Identification Algorithm of Ship based on Improved Yolov5*

Siting Peng	The Beijing Electro-Mechanical Engineering Institute
Jun Ren	The Beijing Electro-Mechanical Engineering Institute
Lei Li	The Beijing Electro-Mechanical Engineering Institute
Jie Liang	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
15:50-17:50	SatB11.10

520 *Intelligent cooperative guidance for multiple hypersonic vehicles with sudden threat*

Jie Ren	Beihang Univ.
Jianglong Yu	Beihang Univ.
Xiwang Dong	Beihang Univ.
Zhang Ren	Beihang Univ.
15:50-17:50	SatB11.11

521 *Multi-Head Attention-LSTM-Based Aerial Target Trajectory Prediction under Abnormal Detection Information*

Xizhong Yang	State Key Laboratory of Avionics Integration and Aviation System-of Systems Synthesis
Tongle Zhou	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.12

522 *Pose Estimation for Space Objects based on Contour Feature Matching*

Xin Zhang	Harbin Hafei Aviation Industry Co., Ltd
Qingwen Yun	Harbin Hafei Aviation Industry Co., Ltd
Jun Xiong	Harbin Hafei Aviation Industry Co., Ltd
15:50-17:50	SatB11.13

527 *Unmanned Aerial Vehicle Formation and Obstacle Avoidance Based on Birds Flocking and Anti-predation Behavior*

Tianjie Zhang	Beijing Aerospace Automatic Control Institute
Zhenpo Tian	Beijing Aerospace Automatic Control Institute
Yuecheng Liu	Beijing Aerospace Automatic Control Institute

15:50-17:50 SatB11.14

533 *Fuzzy fault-tolerant control for aircraft systems with unmeasurable premise variables*

Jing-Jing Yan	AVIC Shenyang Aircraft Corporation
Zhuo Jiang	AVIC Shenyang Aircraft Design and Research Institute
Yan Guo	No. 1 Military Representative Office of Equipment Department of PLA Air Force in Shenyang
Xin Pan	AVIC Shenyang Aircraft Corporation
BenGang Liu	AVIC Shenyang Aircraft Corporation

15:50-17:50 SatB11.15

534 *Multi-UAV Cooperative Encirclement Strategy in Complex Environments*

Jian Gu	Nanjing Univ. of Aeronautics and Astronautics
Yin Wang	Nanjing Univ. of Aeronautics and Astronautics

15:50-17:50 SatB11.16

535 *Parameter Identification and Synchronization Control of Network System Modeled by Heat Equations*

Faqin Zhao	Univ. of Jinan
Xiju Zong	Univ. of Jinan

15:50-17:50 SatB11.17

540 *船舶模型自动加权偏最小二乘参数辨识方法*

Fangrui Fan	Harbin Engineering Univ.
Qidan Zhu	Harbin Engineering Univ.

15:50-17:50 SatB11.18

543 *Constructing Barrier Surface in Target-Attacker-Defender Game with Non-Zero Capture Radius for the Attacker*

Yibo Shi	Univ. of Shanghai for Science and Technology
Chaoli Wang	Univ. of Shanghai for Science and Technology
Qinglin Wu	Univ. of Shanghai for Science and Technology

15:50-17:50 SatB11.19

548 *Design and Optimization of an Electromechanical ΣΔ Closed-loop for MEMS Gyroscopes Using MOPSO Algorithm*

Yuzhe Zhang	AVIC Xi'an Flight Automatic Control Research Institute
Jian Wang	AVIC Xi'an Flight Automatic Control Research Institute
Wenhong Li	AVIC Xi'an Flight Automatic Control Research Institute
Yazhou Yue	AVIC Xi'an Flight Automatic Control Research Institute

15:50-17:50 SatB11.20

550 *基于改进A*搜索算法的无人机路径规划*

Zhuoyi Fan	Univ. of Science and Technology Beijing
Junjie Liu	Univ. of Science and Technology Beijing
Yao Zou	Univ. of Science and Technology Beijing
Wei He	Univ. of Science and Technology Beijing

15:50-17:50 SatB11.21

551 *基于IMM-KF的角加速度估计方法*

Hongfen Chen	AVIC Xi'AN Flight Automatic Control Research Institute
Zhi Li	AVIC Xi'AN Flight Automatic Control Research Institute

15:50-17:50 SatB11.22

553 *Dual Attention Mechanism for Multi-scale Low-altitude UAV Detection*

Ruiyao Huang	Northwestern Polytechnical Univ
Kaiyue Zhang	Northwestern Polytechnical Univ
Wenkai Shen	Northwestern Polytechnical Univ
Kang Liu	Northwestern Polytechnical Univ

15:50-17:50 SatB11.23

554 *An improved Smith scheme for throttle servo control system with mismatched time-delay parameters*

Tiefu Zhu	AVIC Shenyang Aircraft Design and Research Institute
Di Wu	AVIC Shenyang Aircraft Design and Research Institute
Yifan Qi	AVIC Shenyang Aircraft Design and Research Institute
Yunqi Na	AVIC Shenyang Aircraft Design and Research Institute

15:50-17:50 SatB11.24

557 *Cloud Manufacturing Tasks Decomposition Based on the Preliminary Screening of Resource Candidate Sets*

Wang Ting	Nanjing Univ. of Aeronautics and Astronautics
Ziquan Yu	Nanjing Univ. of Aeronautics and Astronautics
Junjie Zhu	Nanjing Univ. of Aeronautics and Astronautics
Youmin Zhang	Industrial and Aerospace Engineering, Concordia Univ.

Bin Jiang	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.25

563 *Physics-Informed Neural ODE for Nonlinear Time-Varying Aircraft Dynamics Modeling*

Jinyi Ma	Fudan Univ.
Jianliang Ai	Fudan Univ.
Yiqun Dong	Fudan Univ.
15:50-17:50	SatB11.26

565 *Vertical Crossing Tracking Control of Water-Air Amphibious Buoys on Wave Surfaces*

Yang Ling	Zhejiang Univ.
Lu Mingqing	China Aerodynamics Research and Development Center
Liao Fei	China Aerodynamics Research and Development Center
Shao Zhijiang	Zhejiang Univ.
15:50-17:50	SatB11.27

572 *Multiple Spacecraft Trajectory Optimization Control Based on Gaussian Pseudo-Spectral Method*

Ruifeng Zhou	Nanjing Univ. of Aeronautics and Astronautics
Ziquan Yu	Nanjing Univ.of Aeronautics and Astronautics
Lingxia Mu	Xi'an Univ. of Technology
Youmin Zhang	Concordia Univ.
15:50-17:50	SatB11.28

574 *Course Development of Guidance, Navigation and Control at Tsinghua Univ.*

Qing Li	Tsinghua Univ.
15:50-17:50	SatB11.29

575 *A fast trajectory planning method for multi-UAVs based on SCP with modified trust region*

Xiao Li	Xi'an Univ. of Technology
Lingxia Mu	Xi'an Univ. of Technology
Youmin Zhang	Concordia Univ.
Ban Wang	Northwestern Polytechnical Univ.
Yulong Zhang	Xi'an Univ. of Technology
Xianghong Xue	Xi'an Univ. of Technology
15:50-17:50	SatB11.30

576 *Research on an adaptive ice tolerance control method for aircraft*

Feihong Jiang	Northwestern Polytechnical Univ.
Kecheng Li	Northwestern Polytechnical Univ.
Tongwen Chen	Northwestern Polytechnical Univ.
Xiaoxiong Liu	Northwestern Polytechnical Univ.
15:50-17:50	SatB11.31

579 *Flow Regime-Particle Swarm Optimization (FR-MSPSO)Algorithm Based on Multiple Strategies for Odor SourceLocalization*

Rongxue Yi	Beijing Institute of Technology
Shuai Wang	Beijing Tongfang Zhike Technology Co., Ltd
Xiang Guo	China Certification & Inspection Group Beijing Co. Ltd
Bo Wang	Beijing Institute of Technology
15:50-17:50	SatB11.32

582 *Fault detection and isolation of a prototype helicopter without angular velocity measurements*

Xianghua Wang	Beijing Univ. of Posts and Telecommunications
Yi Tian	State Key Laboratory of High-speed Maglev Transportation Technology
Ziye Zhang	Shandong Univ. of Science and Technology
15:50-17:50	SatB11.33

583 *Earth Observation Satellite Scheduling based on Actor-Critic Algorithm*

Chao Chen	Space Engineering Univ.
ZhiTao Wang	Space Engineering Univ.
Nuan Wang	Space Engineering Univ.
Rong He	Space Engineering Univ.
Dexian Zeng	Space Engineering Univ.
15:50-17:50	SatB11.34

586 *一种基于固定翼飞机巡航阶段的自主导航算法*

Yiyu Liu	Univ. of Electronic Science and technology
Ma Bo	Tsinghua Univ.
15:50-17:50	SatB11.35

588 *Research on Control Assignment Method of TiltrotorVehicle Based on Maneuvering Contribution Degree*

Ning Zhang	National Key Laboratory of Science and Technology on Integrated Technology Control
Lulu Xue	National Key Laboratory of Science and Technology on Integrated Technology Control
Xianglun Zhang	National Key Laboratory of Science and Technology on Integrated Technology Control
15:50-17:50	SatB11.36

593 *基于非高斯李群滤波的捷联惯导系统运动对准方法*

Haoyang Li	Beijing Univ. of Technology
Fujun Pei	Beijing Univ. of Technology
Li Peng	Beijing Univ. of Technology
Tiantian Xu	Beijing Univ. of Technology
15:50-17:50	SatB11.37

600 *Practical Predefined-Time Cooperate Guidance Law Against Maneuvering Target*

Zihao Wu	Beihang Univ.
Yao Li	China Academy of Aerospace Science and Innovation
Qingdong Li	Beihang Univ.

Bin Fu	Northwestern Polytechnical Univ.
15:50-17:50	SatB11.38

601 *Feature Point Fusion Strategy Based on Visual and LIDAR Information*

Shijie Wu	Beijing Institute of Technology
Haoyu Qi	Beijing Institute of Technology
Yuhang Zhang	Beijing Institute of Technology
Zhen Li	Beijing Institute of Technology
15:50-17:50	SatB11.39

602 *Research on collaborative planning of cluster nano satellites for the interception of approaching non-cooperative target to the space station*

Yongqing Sun	Northwestern Polytechnical Univ.
Yani Li	Northwestern Polytechnical Univ.
Chong Sun	Northwestern Polytechnical Univ.
Xiaozhou Yu	Dalian Univ. of Technology
Qun Fang	Northwestern Polytechnical Univ.
15:50-17:50	SatB11.40

605 *Multi-Spacecraft Mission Planning Based on Potential Game*

Xinyue Zhang	Nanjing Univ. of Aeronautics and Astronautics
Hao Liu	Nanjing Univ. of Aeronautics and Astronautics
Boxuan Du	Nanjing Univ. of Aeronautics and Astronautics
Ziquan Yu	Nanjing Univ. of Aeronautics and Astronautics
Chaoying Tang	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.41

607 *Multidisciplinary Modeling Framework for Tactical Missile Guidance and Control System Design*

Ao Li	Beijing Institute of Technology
Yuanyuan He	Beijing Institute of Technology
Qiaoya Yang	Beijing Institute of Technology
Xuan Yang	Beijing Institute of Technology
15:50-17:50	SatB11.42

608 *A built-in test design method for rate gyroscopes used in flight control systems*

Ruiyun Zhao	Beijing Keeven Aviation Instrument Co., Ltd
Xinming Zhang	Beijing Keeven Aviation Instrument Co., Ltd
Yubei Guo	Beijing Keeven Aviation Instrument Co., Ltd
15:50-17:50	SatB11.43

610 *Incremental Dynamic Inversion Flight Control Method Based on ESO*

Xiayi Xu	Nanjing Univ. of Aeronautics and Astronautic
Yitian Wang	Nanjing Univ. of Aeronautics and Astronautic
Yali Xue	Nanjing Univ. of Aeronautics and Astronautic
Yuqing Luan	Nanjing Univ. of Aeronautics and Astronautic
15:50-17:50	SatB11.44

613 *Model Identication of Autonomous Underwater Vehicles Based on Transformer*

Yaomin Li	Northeastern Univ.
Shutao Wang	Northeastern Univ.
Junyi Wang	Northeastern Univ.
Chao Zheng	Northeastern Univ.
Genying Wang	Northeastern Univ.
15:50-17:50	SatB11.45

615 *Path Planning Method for Mobile Robots Based on Grid-Topological Hybrid Map in Complex Multi-floor Spaces*

Fudan Xu	Nanjing Univ. of Aeronautics and Astronautics
Jizhou Lai	Nanjing Univ. of Aeronautics and Astronautics
Pin Lyu	Nanjing Univ. of Aeronautics and Astronautics
Wei Fang	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.46

616 *Fault-Tolerant Control of Wing Surface Based on Incremental Nonlinear Dynamic Inversion*

Jiaxin Chen	Northwestern Polytechnical Univ.
Xiaoxiong Liu	Northwestern Polytechnical Univ.
Tongwen Chen	Northwestern Polytechnical Univ.
Lei Wang	Northwestern Polytechnical Univ.
15:50-17:50	SatB11.47

622 *Distributed Covert GNSS Spoofing of Non-cooperative UAVs Equipped with Array Antennas*

Zhongjie YIN	Rocket Force Univ. of Engineering
Bo Hou	Rocket Force Univ. of Engineering
Xiaolong JIN	Rocket Force Univ. of Engineering
Zhiliang Fan	Rocket Force Univ. of Engineering
Haiyang Wang	Rocket Force Univ. of Engineering
15:50-17:50	SatB11.48

625 *Simulation Analysis of Satellite Orbit Determination based on EKF Method*

Yakun Zhang	Space Engineering Univ.

Zhongtao Zhang	Space Engineering Univ.
Xueshuang Shi	Space Engineering Univ.
Bin Wang	Space Engineering Univ.
Lei Kan	Aviation Univ. of Air Force
15:50-17:50	SatB11.49

627 *Asteroid Observation Orbit Design and Transfer Method based on Analytic Solution of the Tschauner-Hempel Equation*

Suyi Liu	Northwestern Polytechnical Univ.
Fei Cheng	Northwestern Polytechnical Univ.
Xin Ning	Northwestern Polytechnical Univ.
Xuyang Cao	Northwestern Polytechnical Univ.
Wenlong Li	Shanghai Institute of Space Technology
Xiaobin Lian	Northwestern Polytechnical Univ.
15:50-17:50	SatB11.50

628 *Integrated Lift and Three-axis Stabilization Control Law for a Morphing Wing*

Ziyang Xu	National Space Science Center,CAS
Peng Han	National Space Science Center,CAS
Dong Gao	National Space Science Center,CAS
Yu Feng	National Space Science Center,CAS
Yu Zhang	National Space Science Center,CAS
15:50-17:50	SatB11.51

629 *基于强化学习的无人车编队避障策略研究*

Chenchen Shang	Nanjing Univ. of Aeronautics and Astronautics
Yin Wang	Nanjing Univ. of Aeronautics and Astronautics
Shengtan Dai	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.52

630 *Air alignment method for attitude angle of rolling projectiles with speed matching and maneuver assistance*

Lijun Xie	CH UAV Science & Technology Co.,Ltd
Bo Peng	CH UAV Science & Technology Co.,Ltd
Mengxi Cen	CH UAV Science & Technology Co.,Ltd
15:50-17:50	SatB11.53

631 *Angle-Only Estimation Method for Spatial Non-Cooperative Target Based on System Observable Degree*

Qianli Ma	Nanjing Univ. of Aeronautics and Astronautics
Zhiming Chen	Nanjing Univ. of Aeronautics and Astronautics
Xue Wang	Nanjing Univ. of Aeronautics and Astronautics
Qianli Ma	Nanjing Univ. of Aeronautics and Astronautics
Zhiming Chen	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.54

632 *Angle-Only Estimation Method for Spatial Non-Cooperative Target Based on System Observable Degree*

Long Wang	Shandong Univ. of Aeronautics
Shifa Wang	Shandong Univ. of Aeronautics
Tong Mei	Shandong Univ. of Aeronautics
Jialei Li	Shandong Univ. of Aeronautics
Wei Hao	Shandong Univ. of Aeronautics
Mingming Zhao	Shandong Univ. of Aeronautics
15:50-17:50	SatB11.55

633 *Time-to-Go Weighted Optimal Guidance with Predictor-corrector Compensation for a Vertical Landing Rocket*

Chuan Xia	Beijing Institute of Astronautical Systems Engineering
Yu Hu	Beijing Institute of Astronautical Systems Engineering
Bo Gao	Beijing Institute of Astronautical Systems Engineering
Jianshuang Song	Beijing Institute of Astronautical Systems Engineering
Zhaorong Dong	China Academy of Launch Vehicle Technology
15:50-17:50	SatB11.56

634 *"A New SVD-based fault detection and isolation algorithm Using Fuzzy Self-Correction Filter"*

Dongyang Zhang	Beijing Aerospace Times Laser Inertial Technology Company，Ltd
Xingfa Zhao	Beijing Aerospace Times Laser Inertial Technology Company，Ltd
Le Chang	Beijing Aerospace Times Laser Inertial Technology Company，Ltd
Zhendong Yang	Beijing Aerospace Times Laser Inertial Technology Company，Ltd
Chao Yang	Beijing Aerospace Times Laser Inertial Technology Company，Ltd
15:50-17:50	SatB11.57

636 *Research on Control Assignment Strategy for Aircraft with Multiple Control Surfaces*

Shimin Liu	The First Aircraft Institute of AVIC
Letian Zhao	The First Aircraft Institute of AVIC
Yan Sun	The First Aircraft Institute of AVIC
He Yuanyuan	The First Aircraft Institute of AVIC
Hao Li	The First Aircraft Institute of AVIC
Yidi Lei	The First Aircraft Institute of AVIC
15:50-17:50	SatB11.58

637 *Analysis of Auxiliary Display and Guidance Mode Based on Magic Carpet Landing Control Technology*

Hang Chen	The First Aircraft Institute of AVIC
Rui Yang	The First Aircraft Institute of AVIC
Letian Zhao	The First Aircraft Institute of AVIC
Qingyun Zhu	The First Aircraft Institute of AVIC
Yangyang Zhou	The First Aircraft Institute of AVIC
Wei Zhang	The First Aircraft Institute Of AVIC
15:50-17:50	SatB11.59

640 *Unmanned Ariel Vehicle (UAV) Ground Control Station (GCS) Development and Characteristics Analysis*

Xiaoyue Wang	Beijing Institute of Technology
Junda Zhai	China Research and Development Academy of Machinery Equipment
Dawei Liu	China Research and Development Academy of Machinery Equipment
Shiyao Lin	China Research and Development Academy of Machinery Equipment
Jiashuai Song	China Research and Development Academy of Machinery Equipment
Xiang Li	China Research and Development Academy of Machinery Equipment
Tao Xiong	China Research and Development Academy of Machinery Equipment
Yanhang Song	China Research and Development Academy of Machinery Equipment
15:50-17:50	SatB11.60

641 *UAV Swarms Offensive-Defensive Confrontation Development and Characteristics Analysis*

Junda Zhai	China Research and Development Academy of Machinery Equipment
Dawei Liu	China Research and Development Academy of Machinery Equipment
Chaoqun Ma	China Research and Development Academy of Machinery Equipment
Xiaoyue Wang	Beijing Institute of Technology
Shiyao Lin	China Research and Development Academy of Machinery Equipment
Jiashuai Song	China Research and Development Academy of Machinery Equipment
Xiang Li	China Research and Development Academy of Machinery Equipment
15:50-17:50	SatB11.61

647 *Turbulence Suppression Control of UAV Based on Model-Assisted Extended State Observer*

YueLong Ma	AVIC Xi'AN Flight Automatic Control Research Institute
Ning Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Xiaolong Chen	AVIC Xi'AN Flight Automatic Control Research Institute
Hengyu Liu	AVIC Xi'AN Flight Automatic Control Research Institute
Zefeng Chen	AVIC Xi'AN Flight Automatic Control Research Institute
15:50-17:50	SatB11.62

649 *Space-based Maneuvering Target Tracking Algorithm Based on IMM*

Jidong Pei	Beihang Univ.
Yandong Wang	Beihang Univ.
Sirui Deng	Beihang Univ.
Haipeng Chen	China Academy of Launch Vehicle Technology
15:50-17:50	SatB11.63

654 *Multi-UAV Target Tracking Method Based on Lyapunov Navigation Vector Field with Heterogeneous Roles*

Jiang Zhao	Beihang Univ.
Qing Li	Beihang Univ.
Pei Chi	Beihang Univ.
Lu Kelin	Southeast Univ.
Yan Ma	Beijing Institute of Control & Electronics Technology
Yingxun Wang	Beihang Univ.
15:50-17:50	SatB11.64

655 *Evolution of Interoperability Technology in Military Practice*

Haixiao Qi	Beijing Aerospace Wanyuan Technology Co., Ltd.
Zhongrui Sun	Beijing Aerospace Wanyuan Technology Co., Ltd.
Hao Wang	Beijing Aerospace Wanyuan Technology Co., Ltd.
Hang Yi	Beijing Aerospace Wanyuan Technology Co., Ltd.
15:50-17:50	SatB11.65

657 *基于改进鸽群的随机森林无人机故障预测算法*

Yuanyuan Liu	Nanjing Univ. of Aeronautics and Astronautics
Rong Yuan	Nanjing Univ. of Aeronautics and Astronautics
Shuyi Shao	Nanjing Univ. of Aeronautics and Astronautics
Mou Chen	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.66

658 *Research on Architecture and Simulation of Reconfigurable Integrated Processing Microsystem for Micro Space Robot*

Wenjie Li	Beihang Univ.
Lei Chen	China Academy of Aerospace Electronics Technology
Yanlong Zhang	Beijing Microelectronics Technology Institute
Tianrui Zhu	Beijing Microelectronics Technology Institute
Feng Ni	Beijing Microelectronics Technology Institute
Nan Li	Beijing Microelectronics Technology Institute
Kun Xu	Beihang Univ.
Xilun Ding	Beihang Univ.

15:50-17:50 SatB11.67

659 *基于强化学习的高超声速飞行器再入制导方法*

Weihao Feng	Xidian Univ.
Dongzhu Feng	Xidian Univ.
Pei Dai	Xidian Univ.
Lihua Zhang	Lunar Exploration and Space Engineering Center
Chenkai Zhang	Xidian Univ.
Jiadi Ma	Xi'an Institute of Electronic Engineering

15:50-17:50 SatB11.68

661 *Research on Dynamic Identification Technology of Illegal Data in Flight Control Software*

Qi Zhang	AVIC Shenyang Aircraft Design and Research Institute
Yongyi Liu	AVIC Shenyang Aircraft Design and Research Institute
Ting Wang	AVIC Shenyang Aircraft Design and Research Institute
Xiaodi Gou	Kernelsoft Software Co. Ltd
HuiYong Liu	Kernelsoft Software Co. Ltd

15:50-17:50 SatB11.69

663 *Design of an INS/CNS Integrated Navigation Joint Simulation Framework*

Du Chen	Univ. of Electronic Science and Technology of China
Haomiao Jiang	Univ. of Electronic Science and Technology of China
Haile Bai	Univ. of Electronic Science and Technology of China
Bing Luo	Univ. of Electronic Science and Technology of China
Xiaoliang Luo	Academy of Military Science PLA
Guangjun Wen	Univ. of Electronic Science and Technology of China
Jingfang Su	Univ. of Electronic Science and Technology of China
Yongjun Huang	Univ. of Electronic Science and Technology of China

15:50-17:50 SatB11.70

665 *Research on the evolution of behavior strategy of agent swarm game in random interference environment*

Shiguang Hu	Air Force Engineering Univ.
Le Ru	Air Force Engineering Univ.
Maolong Lv	State Key Laboratory of Unmanned Vehicle Technology
Bo Lu	Air Force Engineering Univ.
Wenfei Wang	Air Force Engineering Univ.
Hailong Xi	Air Force Engineering Univ.

15:50-17:50 SatB11.71

667 *Generative AI technology assists the research on the reliability of aerospace development*

Manli Li	Beijing Institute of Satellite Environmental Engineering
Zhiyong Wang	China Academy of Space Technology Dynamical Administration Department
Hao Xu	Beijing Oriental Institute of Metrology and Testing
Shu Zhang	Aerospace Dongfanghong Satellite Co., Ltd

15:50-17:50 SatB11.72

669 *Online Prediction Method for Remaining Useful Life of Aircraft Engine*

Bei Li	Nanjing Univ. of Aeronautics and Astronautics
Cong Peng	Nanjing Univ. of Aeronautics and Astronautics
Sumu Shi	Nanjing Univ. of Aeronautics and Astronautics
Junyi Liu	Nanjing Univ. of Aeronautics and Astronautics

15:50-17:50 SatB11.73

670 *A Motion Planning Framework with Learning based Trajectory Prediction in Self Driving*

Feiyu Bian	Northwestern Polytechnical Univ.
Xing Liu	Northwestern Polytechnical Univ.
Yizhai Zhang	Northwestern Polytechnical Univ.
Zhiqiang Ma	Northwestern Polytechnical Univ.
Ganghui Shen	Northwestern Polytechnical Univ.
Panfeng Huang	Northwestern Polytechnical Univ.

15:50-17:50 SatB11.74

679 *基于海鹞群算法的高速多导弹武器目标分配方法*

Teng Liao	Nanjing Univ. of Aeronautics and Astronautics
Ying Luo	The 723 Institution of CSSC
Boyi Chen	Nanjing Univ. of Aeronautics and

	Astronautics
Yanbin Liu	Nanjing Univ. of Aeronautics and Astronautics
Jinbao Chen	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.75

680 *基于舰载机飞行模拟仿真环境的舰艇运动模拟仿真系统究*

Ruiyang Ban	AVIC Shenyang Aircraft Design and Research Institute
Dapeng Zhou	AVIC Shenyang Aircraft Design and Research Institute
Jiping Han	AVIC Shenyang Aircraft Design and Research Institute
Yong Zhang	AVIC Shenyang Aircraft Design and Research Institute
15:50-17:50	SatB11.76

683 *Ground-to-Air Visual Detection of UAV: AirSim-Based Dataset Generation and Deep Learning Evaluation*

Jingming Yan	Sun Yat-sen Univ.
Jiaqi Zhou	Sun Yat-sen Univ.
Xiangyu Zhu	Sun Yat-sen Univ.
Dongjie Zhou	Harbin Institute of Technology, Harbin
Zhoujingzi Qiu	Univ. of Electronic Science and Technology of China
Yong Wang	Sun Yat-sen Univ.
15:50-17:50	SatB11.77

684 *Stability Analysis of Guidance and Control System of BTT Missiles with Radome Ablation: A Multivariate Simplification Approach*

Wanxin Zhu	Beihang Univ.
Yifan Wu	Beihang Univ.
Jing Zhang	Beihang Univ.
Lingyu Yang	Beihang Univ.
15:50-17:50	SatB11.78

686 *Optimal Acceleration Planning for Quadrotors in Its Formation Rotation*

Muran Li	Beijing Institute of Technology
Longze Zhao	Beijing Institute of Technology
Kewei Xia	Beijing Institute of Technology
Jianan Wang	Beijing Institute of Technology
15:50-17:50	SatB11.79

688 *基于有限元的降落伞缩距软着陆状态仿真*

Dajun Xu	Beihang Univ.
Xiaorui Gong	Beihang Univ.
Jiajun Xiong	Beihang Univ.
Hanzhang Cheng	Beihang Univ.
15:50-17:50	SatB11.80

690 *Initial Alignment of SINS with Large Azimuth Misalignment Angles based on IUKF*

Jin Sun	Nanjing Univ. of Posts and Telecommunications
Sidan Tao	Nanjing Univ. of Posts and Telecommunications
15:50-17:50	SatB11.81

692 *Cost-Based Switching Formation Control for Multi-UAV Systems Under DoS Attacks*

Shuqing Wu	Nanjing Univ. of Aeronautics and Astronautics
Shuang Shi	Nanjing Univ. of Aeronautics and Astronautics
Zhen Wang	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.82

698 *基于全数字仿真环境的飞控软件持续集成验证技术研究*

Qi Zhang	AVIC Shenyang Aircraft Design and Research Institute
Dapeng Zhou	AVIC Shenyang Aircraft Design and Research Institute
Yongyi Liu	AVIC Shenyang Aircraft Design and Research Institute
Limeng Zhao	AVIC Shenyang Aircraft Design and Research Institute
15:50-17:50	SatB11.83

699 *Guidance and Control Based on Nonsingular Terminal Sliding Mode Control for Asteroid Landing with a Flexible Lander*

Weifeng Yan	Tsinghua Univ.
Hexi Baoyin	Tsinghua Univ.
15:50-17:50	SatB11.84

701 *Research on fault injection verification technology for airborne high-security software based on chaos engineering*

Yongyi Liu	AVIC Shenyang Aircraft Design and Research Institute
Qi Zhang	AVIC Shenyang Aircraft Design and Research Institute
Limeng Zhao	AVIC Shenyang Aircraft Design and Research Institute
HuiYong Liu	AVIC Shenyang Aircraft Design and Research Institute
Xiaodi Gou	AVIC Shenyang Aircraft Design and Research Institute
15:50-17:50	SatB11.85

702 *基于虚幻引擎的半物理仿真平台设计与应用*

Qinbo Yu	AVIC Xi'AN Flight Automatic Control Research Institute
Weitong Liu	AVIC Xi'AN Flight Automatic Control Research Institute
Shaolong Song	AVIC Xi'AN Flight Automatic Control Research Institute
Bo Xue	AVIC Xi'AN Flight Automatic Control Research Institute
15:50-17:50	SatB11.86

705 *Attitude Control of Ducted Fan UAV based on INDI and Priority Control Allocation*

Xilong Shan	South China Univ. of Technology
Hailong Pei	South China Univ. of Technology
Zihuan Cheng	South China Univ. of Technology

Chaoheng Meng	South China Univ. of Technology
15:50-17:50	SatB11.87
706 *Cooperative guidance of glide bombs based on Gaussian pseudo-spectral method*	
Xuan Li	Xi'an Institute of Modern Control Technology
Rui Mao	Xi'an Institute of Modern Control Technology
Sheng Luo	Xi'an Institute of Modern Control Technology
Jiang Lou	Xi'an Institute of Modern Control Technology
15:50-17:50	SatB11.88
712 *Mechanical Control Engineering Simulation Experimental Platform*	
Dajun Xu	Beihang Univ.
Xiaorui Gong	Beihang Univ.
15:50-17:50	SatB11.89
714 *GBRF-Based Prediction of Total Air Pressure at the Outlet of an Engine High-Pressure Compressor*	
Kan Yang	Tsinghua Univ.
Ye Zhu	Aero-engine Control System Institute
Zhanyan Xu	Aero-engine Control System Institute
Xianfu Wang	91515 Unit of PLA
Mengjin Qu	Tsinghua Univ.
Qing Li	Tsinghua Univ.
15:50-17:50	SatB11.90
722 *Research on Attitude Decoupling of Satellite Rotating Platform Based on Angle and Velocity Dual-loop Control*	
Zhihui Li	Beijing Institute of Control Engineering
Guiming Li	Beijing Institute of Control Engineering
Changbin Guan	Beijing Institute of Control Engineering
Jianmin Zhou	Beijing Institute of Control Engineering
Mao Fan	Beijing Institute of Control Engineering
15:50-17:50	SatB11.91
724 *多体折展机翼变负载条件下自抗扰控制方法研究*	
Yifan Han	Nanjing Univ. of Aeronautics and Astronautics
Boyi Chen	Nanjing Univ. of Aeronautics and Astronautics
Yanbin Liu	Nanjing Univ. of Aeronautics and Astronautics
Jinbao Chen	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.92
725 *民机水平安定面配平系统控制逻辑设计*	
Zilong Jing	AVIC Xi'AN Flight Automatic Control Research Institute
Li Li	AVIC Xi'AN Flight Automatic Control Research Institute
Zhiyong Tan	AVIC Xi'AN Flight Automatic Control Research Institute
Fan Yang	AVIC Xi'AN Flight Automatic Control Research Institute
Pengdong Sun	AVIC Xi'AN Flight Automatic Control Research Institute
Wenbin Xia	AVIC Xi'AN Flight Automatic Control Research Institute
15:50-17:50	SatB11.93
726 *Distillation incremental learning for surface mount defects in industrial electronics*	
Ziyao Wang	Univ. of Science and Technology of China
Yang Cao	Univ. of Science and Technology of China
Yu Kang	Univ. of Science and Technology of China
Kehao Shi	Univ. of Science and Technology of China
Lijun Zhao	Yangtze River Delta Hart robot industry Technology Research Institute
Zhenyi Xu	Hefei Comprehensive National Science Center
15:50-17:50	SatB11.94
727 *具身智能机器人多轮对话能力实现与未知环境中的任务执行*	
Xin Li	Beihang Univ.
JunJie Yu	Tsinghua Univ.
YuHang Wang	Beihang Univ.
LiMing Yu	Beihang Univ.
BinYan Liang	Beijing Precision Electromechanical Control Equipment Research Institute
15:50-17:50	SatB11.95
728 *Design and Simulation of Calculating System of the Error Distribution Based on the Combined Navigation*	
Huadong Yang	Naval Research Institute of PLA
Zirong Jin	Naval Research Institute of PLA
15:50-17:50	SatB11.96
729 *Closed-loop Identification and Flight Test Verification of Small UAVs Based on Multi-model*	
Zhu Shao	Chinese Flight Test Establishment
Quan Zou	Chinese Flight Test Establishment
Zhekai Pang	Chinese Flight Test Establishment
15:50-17:50	SatB11.97
730 *Observer Based Fixed-time Tracking Control for Hypersonic Gliding Vehicle*	

Zhaorong Dong	Beijing Institute of Aerospace Systems Engineering
Min Zhao	Beijing Institute of Aerospace Systems Engineering
Li Jiang	Beijing Institute of Aerospace Systems Engineering
Zhi Wang	Beijing Institute of Aerospace Systems Engineering

15:50-17:50	SatB11.98

731 *Discharge Trajectory Prediction of Lithium-ion Battery Based on Digital Twin Aggregation*

Jiayin Zhu	Nanjing Univ. of Aeronautics and Astronautics
Cong Peng	Nanjing Univ. of Aeronautics and Astronautics
Yuyue Wu	Nanjing Univ. of Aeronautics and Astronautics

15:50-17:50	SatB11.99

734 *Research on the Technology of Fusion-based VOR Navigation/ Approach Function Control Law Algorithm*

Wei Zhang	AVIC First Aircraft Design and Research Institute
Feihong Jiang	AVIC First Aircraft Design and Research Institute
Weijie Cai	AVIC First Aircraft Design and Research Institute

15:50-17:50	SatB11.100

736 *Depleted Shutdown Analytical Guidance with Multiple Constraints*

Penglei Zhao	Beijing Institute of Astronautical Systems Engineering,
Xiao Hu	Beijing Institute of Astronautical Systems Engineering,
Rui Yang	Beijing Institute of Astronautical Systems Engineering,
Juan Lv	Beijing Institute of Astronautical Systems Engineering,
Yongtao Bi	Beijing Institute of Astronautical Systems Engineering,

15:50-17:50	SatB11.101

738 *Motion planning of UAV in large-scale unknown environments using a Deep Reinforcement Learning approach*

Shiqi Huang	Zhejiang Univ.
Zhou Fang	Zhejiang Univ.

15:50-17:50	SatB11.102

739 *BDSBAS 和 MSAS 在中国和日本区域性能分析*

Zhongzhi Wang	AVIC Xi'AN Flight Automatic Control Research Institute
Liu Gao	AVIC Xi'AN Flight Automatic Control Research Institute
Jinliang Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Jin Chang	AVIC Xi'AN Flight Automatic Control Research Institute
Jue Gong	AVIC Xi'AN Flight Automatic Control Research Institute

15:50-17:50	SatB11.103

741 *Overview and Prospects of Battlefield Situation Cognition Technology Based on Generative Large Model*

Hongfeng Xu	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Jiajia Zhao	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Hang Zhang	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Jixiang Jiang	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Linxiu Chen	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation

15:50-17:50	SatB11.104

742 *势函数驱动的主动侧杆包线保护策略研究*

Renqing Zhai	AVIC Xi'AN Flight Automatic Control Research Institute
Linyi Zhi	Aircraft Strength Research Institute of China
Mingzhuang Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Jiahang Lai	AVIC Xi'AN Flight Automatic Control Research Institute

15:50-17:50	SatB11.105

744 *Attitude Simulation Analysis of Unfolding Process of Folding Rudders Based on the Model of Probability Deviation*

Xiao Hu	Beijing Institute of Astronautical Systems Engineering,
Jin Wang	Sichuan Institute of Aerospace System Engineering
Ya Gao	Sichuan Institute of Aerospace System Engineering

15:50-17:50	SatB11.106

746 *A Hierarchical Adaptation Region Searching Method Based on DS Evidence Theory*

Wen Ju	the Pattern Recognition on National Key Laboratory of Science and Technology on Aerospace Intelligence Control
Jiaolong Liu	the Pattern Recognition on National Key Laboratory of Science and Technology on Aerospace Intelligence Control
Miaomiao Zhang	the Pattern Recognition on National Key Laboratory of Science and Technology on

Zhenpo Tian	Aerospace Intelligence Control the Pattern Recognition on National Key Laboratory of Science and Technology on Aerospace Intelligence Control

15:50-17:50 SatB11.107

747 *A Decision-Making Approach to Game Manoeuvres for 3D Spatial Intelligence based on DQN-Experience Enhancement*

Bo Lu	Air Force Engineering Univ.
Le Ru	Air Force Engineering Univ.
Maolong Lv	Air Force Engineering Univ.
Xiaolin Zhao	Air Force Engineering Univ.
Shiguang Hu	Air Force Engineering Univ.
Wenfei Wang	Air Force Engineering Univ.
Hailong Xi	Air Force Engineering Univ.

15:50-17:50 SatB11.108

748 *Geometric Feature-based Airport Runway Line Detection*

Liang Yu	AVIC Xi'AN Flight Automatic Control Research Institute

15:50-17:50 SatB11.109

752 *基于小脑模型的无人机避撞保连通协同容错控制*

Wenhui Ding	Nanjing Tech Univ.
Moshu Qian	Nanjing Tech Univ.
Fengjiang Zhan	Nanjing Univ. of Aeronautics and Astronautics

15:50-17:50 SatB11.110

753 *A Layered Initial Design Method for Interplanetary LowThrust Trajectory Based on Shaping Approach*

Liangyong Fu	Beijing Institute of Control Engineering
Shoulei Chen	Beijing Institute of Control Engineering
Dongning Lu	Beijing Institute of Control Engineering
Yiwu Liu	Beijing Institute of Control Engineering

15:50-17:50 SatB11.111

756 *Design of Thrust Vector Aircraft Control Law Based on Incremental Dynamic Inversion*

Hengyu Liu	AVIC Xi'AN Flight Automatic Control Research Institute
Xiaolong Chen	AVIC Xi'AN Flight Automatic Control Research Institute
Yuelong Ma	AVIC Xi'AN Flight Automatic Control Research Institute
Ning Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Qiang Chen	AVIC Xi'AN Flight Automatic Control Research Institute

15:50-17:50 SatB11.112

757 *Few-shot PCB Segmentation Network Based on Transfer Learning and Multi-scale Fusion*

Mingliang Fang	Anhui Univ.
Zhenyi Xu	Anhui Univ. of Technology
Kehao Shi	Univ. of Science and Technology of China
Yu Kang	Institute of Artificial Intelligence, Hefei Comprehensive National Science Center

15:50-17:50 SatB11.113

760 *蜂群多机目标光电定位算法及仿真验证*

Weitong Liu	AVIC Xi'AN Flight Automatic Control Research Institute
Qingbo Yu	AVIC Xi'AN Flight Automatic Control Research Institute
Shaolong Song	AVIC Xi'AN Flight Automatic Control Research Institute
Bo Xue	AVIC Xi'AN Flight Automatic Control Research Institute

15:50-17:50 SatB11.114

763 *Research on Dynamic Management Method of HumanMachine Authority Based on Fuzzy Logic*

Yipeng Liu	Beijing Institute of Space Long March Vehicle
Pinghui Jia	Beijing Institute of Space Long March Vehicle
Haipeng Yin	Beijing Institute of Space Long March Vehicle
Shiyao Li	Beijing Institute of Space Long March Vehicle
Wei Li	Beijing Institute of Space Long March Vehicle

15:50-17:50 SatB11.115

764 *非相似虚拟飞控计算机同步技术研究*

Xukun Li	AVIC Xi'AN Flight Automatic Control Research Institute
Liping Zhu	AVIC Xi'AN Flight Automatic Control Research Institute
Lei Feng	AVIC Xi'AN Flight Automatic Control Research Institute
Bei Tian	AVIC Xi'AN Flight Automatic Control Research Institute

15:50-17:50 SatB11.116

766 *A Parameter Optimization Method for Non-singular Terminal Sliding Mode Guidance Law with Falling Angle Constraint*

Nuo Cheng	Beijing Institute of Space Long March Vehicle
Bo Shen	China Academy of Launch Vehicle Technology
Wei Li	Beijing Institute of Space Long March Vehicle
Pinghui Jia	Beijing Institute of Space Long March Vehicle
Liangbo Zhao	Beijing Institute of Space Long March Vehicle

15:50-17:50 SatB11.117

769 *Attitude control of fully-actuated flexible spacecraft based on linear active disturbance rejection control*

Yudong Hu	Harbin Institute of Technology
Zhongwei Shi	Harbin Engineering Univ.
Xu Li	Harbin Engineering Univ.
Yuxuan Chen	Harbin Engineering Univ.
Changsheng Gao	Harbin Institute of Technology
15:50-17:50	SatB11.118

772 *UAV Trajectory Tracking Based on Model Predictive Control*

Cheng Ma	Harbin Institute of Technology, Harbin
Xu Wen	Harbin Institute of Technology, Harbin
Jiadong Yang	Harbin Institute of Technology, Harbin
Tao Chao	Harbin Institute of Technology, Harbin
15:50-17:50	SatB11.119

774 *Cooperative Missile Aerodynamic Control Based on Squeeze Mode Condition*

Yang Fang	Beihang Univ.
Menghao Liao	Graduate School of Chinese Aeronautical Establishment
Xiaoming Liu	Beihang Univ.
Shuding Li	Beihang Univ.
Peng Wang	Beihang Univ.
15:50-17:50	SatB11.120

777 *Attitude Control and Active Fault Isolation for Spacecraft Attitude Control System with LTL and Optimization Methods*

SongtaoWang	Shanghai Jiaotong Univ.
Qiang Shen	Shanghai Jiaotong Univ.
Huihui Li	Shanghai Jiaotong Univ.
15:50-17:50	SatB11.121

779 *The Security Architecture and Methodology of Cyber-Physical-Social System and Its Application to Boeing 737 Max 8 Accident Analysis*

Mengjin Qu	Tsinghua Univ.
Zhixiong Fang	Tsinghua Univ.
Kan Yang	Tsinghua Univ.
Qing Li	Tsinghua Univ.
15:50-17:50	SatB11.122

782 *On the Monitoring Method of Fly-By-Wire Oscillatory Failure Case Based on Nonlinear Robust Observer and Wavelet Decomposition*

Qingwei Shen	Shanghai Aircraft Design and Research Institute
Jun Sima	Shanghai Aircraft Design and Research Institute
Xinghua Liu	Shanghai Aircraft Design and Research Institute
15:50-17:50	SatB11.123

787 *Differential-Flatness based Smooth Trajectory Generation for Multi-quadrotors Transportation Systems*

Yuan Ping	Tianjin Univ.
Juntong Qi	Tianjin Univ.
Mingming Wang	Tianjin Univ.
Chong Wu	EFY Intelligent Control
15:50-17:50	SatB11.124

788 *Laser Frequency Stabilization and Linewidth Narrowing Technology Based on External Phase Lock Control System*

Zhaoyang Cao	Beihang Univ.
Xinxiu Zhou	Beihang Univ.
15:50-17:50	SatB11.125

791 *飞控系统自动化测试系统及用例自动生成技术研究*

Xinning Tang	AVIC Shenyang Aircraft Design and Research Institute
Hao Liu	AVIC Shenyang Aircraft Design and Research Institute
Kaijia Xue	AVIC Shenyang Aircraft Design and Research Institute
Shuyi Liu	AVIC Shenyang Aircraft Design and Research Institute
Tianzhen Liang	AVIC Shenyang Aircraft Design and Research Institute
15:50-17:50	SatB11.126

796 *基于深度学习的动车组转向架螺栓缺陷检测*

Zhiyong Li	Huazhong Univ. of Science and Technology
Gang Peng	Huazhong Univ. of Science and Technology
Zhonghua Deng	Huazhong Univ. of Science and Technology
ChaoZe Wang	Huazhong Univ. of Science and Technology
Chaowei Song	Huazhong Univ. of Science and Technology
Mingjun Chong	Huazhong Univ. of Science and Technology
Zhang Deng	Beijing Railway Engineering Electromechanical Technology Research Institute Co.
Xinbin Xiong	Beijing Railway Engineering Electromechanical Technology Research Institute Co.
Chong Li	Wuhan Lisai Technology Co.
15:50-17:50	SatB11.127

797 *Research on Attitude Control Method for Coaxial Compound Helicopter during Nap-of-the-earth Flight*

Peng Xie	hnology Nanjing Univ. of Aeronautics and Astronautics
Yuxin Tian	Nanjing Univ. of Aeronautics and Astronautics
Yehua Liu	Nanjing Univ. of Aeronautics and Astronautics
Pengfei Zhai	Nanjing Univ. of Aeronautics and Astronautics

Shouzhao Sheng	Nanjing Univ. of Aeronautics and Astronautics
Suozhong Yuan	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.128

798 *基于气动力加速度估计的高超声速滑翔飞行器智能轨迹预测*

Mingjun Yu	Nanjing Univ. of Aeronautics and Astronautics
Jialiang Zhang	Nanjing Univ. of Aeronautics and Astronautics
Haidong Shen	Nanjing Univ. of Aeronautics and Astronautics
Yanbin Liu	Nanjing Univ. of Aeronautics and Astronautics
Jinbao Chen	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.129

803 *Multi-Aircrafts Trajectory Planning Using Enhanced Multi-Population Gray Wolf Optimization*

Jinmei Zhou	Nanjing Univ. of Aeronautics and Astronautics
Yong Ding	Nanjing Univ. of Aeronautics and Astronautics
Xin Cun	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.130

807 *PLTC-SLAM:An improved SLAM algorithm based on point-line feature fusion*

Lele Xi	Hebei Univ. of Science and Technology
Tianyou Wei	Hebei Univ. of Science and Technology
Shaoqun Zhang	Hebei Univ. of Science and Technology
Kuibao Zhu	Hebei Univ. of Science and Technology
15:50-17:50	SatB11.131

810 *Reinforcement Learning for Consensus Tracking Control of Multi-agent Systems*

Luning Yang	Beihang Univ.
Jiang Zhao	Beihang Univ.
Chi Pei	Beihang Univ.
Yingxun Wang	Beihang Univ.
15:50-17:50	SatB11.132

811 *Research on GNC Real-time Health Assessment Method for Rendezvous And Docking Spacecraft Based on Telemetry Data Driven*

Hui Hao	Beijing Institute of Control Engineering
Zongyu Liu	Beijing Institute of Control Engineering
Zengbo Liu	Beijing Institute of Control Engineering
Changqing Chen	Beijing Institute of Control Engineering
Qiang Zhang	Beijing Institute of Control Engineering
15:50-17:50	SatB11.133

812 *Long runtime inertial navigation error correction algorithm based on map matching*

GuoliangYang	AVIC Xi'an Flight Automatic Control Research Institute
Liu Gao	AVIC Xi'an Flight Automatic Control Research Institute
Fang Liu	AVIC Xi'an Flight Automatic Control Research Institute
Jin Zeng	AVIC Xi'an Flight Automatic Control Research Institute
Jiale Wu	Northwestern Polytechnical Univ.
Yabo Zhu	Northwestern Polytechnical Univ.
15:50-17:50	SatB11.134

813 *Reinforcement Learning Driven Autonomous Active Debris Removal Strategy Based on Angles-Only Navigation*

Zheng Chen	Beihang Univ.
Rui Zhong	Beihang Univ.
15:50-17:50	SatB11.135

815 *基于最大熵安全强化学习的无人机路径规划*

Feisheng Yang	Northwestern Polytechnical Univ.
Chengliang Fang	Northwestern Polytechnical Univ.
Ruijie Liang	Northwestern Polytechnical Univ.
15:50-17:50	SatB11.136

817 *Minimum-time Trajectory Planning for Aeroassisted maneuver under Path Constraints*

Xiangdong Feng	Beijing Institute of Technology
Hongwei Han	Beijing Institute of Technology
Ruifeng Lv	Beijing Institute of Technology
15:50-17:50	SatB11.137

818 *GFE-Det: Global Feature Enhanced Method for Low-altitude Target Detection*

Maochao Chen	Northwestern Polytechnical Univ.
Zongcheng Miao	Northwestern Polytechnical Univ.
Kang Liu	Northwestern Polytechnical Univ.
15:50-17:50	SatB11.138

819 *基于 GT-MADDPG 的多无人车协同围捕策略*

Dongting Xie	Nanjing Univ. of Aeronautics and Astronautics
Yin Wang	Nanjing Univ. of Aeronautics and Astronautics
Jian Gu	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.139

820 *Parameter-adjustable distributed nonlinear fault observer design for nonlinear multi-agent system with disturbance*

Yuhui Weng	Nanjing Univ. of Aeronautics and Astronautics
Jianwei Liu	Nanjing Univ. of Aeronautics and

	Astronautics
Huiwen Liu	Shanghai Aerospace Control Technology Institute
Ruizhi Qin	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.140

822 *A Robust Visual-Inertial Odometry Leveraging Point and Structural Line Features*

Yumin Liu	Beihang Univ.
Zhihao Cai	Beihang Univ.
Jiawei Ji	Beihang Univ.
Jiang Zhao	Beihang Univ.
Yingxun Wang	Beihang Univ.
15:50-17:50	SatB11.141

823 *行人三维运动模式识别和高度计算*

Shijia Wang	AVIC Opyronics
15:50-17:50	SatB11.142

824 *Event-Based Object Detection in Dynamic Scenes*

Zizhao Wang	Beihang Univ.
Yingxun Wang	Beihang Univ.
Zhihao Cai	Beihang Univ.
Jiang Zhao	Beihang Univ.
15:50-17:50	SatB11.143

828 *Analysis and Verification of a Practical Method For Initial Alignment of a Kinematic Base*

Yongsheng Hu	Beijing Keeven Aviation Instrument Co.,Ltd.
Chenglong Duan	Beijing Keeven Aviation Instrument Co.,Ltd.
15:50-17:50	SatB11.144

831 *Control of a Bi-Copter UAV Subject to Model Uncertainties*

Zeyu Hao	Beihang Univ.
Zhihao Cai	Beihang Univ.
15:50-17:50	SatB11.145

832 *A Self-updating Digital Model Method For Aero-engines*

Sumu Shi	Nanjing Univ. of Aeronautics and Astronautics
Cong Peng	Nanjing Univ. of Aeronautics and Astronautics
Bei Li	Nanjing Univ. of Aeronautics and Astronautics
Junyi Liu	Nanjing Univ. of Aeronautics and Astronautics
Sijia Yu	Nanjing Univ. of Aeronautics and Astronautics
Zheyan Ji	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.146

838 *Calculation of Beyond Visual Range Air Combat All Domain Fire Field and Application of Situation Threat Assessment and Assisted Decision Making*

Yueyao Cao	Fudan Univ.
Tao Xue	Fudan Univ.
Shanshan He	Fudan Univ.
Jianliang Ai	Fudan Univ.
Yiqun Dong	Fudan Univ.
15:50-17:50	SatB11.147

839 *Test point layout optimization based on multi-signal flow graph and harmony search algorithm*

Xin Luo	AVIC Chengdu Aircraft Industrial (Group) Co., Ltd
Zixuan You	Beihang Univ.
Hongrui Xiong	AVIC Chengdu Aircraft Industrial (Group) Co., Ltd
Zhanbao Gao	Beihang Univ.
15:50-17:50	SatB11.148

840 *Multi-Constraint Guidance Law Design for Asymmetric Vision with Side Window Detection*

Haoran Fang	Beijing Institute of Technology
Shipeng Fan	Beijing Institute of Technology
Xinyao Duan	Beijing Institute of Technology
15:50-17:50	SatB11.149

841 *Identification of Spacecraft Attitude Control System based on MOESP Subspace Method*

Yingjie Pan	Beijing Institute of Technology
Han Gao	Beijing Institute of Technology
15:50-17:50	SatB11.150

844 *基于眼动牵引定义的飞行员中远距空战关键决策行为指标析出及体系构建*

Jun Yao	Fudan Univ.
Jingqi Tu	Fudan Univ.
Can Wang	Fudan Univ.
Jianliang Ai	Fudan Univ.
Yiqun Dong	Fudan Univ.
15:50-17:50	SatB11.151

845 *Evaluation of Cluster Formation and Obstacle Avoidance Algorithms*

Jiang Zhao	Beihang Univ.
Zhi Yang	Beihang Univ.
Pei Chi	Beihang Univ.
Jiang Lou	Xi'an Modern Control Technology Research Institute
Yingxun Wang	Beihang Univ.
15:50-17:50	SatB11.152

846 *A Reconfiguration Control method based on L1 Adaptive for Aircraft Control Surface Damage*

Jiaxing Wang	Shenyang Aircraft Design & Research Institute
Zheng Shao	Shenyang Aircraft Design & Research Institute
Hao Chen	Shanghai Aircraft Design & Research Institute
15:50-17:50	SatB11.153

848 *Endmember Bundle Extraction Based on Multimodal and Multiobjective Quantum Particle Swarm Optimizer and Relative Spectral Angle Distance*

Jiewen Lin	China Agricultural Univ.

Jian Chen	China Agricultural Univ.
Xing Mao	Institute of Agricultural Information, Jiangsu Academy of Agricultural Sciences
Ni Ren	Institute of Agricultural Information, Jiangsu Academy of Agricultural Sciences
15:50-17:50	SatB11.154

849 *Control Method for Posture Stabilization and Accurate Deployment of Remotely Operated Vehicles in Ocean Current Environments*

Kang Zhang	Beihang Univ.
Yuang Zhang	Wuhan Second Ship Design And Research Institute
Zhe Yu	Wuhan Second Ship Design And Research Institute
Xiaoxin Zhou	Wuhan Second Ship Design And Research Institute
Xinhui Wang	Beihang Univ.
Pengyuan Qi	Beihang Univ.
15:50-17:50	SatB11.155

852 *Fault Impact Model of Spacecraft Cluster Based on Cellular Automata*

Yuhan Nie	Shanghai Jiaotong Univ.
Huihui Li	Shanghai Jiaotong Univ.
Huiwen Zuo	Shanghai Jiaotong Univ.
Qiang Shen	Shanghai Jiaotong Univ.
15:50-17:50	SatB11.156

853 *Design of Guidance and Control System for Rocket-assisted Glider*

Xinke Sun	Beihang Univ.
Helu Yang	Beihang Univ.
Zhirong Cai	Beihang Univ.
Jiang Wu	Beihang Univ.
Tianyi Tan	Beihang Univ.
15:50-17:50	SatB11.157

854 *面向控制的多约束条件下高超声速飞行器轨迹优化研究*

Xun Huang	Nanjing Univ. of Aeronautics and Astronautics
Boyi Chen	Nanjing Univ. of Aeronautics and Astronautics
Yanbin Liu	Nanjing Univ. of Aeronautics and Astronautics
Ben Yang	Nanjing Univ. of Aeronautics and Astronautics
Haoran Pang	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.158

858 *Attitude Control For Flying-wing UAV Based On Active Disturbance Rejection Control*

Boyuan Shen	Beihang Univ.
Xi Huang	Beihang Univ.
Qingxian Li	Beihang Univ.
Pengyuan Qi	Beihang Univ.
15:50-17:50	SatB11.158

861 *Signal processing method of MEMS gyro based on Savitzky-Golay smoothing and wavelet transform*

Baidong Zheng	Naval Aviation Univ.
Wei Liu	Naval Aviation Univ.
Hongde Dai	Naval Aviation Univ.
Rui Wang	Naval Aviation Univ.
Fei Li	Naval Aviation Univ.
Yang Liu	Naval Aviation Univ.
15:50-17:50	SatB11.160

863 *Adaptive Formation Control for Multi-agent Systems in Narrow Spaces*

Chao Wang	Beihang Univ.
Shuyuan Zhang	Beihang Univ.
Lei Wang	Beihang Univ.
15:50-17:50	SatB11.161

864 *直升机飞控电静液作动器架构设计与余度管理技术研究*

Liangliang Bai	QINGAN GROUP CO.，LTD
Yanxin Liu	QINGAN GROUP CO.，LTD
Shihui Du	QINGAN GROUP CO.，LTD
Nana Cui	QINGAN GROUP CO.，LTD
15:50-17:50	SatB11.162

865 *Fixed-Time-Synchronized Attitude Control of Hypersonic Flight Vehicles*

Puxi Zhang	Beijing Institute of Technology
Zhao Yin	Beijing Institute of Technology
Shaolong Du	Northwest Industries Group Company Ltd
Chengyang Li	Beijing Institute of Technology
Wei Wang	Beijing Institute of Technology
15:50-17:50	SatB11.163

871 *Path Planning and Tracking for Macroscopic Inspection of Wind Turbines*

Hanwen Zhang	Nanjing Univ. of Aeronautics and Astronautics
Biao Wang	Nanjing Univ. of Aeronautics and Astronautics
Chaoying Tang	Nanjing Univ. of Aeronautics and Astronautics
Wei Chen	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SatB11.164

873 *Load Based Cargo Door Lifting Mechanism Scheme Analysis and Actuating Structure Tradeoff*

Weijuan Zheng	Qingan Group .,Co., Ltd
Chen Zhang	Qingan Group .,Co., Ltd
Wenjing Zhi	Qingan Group .,Co., Ltd
Hongjun Pang	Qingan Group .,Co., Ltd
15:50-17:50	SatB11.165

874 *A Three-Dimensional Geomagnetic Matching Navigation*

Method Based on Particle Swarm Optimization

Yichen Wang	National Space Science Center,CAS
Dong Gao	National Space Science Center,CAS

15:50-17:50 SatB11.166

876 *基于虚实结合的飞控系统试验自动化测试技术*

Xiaoye Bi	AVIC Shenyang Aircraft Design and Research Institute
Lulu Feng	AVIC Shenyang Aircraft Design and AVIC Research Institute
Xiaozhi Dou	AVIC Shenyang Aircraft Design and Research Institute
Zhiqiang Ai	AVIC Shenyang Aircraft Design and Research Institute
Peng Cheng	AVIC Shenyang Aircraft Design and Research Institute

15:50-17:50 SatB11.167

879 *Composite anti-disturbance predictive control of rigid spacecraft with time-delay using multi-dimensional Taylor network*

Chenlong Li	Beihang Univ.
Xiang Yu	Beihang Univ.
Enmei Wang	Beihang Univ.
Zejun Zhang	Beihang Univ.

15:50-17:50 SatB11.168

881 *VTOL Aircraft Angular Rate Control based on Adaptive Filtering*

Qi Zhu	Northwestern Polytechnical Univ.
Yongxi Lyu	Northwestern Polytechnical Univ.
Jingping Shi	Northwestern Polytechnical Univ.
Ruiping Zheng	Northwestern Polytechnical Univ.
Fuxiang Qiao	AVIC Xi'an Flight Automatic Control Research Institute
Shaomin He	AVIC Xi'an Flight Automatic Control Research Institute
Runhu Li	Northwestern Polytechnical Univ.

15:50-17:50 SatB11.169

894 *Trajectory Planning of Multiple Unmanned Aerial Vehicles On MAPPO*

Jun Fang	Northwestern Polytechnical Univ.
Xiaohang Wu	Northwestern Polytechnical Univ.
Shunmin Li	Beijing Institute of Space Long March VehicleNorthwestern Polytechnical Univ.
Aijun Li	Systems Engineering Research Institute
Yong Guo	Northwestern Polytechnical Univ.

15:50-17:50 SatB11.170

895 *A launch vehicle cluster launch mission planning method based on contract network protocol*

Haoyu Zhao	Northwestern Polytechnical Univ.
Yibo Ding	Northwestern Polytechnical Univ.
Xiaokui Yue	Northwestern Polytechnical Univ.

15:50-17:50 SatB11.171

901 *基于深度元学习的固体发动机性能预测方法研究*

Yan Cui	Shenyang Aerospace Univ.
Bixuan Lou	Shenyang Aerospace Univ.
Pengcheng Yu	Shenyang Aerospace Univ.
Huixin Yang	Shenyang Aerospace Univ.

15:50-17:50 SatB11.172

903 *变构型液体火箭发动机液膜冷却建模仿真与可视化软件开发*

Pengcheng Yu	Shenyang Aerospace Univ.
Huixin Yang	Shenyang Aerospace Univ.

15:50-17:50 SatB11.173

904 *Sequence cleaning of Wi-Fi round-trip time measurement for indoor positioning using SegRNN*

Chengzhi Liu	China Agricultural Univ.
Zimeng Wang	China Agricultural Univ.
Yantao Jia	China Agricultural Univ.

15:50-17:50 SatB11.174

905 *Experimental Verification of a Fast and Low-Cost Calibration Approach for Long-Wave Infrared Cameras in Vision Navigation*

Haoming Wang	AVIC Xi'an Flight Automatic Control Research Institute
Jiahang Dong	AVIC Xi'an Flight Automatic Control Research Institute
Yazhou Yue	AVIC Xi'an Flight Automatic Control Research Institute
Xiaodong Zhang	AVIC Xi'an Flight Automatic Control Research Institute
Qi Zhou	AVIC Xi'an Flight Automatic Control Research Institute
Nan Liu	AVIC Xi'an Flight Automatic Control Research Institute
Guanjie Wang	AVIC Xi'an Flight Automatic Control Research Institute
JinJiang Wang	AVIC Xi'an Flight Automatic Control Research Institute
Haofeng Jiang	AVIC Xi'an Flight Automatic Control Research Institute

15:50-17:50 SatB11.175

907 *基于带供电电缆无人机的农业植保应用方法研究*

Yunshu Yao	Beijing Jiaotong Univ.
Rui Zheng	Beijing Jiaotong Univ.
Chen Cao	Beijing Jiaotong Univ.
Siqian Gong	Beijing Jiaotong Univ.
Yang Liu	Beijing Jiaotong Univ.

15:50-17:50 atB11.176

909 *Research on Construction Method of Path Angle Signal in MAGIC CARPET*

Xiulin Zhang	AVIC Shenyang Aircraft Design and Research Institute
Ning Yang	AVIC Shenyang Aircraft Design and Research Institute
Hao Yun	AVIC Shenyang Aircraft Design and Research Institute

15:50-17:50	SatB11.177

910 *基于可达集的航天器多对一博弈几何求解方法*

Zhaohang Li	Beijing Institute of Technology
Bo Pang	Beijing Institute of Technology
Changxuan Wen	Beijing Institute of Technology
Dong Qiao	Beijing Institute of Technology

SunA1	**3rd Floor Meeting Room 305**
Hybrid GNCI	**三层会议室 305**
Chairs: Hao Chen	National Univ.of Defense Technology
Li Yu	National Univ.of Defense Technology
13:30-13:38	SunA1.1

687 *无人直升机部分姿态约束安全飞行控制*

Jiawei Du	Xi'an Univ. of Technology
Tianhong Lii	Xi'an Univ. of Technology
Yankai Li	Xi'an Univ. of Technology
Dongping Li	Xi'an Univ. of Technology
Yingmin Yi	Xi'an Univ. of Technology
Yulong Huang	Xi'an Univ. of Technology
13:38-13:46	SunA1.2

1016 *MCNN-based model for rotating equipment fault diagnosis*

Zhenyi Xu	Jianghuai Advance Technology Center
Qilai Wu	Jianghuai Advance Technology Center
Xiaolong Wei	Univ. of Science and Technology of China
Binkun Liu	Univ. of Science and Technology of China
Yanming Guo	National Univ. of Defense Technology
Yu Kang	Hefei Comprehensive National Science Center
13:46-13:54	SunA1.3

1232 *基于无源性的多四旋翼无人机自适应包含控制*

Dongwen Tang	Jiangsu Univ. of Science and Technology
Hui Ye	Jiangsu Univ. of Science and Technology
Yi Wang	Changzhou XD Transformer Co.,Ltd.
Junjie Cao	Jiangsu Univ. of Science and Technology
Qinglei Zhang	Jiangsu Univ. of Science and Technology
Xu Wang	Jiangsu Univ. of Science and Technology
13:54-14:02	SunA1.4

1268 *小型无人直升机故障估计与容错控制*

Xiaolong Zhang	Taiyuan Univ. of Technology
Rong Li	Taiyuan Univ. of Technology
Gaowei Yan	Taiyuan Univ. of Technology
Shuyi Xiao	Taiyuan Univ. of Technology
14:02-14:10	SunA1.5

1396 *Fixed-Time Tracking Control of Uncertain Nonlinear MAS Based on ETM and APIT*

Bolin Wang	Hohai Univ.
Amlakyalew Worku Almebo	Hohai Univ.
Dawei Wu	Hohai Univ.
Xiaoqi Huang	Hohai Univ.
14:10-14:18	SunA1.6

412 *多约束下四旋翼无人机姿态跟踪复合学习动态面控制*

Longsheng Chen	Nanchang Hangkong Univ.
Tongshuai Li	Nanchang Hangkong Univ.
Yuxiang Wang	Nanchang Hangkong Univ.
Haitao Xu	Nanchang Hangkong Univ.
14:18-14:26	SunA1.7

1562 *基于事件触发灰狼优化算法的 QUAV 三维航迹规划*

Dongyan Qin	Hefei Univ.
Xiaohui Yan	Hefei Univ.
Guiwei Shao	Hefei Univ.
Yuwu Yao	Hefei Univ.
14:26-14:34	SunA1.8

1609 *基于干扰观测器的四旋翼无人机自适应耦合容错控制*

Yaobin Sun	Shandong Univ. of Science and Technology
Yong Ren	Shandong Univ. of Science and Technology
14:34-14:42	SunA1.9

477 *具有时变状态约束的无人直升机抗饱和跟踪控制设计*

Kun Yan	Xi'an Technology Univ.
Jinze Zhao	Xi'an Technology Univ.
Song Gao	Xi'an Technology Univ.
Kai Cao	Xi'an Technology Univ.
Ming Wan	Nanjing Univ. of Aeronautics and Astronautics
14:42-14:50	SunA1.10

526 *Adaptive Event-Triggered based Finite-time Robust Trajectory Control for QUAV with Input Saturation*

Anxin Wu	State-Owned Machinery Factory in Wuhu
Chunlei Bu	Anhui Univ. of Technology
Rongsheng Xia	Anhui Univ. of Technology
Shuyi Shao	Nanjing Univ. of Aeronautics and Astronautics
14:50-14:58	SunA1.11

537 *Finite-Horizon Robust Optimal Trajectory Tracking Control for QUAV with Input Constraints*

Jicai Xu	Anhui Univ. of Technology
Chunlei Bu	Anhui Univ. of Technology
Rongsheng Xia	Anhui Univ. of Technology
14:58-15:06	SunA1.12

461 *Design and Implementation of Control Strategy for Suspension System in High-speed Flight Maglev Vehicle*

Mingda Zhai	Mingda Zhai
Pinglang Yi	Pinglang Yi
Xiaolong Li	Xiaolong Li

15:06-15:14	SunA1.13
866 *Hierarchical Deep Reinforcement Learning for Path Planning with Collision Avoidance of the Mobile Robot in Complex Dynamic Environments*	
Yuanyuan Gao	Southeast Univ.
Qingling Wang	Southeast Univ.
15:14 -15:22	SunA1.14
1602 *抵近无人机运动信息分布式一致性融合估计方法*	
Wei Li	Yunnan Police College
Jie Liu	Yunnan Police College
Chengcai Meng	Yunnan Public Security Police Comprehensive Training Base
15:20-15:30	SunA1.15
154 *Research on the coordinated control method of bipedal reconfigurable robot for gait balance task*	
Meng Qu	Changchun Univ. of Technology
Yuanchun Li	Changchun Univ. of Technology
Qiang Pan	Changchun Univ. of Technology
Guanting Liu	Changchun Univ. of Technology
Bo Dong	Changchun Univ. of Technology
Bing Ma	Changchun Univ. of Technology
SunA2 Smart GNC	**3rd Floor Meeting Room 306 三层会议室 306**
Chairs: Jian Chen	China Agricultural Univ.
Hang Liu	Beihang Univ.
13:30-13:38	SunA2.1
126 *Verifying the Application of Embodied Intelligence Control Technology in Inverted Pendulum Experiments under "CONTROL" Teaching Mode*	
Jian Chen	China Agricultural Univ.
Tao Chen	China Agricultural Univ.
Xinyu Xu	China Agricultural Univ.
Shubo Wang	Qingdao Univ.
Zichao Zhang	Information Science Academy of China Electronics Technology Group Corporation
Xing Mao	Ministry of Agriculture and Rural Affairs, P. R. China
Ni Ren	Ministry of Agriculture and Rural Affairs, P. R. China
13:38-13:46	SunA2.2
234 *A method of grape cluster target detection and picking point location based on improved YOLOv8*	
Huaiyang Liu	Soochow Univ.
Wanfu Liu	Soochow Univ.
Wenhao Wang	Chinese Academy of Agricultural Sciences
Huibin Li	Chinese Academy of Agricultural Sciences
Changxing Geng	Soochow Univ.
13:46-13:54	SunA2.3
364 *Vehicle Move-Stop Motion Planning for Fruit Picking Robot with Discrete Picking Targets*	
Yifan Zhang	Beijing Academy of Agriculture and Forestry Sciences
Yajun Li	Beijing Academy of Agriculture and Forestry Sciences
Qingchun Feng	Beijing Academy of Agriculture and Forestry Sciences
13:54-14:02	SunA2.4
1651 *Graph Point Cloud Serialization Semantic Segmentation and Criterion*	
Wenhao Dou	Harbin Institute of Technology (Shenzhen)
Yang Wang	Harbin Institute of Technology (Shenzhen)
Shubo Wang	Qingdao Univ.
14:02-14:10	SunA2.5
1675 *A Dataset Diversity Evaluation Method via HighDimensional Feature Representation*	
Zichao Zhang	Information Science Academy of China Electronics Technology Group Corporation
Junjie Ma	Information Science Academy of China Electronics Technology Group Corporation
Weiyu Ji	Information Science Academy of China Electronics Technology Group Corporation
Landi Gu	Information Science Academy of China Electronics Technology Group Corporation
Wei Jiang	Information Science Academy of China Electronics Technology Group Corporation
14:10-14:18	SunA2.6
1711 *Improved RRT for Mobile Robot Path Planning Algorithm*	
Yuxiang Hou	Qingdao Univ.
Shubo Wang	Qingdao Univ.
Hewen Zhang	Qingdao Univ.
Shiwen Wang	Qingdao Univ.
14:18-14:26	SunA2.7
564 *Robust Control Construction for Zero-sum Games Under Event-triggered Scheme*	
Hongji Zhuang	Shanghai Jiaotong Univ.
Junhao Hou	Shanghai Jiaotong Univ.
Zeyang Zhao	Shanghai Jiaotong Univ.
Qiang Shen	Shanghai Jiaotong Univ.
Shufan Wu	Shanghai Jiaotong Univ.
14:26-14:34	SunA2.8
1066 *On Bumpless Transfer for Drag-Free Satellites in Mission of Gravitational Wave Detection*	
Chao Xie	Beijing Institute of Technology
Yuanqing Xia	Beijing Institute of Technology
Bing Cui	Beijing Institute of Technology

14:34-14:42	SunA2.9
1067 *Disturbance Rejection Model Predictive Control for Building Drag-free Steady State*	
Xiongfeng He	Chinese Academy of Science
Wei Lu	Chinese Academy of Science
Nuo Xu	Chinese Academy of Science
Qixian Zhou	Chinese Academy of Science
Pengcheng Wang	Chinese Academy of Science
Yonghe Zhang	Chinese Academy of Science
14:42-14:50	SunA2.10
1211 *Simulation study of a closed-loop actuation circuit for a space inertial sensor*	
Wenlong Song	Northeast Forestry Univ.
Hao Xu	Northeast Forestry Univ.
Chong Mo	Northeast Forestry Univ.
Zhe Han	Northeast Forestry Univ.
Shuyang Lin	Northeast Forestry Univ.
Qinbo Ma	Northeast Forestry Univ.
Peilong Yu	Northeast Forestry Univ.
Jiawei Zhang	Northeast Forestry Univ.
Ming Hu	Huazhong Univ. of Science and
Jianping Huang	Technology
	Northeast Forestry Univ.
14:50-14:58	SunA2.11
1235 *Low-frequency Noise Suppression Study for Space Inertial Sensor Driver Circuit Reference Source*	
Qinbo Ma	Northeastern Forestry Univ.
Jianping Huang	Northeastern Forestry Univ.
Ming Hu	Huazhong Univ. of Science and
	Technology
Hao Xu	Northeastern Forestry Univ.
Zhe Han	Northeastern Forestry Univ.
Shuyang Lin	Northeastern Forestry Univ.
Peilong Yu	Northeastern Forestry Univ.
Chong Mo	Northeastern Forestry Univ.
Jiawei Zhang	Northeastern Forestry Univ.
14:58-15:06	SunA2.12
1312 *Residual Normalized Strong Tracking Spacecraft Attitude Estimation Based on Variational Bayes*	
Lanlan Li	Lanlan Li
Pengcheng Wang	Pengcheng Wang
Zhansheng Duan	Zhansheng Duan
Donglin Zhang	Donglin Zhang
Yonghe Zhang	Yonghe Zhang
Ming Guo	Ming Guo
15:06-15:14	SunA2.13
1437 *Positive real lemmas for singular fractional order systems without equality constraints*	
Yihui Zhu	Southeast Univ.
Rui Chen	Southeast Univ.
Shiqin Xiao	Southeast Univ.
Dingkai Weng	Southeast Univ.
Yiheng Wei	Southeast Univ..
15:14 -15:22	SunA2.14
1527 *CAMS：A Cross Attention based Multi-Scale LiDAR Camera Fusion Framework for 3D Object Detection*	
Weilian Zhu	Southeast Univ.
He Wang	Southeast Univ.
Huazhou Hou	Purple Mountain Laboratories
Wenwu Yu	Southeast Univ.
15:20-15:30	SunA2.15
1691 *轻量化低慢小无人机多目标检测及跟踪方法*	
Xiaodong Fan	Beihang Univ.
Tianyi Tan	Beihang Univ.
Jiang Wu	Beihang Univ.
SunA3	**3rd Floor Meeting Room 307**
Unmanned GNC	**3 层会议室 307**
Chairs: Junhui Liu	Beijing Institute of Technology
Yongbin Zheng	National Univ. of Defense Technology
13:30-13:38	SunA3.1
1064 *Distributed Adaptive Formation Shaping Algorithm for Multi-agent Systems*	
Zhengyang Zhou	Beijing Institute of Technology
Jianan Wang	Beijing Institute of Technology
Junhui Liu	Beijing Institute of Technology
Jiayuan Shan	Beijing Institute of Technology
13:38-13:46	SunA3.2
1277 *A Vision /GNSS/ INS Multi-source Relative Navigation Algorithm Based on Federated UPF*	
Qihan Qiu	Beijing Institute of Technology
Xiuyun Meng	Beijing Institute of Technology
13:46-13:54	SunA3.3
1181 *Structural Design of a Bionic Jellyfish Multi-Degree-of-Freedom Paddling Mechanism Driven Underwater Robot*	
Boyu Shen	Beihang Univ.
Chao Zhang	Beihang Univ.
Shaoping Wang	Beihang Univ.
Rentong Chen	Beihang Univ.
Yunpeng Bao	Beihang Univ.
13:54-14:02	SunA3.4
1250 *Adaptive tracking control for uncertain strict feedback systems with time-varying disturbances*	
Yanjie Chang	Hebei Univ. of Economics and
	Business
14:02-14:10	SunA3.5
165 *Non-singular Fixed-time Terminal Sliding Mode Control For A Small Size Unmanned Helicopter*	
Aochen Ma	Tianjin Univ.
Bin Xian	Tianjin Univ.
14:10-14:18	SunA3.6
1495 *基于一致分布式的四旋翼无人机自适应容错协同控制*	
Tong Mei	Shandong Univ. of Aeronautics
Wenlai Ma	Shandong Univ. of Aeronautics
Ke Yu	The Flight Automatic Control
	Research Institute of AVIC
Wei Hao	Shandong Univ. of Aeronautics
14:18-14:26	SunA3.7

1673 *基于UGVC比赛的多功能复合式机器人设计与实现*

Haozhe Wu	National Univ. of Defense Technology
Zhanyu Cao	National Univ. of Defense Technology
Gaoge Liang	National Univ. of Defense Technology
Tao Ye	National Univ. of Defense Technology
Zerui Li	National Univ. of Defense Technology
Xiaohong Xu	National Univ. of Defense Technology
14:26-14:34	SunA3.8

1708 *A Shared Control Method for Teleoperation of Mobile Robots Based on Bargaining Game and Gaussian Process*

Ruizhuo Wu	National Univ. of Defense Technology
Xincheng Xu	National Univ. of Defense Technology
Xin Xu	National Univ. of Defense Technology
Haotian Cao	National Univ. of Defense Technology
Xinxin Yao	National Univ. of Defense Technology
14:34-14:42	SunA3.9

1259 *Learning-based Terramechanics Mapping in Hilbert Space*

Xu Liu	Shenyang Institute of Automation,CAS
Decai Li	Shenyang Institute of Automation,CAS
Guangyu Zhang	Shenyang Institute of Automation,CAS
Yuqing He	Shenyang Institute of Automation,CAS
14:42-14:50	SunA3.10

495 *ADFuse: An Adaptive Fusion Method for Infrared and Visible Images*

Wanying Xu	National Univ. of Defense Technology
Dongxu Yang	National Univ. of Defense Technology
Yongbin Zheng	National Univ. of Defense Technology
Peng Sun	National Univ. of Defense Technology
Shengjian Bai	National Univ. of Defense Technology
14:50-14:58	SunA3.11

1145 *An Accurate Template Matching Method based on Siamese Network and Center Point Estimation*

Jiangsong Yang	National Univ. of Defense Technology
Wanying Xu	National Univ. of Defense Technology
Yongbin Zheng	National Univ. of Defense Technology
Qiang Ren	National Univ. of Defense Technology
hengjian Bai	National Univ. of Defense Technology
14:50-15:06	SunA3.12

1404 *DOA Estimation Method for Unmanned Aerial Vehicle Image Transmission Sources in Interference Backgrounds*

Zhicheng Yao	Rocket Force Univ. of Engineering
Guanhua Zhang	Rocket Force Univ. of Engineering
Haiyang Wang	Rocket Force Univ. of Engineering
Jian Yang	Rocket Force Univ. of Engineering
Zhiliang Fan	Rocket Force Univ. of Engineering
15:06-15:14	SunA3.13

1436 *导弹自动驾驶仪设计方法综述*

Xin wei Liang	National Univ. of Defense Technology
Guoxi Liu	National Univ. of Defense Technology
Wanying Xu	National Univ. of Defense Technology
Yuxuan Xie	National Univ. of Defense Technology
15:14-15:22	SunA3.14

740 *Weather Optimal Station Keeping Control for Airship based on Deep Reinforcement Learning*

Hongyi Wen	Beihang Univ.
Zewei Zheng	Beihang Univ.
Yifei Zhang	Beihang Univ.
Tian Chen	Beihang Univ.
Ming Zhu	Beihang Univ.
15:22-15:30	SunA3.15

1679 *基于大语言模型的机械臂规划控制方法*

Xingyu Li	Beihang Univ.
Yitong Chen	Beihang Univ.
Chengcai Wang	Beihang Univ.
Kun Xu	Beihang Univ.
Xilun Ding	Beihang Univ.

SunA4 — 3rd Floor Meeting Room 309
Positioning GNC — 3 层会议室 309

Chairs: Xiang Yu	Beihang Univ.
Housheng Su	Huazhong Univ. of Science and Technology
13:30-13:38	SunA4.1

462 *Global Atmospheric Polarization Mode Emulation and Analysis Based on Rayleigh Scattering*

Yunlong Chen	National Univ. of Defense Technology
Chen Fan	National Univ. of Defense Technology

Lilian Zhang	National Univ. of Defense Technology
13:38-13:46	SunA4.2

468 *A novel Calibration method for microarray polarized navigation sensor*

Yunxiao Lv	National Univ. of Defense Technology
Chen Fan	National Univ. of Defense Technology
Tongwei Ma	National Univ. of Defense Technology
13:46-13:54	SunA4.3

469 *Rapid orientation algorithm by zenith region selection*

Wenzhou Zhou	National Univ. of Defense Technology
Chen Fan	National Univ. of Defense Technology
Lianwei Teng	National Univ. of Defense Technology
Lilian Zhang	National Univ. of Defense Technology
Xiaofeng He	National Univ. of Defense Technology
Xiaoping Hu	National Univ. of Defense Technology
13:54-14:02	SunA4.4

471 *Orientation Error Modeling and Analysis of Microarray Polarized Light Compass*

Chunrui Mei	National Univ. of Defense Technology
Xiaofeng He	National Univ. of Defense Technology
Chen Fan	National Univ. of Defense Technology
14:02-14:10	SunA4.5

689 *A System-Level Calibration Method with Gyroscope G-Sensitivity for MEMS-IMU*

Chang longkang	National Univ. of Defense Technology
Wu wenqi	National Univ. of Defense Technology
Gu yuanxin	National Univ. of Defense Technology
Cui jiarui	National Univ. of Defense Technology
Miao tongqiao	National Univ. of Defense Technology
14:10-14:18	SunA4.6

1117 *High Accuracy MEMS Gyrocompass with Honeycomb Disk Resonator Gyroscope*

Quanzhu Meng	National Univ. of Defense Technology
Shuiyang Liang	National Univ. of Defense Technology
Qinsong Li	National Univ. of Defense Technology
Tongqiao Miao	National Univ. of Defense Technology
Dingbang Xiao	National Univ. of Defense Technology
Xuezhong Wu	National Univ. of Defense Technology
14:18-14:26	SunA4.7

249 *基于 AFSTUKF 的 SINS/GPS/偏振/地磁组合导航系统空中对准方法*

Chenyi Ji	Yangzhou Univ.
Yang Yi	Yangzhou Univ.
Songyin Cao	Yangzhou Univ.
14:26-14:34	SunA4.8

489 *Constrained Disturbance Observer-based Control Using Robust Command Governor for Aircraft Application*

Sihang Li	Beihang Univ.
Hao Lu	Beihang Univ.
14:34-14:42	SunA4.9

801 *Anti-disturbance control of air-breathing hypersonic vehicle: a zero-sum differential game approach*

Zejun Zhang	Beihang Univ.
Enmei Wang	Beihang Univ.
Mengqi Qiu	Beihang Univ.
Xiang Yu	Beihang Univ.
Chenlong Li	Beihang Univ.
14:42-14:50	SunA4.10

804 *Polarization meridian plane based 3D attitude measurements: a bio-inspired approach*

Zhen Wang	Hangzhou Normal Univ.
Pengwei Hu	Beihang Univ.
14:50-14:58	SunA4.11

806 *Consensus Relations of Nodal Networks and Edge Networks: From the Spectral Perspective*

Han Wu	Wuhan Univ. of Science and Technology
Mengfan Huang	Wuhan Univ. of Science and Technology
Zhenhua Zhu	Wuhan Univ. of Science and Technology
14:58-15:06	SunA4.12

1285 *Distributed interval observer design for switched systems*

Tingting Chang	Nanjing Univ. of Posts and Telecommunications
Xiaoling Wang	Nanjing Univ. of Posts and Telecommunications
Wen Yang	East China Univ. of Science and Technology
Housheng Su	Huazhong Univ. of Science and Technology
15:06-15:14	SunA4.13

1407 *随机切换和不确定目标下非线性多智能体系统的一致性跟踪问题研究*

Yaping Sun	Sichuan Univ.
Xinsong Yang	Sichuan Univ.
Housheng Su	Huazhong Univ. of Science and Technology
15:14-15:22	SunA4.14

1424 *Attitude and Gyro Bias Estimation Based on A Parameter Estimation-Based Approach*

Miaomiao Wang	Huazhong Univ. of Science and Technology
Housheng Su	Huazhong Univ. of Science and Technology
Zhigang Zeng	Huazhong Univ. of Science and Technology
15:22-15:30	SunA4.15

908 *非对准涡旋光束探测下的旋翼叶片数量提取方法*

Ruoyu Tang	Space Engineering Univ.
Yaohui Fan	Space Engineering Univ.
Yutian Liang	Space Engineering Univ.
Zhengliang Liu	Space Engineering Univ.
Tong Liu	Space Engineering Univ.
Yuan Ren	Space Engineering Univ.
Xiuqian Li	Space Engineering Univ.

SunA5	**3rd Floor Meeting Room 310**

Automatic GNC	3 层会议室 310
Chairs: Rui Wang	Civil Aviation University of China
Wenjuan Wang	Hiwing Aviation General Equipment Co
13:30-13:38	SunA5.1

195 *Sequence recognition of gesture map action images using multi-source heterogeneous fusion data*

Qingji Gao	Civil Aviation University of China
Wenmin Fan	Civil Aviation University of China
Qi Wang	Civil Aviation University of China
13:38-13:346	SunA5.2

261 *Fuzzy Fault Tree-Based Emergency Storage Location Study under Interruption Scenarios*

Rui Wang	Civil Aviation University of China
Zhikai Zhang	Civil Aviation University of China
Ziqi Liu	Civil Aviation University of China
Hui Sun	Civil Aviation University of China
13:38-13:46	SunA5.3

425 *基于禁飞区几何特性的轨迹规划算法*

Jiahao Ma	Nankai University
Yulong Shi	Nankai University
Mingwei Sun	Nankai University
Zhongxin Liu	Nankai University
Zengqiang Chen	Nankai University
Wenjuan Wang	Hiwing Aviation General Equipment Co., Ltd
Hongzhong Ma	Hiwing Aviation General Equipment Co., Ltd
13:46-13:54	SunA5.4

547 *A novel approach to Develop a Space Target Dataset for Non-Cooperative Pose Estimation*

Luhua Chen	Academy of Military Sciences
Dan Xiong	Academy of Military Sciences
Wei Han	Academy of Military Sciences
Chaochen Cui	Academy of Military Sciences
Yiyong Huang	Academy of Military Sciences
Yanjie Yang	Academy of Military Sciences
13:54-14:02	SunA5.5

596 *In-motion Initial alignment method based on correntropy Lie group Bayesian filtering*

Fujun Pei	Beijing University of Technology
Li Peng	Beijing University of Technology
Haoyang Li	Beijing University of Technology
Tiantian Xu	Chinese Academy of Sciences
14:02-14:10	SunA5.6

837 *A Modeling Method for Adaptively Evaluating Flight Effectiveness of Autonomous UAV*

Yuan Wang	Harbin Institute of Technology
Benkuan Wang	Harbin Institute of Technology
Datong Liu	Harbin Institute of Technology
Wenjuan Wang	Hiwing Aviation General Equipment Co., Ltd.
Tao Peng	Hiwing Aviation General Equipment Co., Ltd.
14:10-14:18	SunA5.7

887 *Fuel-optimal control and robustness optimization methods of hypersonic vehicles in the ascending stage*

Yujie Lin	Nanjing University of Aeronautics and Astronautics
Yanhua Han	Nanjing University of Aeronautics and Astronautics
14:18-14:26	SunA5.8

898 *Densely nested infrared small target detection network based on coordinate joint channel attention*

Nengshuang Zhang	Xi'an University of Technology
Jing Zhang	Xi'an University of Technology
Huinan Guo	Xi'an University of Technology
Wuixa Zhang	Xi'an University of Technology
14:26-14:34	SunA5.9

1115 *Adaptive sliding mode guidance law for spacecraft based on online parameter identification*

Zijian Wang	Beijing Institute of Electronic System Engineering
Hui Cao	Beijing Institute of Electronic System Engineering
Zhenning Sun	Beijing Institute of Electronic System Engineering
14:34-14:42	SunA5.10

1325 *Collaborative Mission Planning for UAV Swarms Launched from Aerial Carriers*

Mingzhou Yuan	Harbin Institute of Technology
Bo Dong	Harbin Institute of Technology
Weiran Yao	Harbin Institute of Technology
14:42-14:50	SunA5.11

1379 *基于混合差分进化-序列二次规划算法的多操纵面分配*

Junquan Shen	Hiwing Aviation General Equipment Co., Ltd
Hongzhong Ma	Hiwing Aviation General Equipment Co., Ltd
Wenjuan Wang	Hiwing Aviation General Equipment Co., Ltd
14:58-15:06	SunA5.12

1520 *On AHM-based predictive maintenance for air turbine starter*

Liqian Zhang	Civil Aviation University of China
Xiaoyu Zhang	Civil Aviation University of China
15:06-15:14	SunA5.13

1547 *Bridging Field Investigation and Sentinel 2 Satellite Image with UAV Remote Sensing for Yield Inversion of Chinese pepper*

Yanan Wu	China Agricultural University
Ying Wang	China Meteorological Administration
Jie Deng	China Agricultural University
Yangguang Li	China Agricultural University
Rundong Zhang	China Agricultural University
15:14-15:22	SunA5.14

1581 *Fault Knowledge Graph for QUAV construction Based on Qwen Large Model*

Zhuolun Li	Huazhong University of Science and Technology
Shaojun Liang	Huazhong University of Science and Technology
Yi Yang	Army Engineering University
Chengjie Xu	Hunan University of Technology
Ying Zheng	Huazhong University of Science and Technology
15:22-15:30	SunA5.15

1723 *Improved YOLOv8s Algorithm for Object Detection in Airfield Area*

Guochen Niu	Civil Aviation University of China
Hongcheng Zhou	Civil Aviation University of China

SunA6	**3rd Floor Meeting Room 311**
Cognition GNC	**三层会议室 311**
Chairs: Bin Lin	Dalian Maritime University
Tieshan Li	University of Electronic Science and Technology of China
13:30-13:38	SunA6.1

330 *Local-Perception based Dynamical Task Allocation for Distributed UAV Cluster*

Hanyu Qian	Northwestern Polytechnical University
Bing Xiao	Northwestern Polytechnical University
Zhenshuai Jia	Northwestern Polytechnical University
Wenjie Guo	Northwestern Polytechnical University
13:38-13:46	SunA6.2

682 *无人机自主导航视觉惯性融合 SLAM 方法*

Tianxu Li	AVIC Chengdu Aircraft Design and Research Institute
Bo Ma	AVIC Chengdu Aircraft Design and Research Institute
Hao Wei	AVIC Chengdu Aircraft Design and Research Institute
Rui Wang	AVIC Chengdu Aircraft Design and Research Institute
13:46-13:54	SunA6.3

718 *Online Camera-IMU Extrinsic Calibration Using Lie Group Filter for Monocular VINS*

Yongzheng Lv	Beijing University of Technology
Fujun Pei	Beijing University of Technology
Haoyang Li	Beijing University of Technology
Tiantian Xu	Chinese Academy of Sciences
13:54-14:02	SunA6.4

963 *Design and Implementation of a GPS/BDS Software Receiver Based on SIMD Acceleration*

Jianyong Li	Beijing Information Science and Technology University
Junfang Fan	Beijing Information Science and Technology University
Yafeng Li	Beijing Information Science and Technology University
Yi Ji	Beijing Information Science and Technology University
Xiaobin Xu	Beijing Information Science and Technology University
Sixing Zhang	Beijing Information Science and Technology University
14:02-14:10	SunA6.5

1033 *多无人机协同跟踪地面目标制导律设计*

Chuanjian Lin	AVIC Chengdu Aircraft Design and Research Institute
Chenggang Tao	AVIC Chengdu Aircraft Design and Research Institute
Yujia Tie	AVIC Chengdu Aircraft Design and Research Institute
Tianjiao Liang	AVIC Chengdu Aircraft Design and Research Institute
14:10-14:18	SunA6.6

1298 *A neural artificial network model for Flush Air Data Sensing System of a flying-wing aircraft*

Saihu Pu	AVIC Chengdu Aircraft Design and Research Institute
Nan Zhu	AVIC Chengdu Aircraft Design and Research Institute
Deming Deng	AVIC Chengdu Aircraft Design and Research Institute
Guanjiang Guo	AVIC Chengdu Aircraft Design and Research Institute

14:18-14:26 SunA6.7

1741 *Reinforcement Learning-Based Optimized Control for Nonstrict-Feedback Nonlinear Multiagent Systems*

Yuanbo Su	Dalian Maritime University
Qizheng Zhou	Dalian Maritime University
Renhai Yu	Dalian Maritime University
Qihe Shan	Dalian Maritime University
Tieshan Li	University of Electronic Science and Technology of China

14:26-14:34 SunA6.8

1743 *Adaptive Formation-containment Control for Nonlinear Unmanned Surface Vehicles with General Noise*

Peiyun Ye	Dalian Maritime University
Wanyu Tang	Dalian Maritime University
Renhai Yu	Dalian Maritime University
Qihe Shan	Dalian Maritime University
Tieshan Li	University of Electronic Science and Technology of China

14:34-14:42 SunA6.9

1744 *Fuzzy Finite-Time Consensus Control for Nonlinear Multi-Agent Systems Against Input Delay*

Yancheng Yan	University of Electronic Science and Technology of China
Tieshan Li	University of Electronic Science and Technology of China
Yue Long	University of Electronic Science and Technology of China
Hanqing Yang	University of Electronic Science and Technology of China

14:42-14:50 SunA9.10

1745 *Lyapunov Matrix-Based Dynamic Positioning Control for Unmanned Marine Vehicles with Thruster Faults and Time-Delay*

Xin Yang	Dalian Maritime University
Liying Hao	Dalian Maritime University
Tieshan Li	University of Electronic Science and Technology of China
Yang Xiao	The University of Alabama

14:50-14:58 SunA6.11

1746 *Modeling and Uplink Coverage Analysis of Buoy-Assisted Offshore Internet of Things*

Xu Hu	Dalian Maritime University
Bin Lin	Dalian Maritime University

14:58-15:06 SunA6.12

1747 *Hypergraph Modeling for UAV-assisted Offshore Communication Networks*

Shuang Qi	Dalian Maritime University
Bin Lin	Dalian Maritime University

15:06-15:14 SunA6.13

1748 *Resource and Trajectory Optimization for UAV-assisted Maritime Internet of Things*

Chaoyue Zhang	Dalian Maritime University
Bin Lin	Dalian Maritime University

15:14-15:22 SunA6.14

1749 *A Maximum Flow Routing Algorithm for Multi-Unmanned Surface Vessel Networks*

Haocheng Wang	Dalian Maritime University
Bin Lin	Dalian Maritime University
Qiaodan Wang	Dalian Maritime University
Xiaoling Han	Dalian Maritime University

15:22-15:30 SunA6.15

1750 *Toward Maritime End-to-End Autoencoder Communication Systems Using a DenseNet-Based Learning Framework*

Xiaoling Han	Dalian Maritime University
Bin Lin	Dalian Maritime University
Shuai Shao	Dalian Maritime University
Haocheng Wang	Dalian Maritime University

SunA7 — 3rd Floor Meeting Room 312

Reinforcement GNC — 三层会议室 312

Chairs: Yiqun Dong	Fudan University
Yang Yuan	Beihang University

13:30-13:38 SunA7.1

418 *How to measure the effect of training-data sample size on image classification algorithms based on deep learning*

Jun He	National University of Defense Technology
Ruigang Fu	National University of Defense Technology
Guoyan Wang	National University of Defense Technology
Dawei Lu	National University of Defense Technology

13:38-13:46 SunA7.2

463 *Saddle-Point Strategy in Spacecraft Pursuit-Evasion Game*

with Relative Fuel Consumption Consideration

Yanwei Zhu	National University of Defense Technology
Chengming Zhang	National University of Defense Technology
Leping Yang	National University of Defense Technology
13:46-13:54	SunA7.3

467 *Global Static Path Planning for Unmanned Surface Vehicle Based on Hierarchical Deep Reinforcement Learning*

Zhiyang Bao	Dalian Maritime University
Yunsheng Fan	Dalian Maritime University
Zhe Sun	Dalian Maritime University
13:54-14:02	SunA7.4

561 *An Improved Method for Cislunar Space DRO Calculation Based on Differential Correction*

Yujie Chen	National University of Defense Technology
Yanwei Zhu	National University of Defense Technology
Meichen Chan	National University of Defense Technology
Chenyuan Qiao	National University of Defense Technology
Haipeng Qiu	National University of Defense Technology
14:02-14:10	SunA7.5

711 *地月空间航天器 GNSS 导航技术研究综述*

Fu Yuan	National University of Defense Technology
Guanwei He	National University of Defense Technology
14:10-14:18	SunA7.6

719 *Trajectory Optimization for Bearing-Only Target Localization Based on Observability Enhancement*

Jicheng Peng	Southeast University
Kelin Lu	Southeast University
Qianshuai Wang	Southeast University
14:18-14:26	SunA7.7

721 *基于高阶 ANCF 梁单元的细长结构形状感知*

Maoqi Wu	Dalian University of Technology
Shujun Tan	Dalian University of Technology
14:26-14:34	SunA7.8

836 *Optimal incentives for the evolution of collective cooperation in gaming environments*

Xiaojie Chen	University of Electronic Science and Technology of China
14:34-14:42	SunA7.9

842 *基于深度自编码器及图网络的航迹关联研究*

Jingqi Xu	Fudan University
Jun Yao	Fudan University
Rong Fan	Fudan University
Jianliang Ai	Fudan University
Yiqun Dong	Fudan University
14:42-14:50	SunA7.10

872 *Kalman Filter-based PDR/GNSS Pedestrian Integration Navigation Method with Measurement Augmentation*

Shengying Li	Southeast University
Qian Meng	Southeast University
Yingying Jiang	Southeast University
Chang Su	Southeast University
Junjie Liu	Southeast University
Weiwei Lu	Southeast University
Zuliang Shen	Southeast University
14:50-14:58	SunA7.11

912 *基于 LQR 的指数衰减跟踪控制器*

Tianya Liu	National University of Defense Technology
Peng Li	National University of Defense Technology
Chi Peng	National University of Defense Technology
14:58-15:06	SunA7.12

1276 *几何能观性分析方法及其在无人机目标定位系统中的应用*

Qianshuai Wang	Southeast University
Kelin Lu	Southeast University
Jicheng Peng	Southeast University
15:06-15:14	SunA7.13

1358 *Knowledge Distillation for Lightweight Feature Extraction in Learning-Based Visual SLAM*

Guixian Li	National University of Defense Technology
Lilian Zhang	National University of Defense Technology
Hao Qu	National University of Defense Technology
Changhao Chen	National University of Defense Technology
15:14-15:22	SunA7.14

1732 *基于奖励分享强化学习的无人机集群分布式协同制导*

Zhonghao Wu	Southeast University
Chaoqun Yang	Southeast University
Wenzhong Cha	Eastern Communications Co., Ltd
Xianghui Cao	Southeast University
15:22-15:30	SunA7.15

1742 *Watermark-Based Replay Attack Detection for Unmanned Marine Vehicles*

Guangrui Bian	University of Electronic Science and Technology of China
Tieshan Li	University of Electronic Science and Technology of China
Yue Long	University of Electronic Science and Technology of China
Hanqing Yang	University of Electronic Science and Technology of China

SunA8	**3rd Floor Meeting Room 313**
Pattern GNC	**3 层会议室 313**
Chairs: Lizhen Wu	National Univ.of Defense Technology
Aitong Ma	National Univ.of Defense Technology
13:30-13:38	SunA8.1

161 *Online Adaptive Cooperative Search-attack Mission Planning for UAV Swarm in Unknown Environment*

Hongfu Liu	National University of Defense Technology
Yajing Fu	National University of Defense Technology
Libin Chen	National University of Defense Technology
Hongfu Liu	National University of Defense Technology
13:38-13:346	SunA8.2

291 *LVDI: Image Fusion Based on Luminance Map of Visible Degree of Polarization and Infrared Intensity Maps*

Yuquan Wang	National University of Defense Technology
Hao Tan	National University of Defense Technology
Lu Zhang	National University of Defense Technology
Tongwei Ma	National University of Defense Technology
Lilian Zhang	National University of Defense Technology
13:38-13:46	SunA8.3

539 *Artificial Landmarks Based Autonomous Navigation for Landing of Asteroid Probe*

Fu Yuan	National University of Defense Technology
Guanwei He	National University of Defense Technology
13:46-13:54	SunA8.4

624 *高速变形飞行器制导控制一体化设计方法研究*

Hao He	National University of Defense Technology
Peng Wang	National University of Defense Technology
13:54-14:02	SunA8.5

771 *Self-Adaptive Two-Stage Framework for Hyperspectral Camouflage Image Segmentation*

Limei Yao	National University of Defense Technology
Bing Xie	National University of Defense Technology
Zhaowei Ma	National University of Defense Technology
Chao Xv	National University of Defense Technology
14:02-14:10	SunA8.6

875 *Hp Pseudospectral Convex Programming for Fixed-Wing UAVs Trajectory Optimization*

Yingqing Peng	National University of Defense Technology
Xiang Zhou	National University of Defense Technology
Hongbo Zhang	National University of Defense Technology
Hongbo Zhang	National University of Defense Technology
14:10-14:18	SunA8.7

915 *Reinforcement Learning Based Path Planning for Quadruped Robot on Non-continuous Foothold Terrains*

Zhijing Ke	National University of Defense Technology
Hongxu Ma	National University of Defense Technology
14:18-14:26	SunA8.8

1230 *A Robust Pedestrian LiDAR-Inertial Odometry with Motion Constraints and Loop-Closing*

Xianfei Pan	National University of Defense

	Technology
Zongyang Chen	National University of Defense Technology
Zheming Tu	National University of Defense Technology
Chaoqun Chu	National University of Defense Technology
Changhao Chen	National University of Defense Technology
14:26-14:34	SunA8.9

1278 *Autonomous Motion Planning Algorithm for Unmanned Aerial Vehicles in Maze Scenarios*

Xianzhe Cheng	National University of Defense Technology
Lei Wang	National University of Defense Technology
Weihu Zhao	National University of Defense Technology
Qingzheng Xu	National University of Defense Technology
Zeping He	National University of Defense Technology
14:34-14:42	SunA8.10

1384 *Review on robotic grasping pose generation methods*

Min Zhu	National University of Defense Technology
Yi Chen	National University of Defense Technology
Junhao Xiao	National University of Defense Technology
14:42-14:50	SunA8.11

1583 *Multi-type task assignment algorithm for heterogeneous UAV cluster based on improved NSGA-Ⅱ*

Yunchong Zhu	National University of Defense Technology
Yan'gang Liang	National University of Defense Technology
Zeyang Xie	Xi'an Modern Control Technologies Research Institute
Yingjie Jiao	Xi'an Modern Control Technologies Research Institute
Kebo Li	National University of Defense Technology
14:58-15:06	SunA8.12

1647 *Multi-platform multi-target continuous tracking method based on feature matching*

Xinxi Wang	National University of Defense Technology
Guohu Feng	National University of Defense Technology
Guanlin Zeng	National University of Defense Technology
15:06-15:14	SunA8.13

1666 *Integrated Technology of Ultraviolet Communication and Positioning for Autonomous Collaboration of Unmanned Clusters*

Chubing Lv	National University of Defense Technology
Ruihang Yu	National University of Defense Technology
Juliang Cao	National University of Defense Technology
Wenqi Wu	National University of Defense Technology
15:14-15:22	SunA8.14

1677 *Global Integrated Correction Algorithm for Marine Rotational Modulation Inertial Navigation Under Normal Vector Position Model*

Guanlin Zeng	National University of Defense Technology
Guohu Feng	National University of Defense Technology
Xinxi Wang	National University of Defense Technology
15:22-15:30	SunA8.15

1730 *基于 Stackelberg 博弈的无人机集群协同围捕策略快速求解方法*

Yue Zhang	National University of Defense Technology
Xianzhong Gao	National University of Defense Technology
Zhongxi Hou	National University of Defense Technology

SunA9	**3rd Floor Meeting Room VIP 01**
Cross-domain GNC	**三层会议室 VIP 01**
Chairs: Jin Zhang	National Univ. of Defense Technology
Jianjun Ma	National Univ. of Defense Technology
13:30-13:38	SunA9.1

190 *Modeling of Ship Maneuvering Motion using Multi_x005f output Least-squares Support Vector Regression based on Optimal Mixed Kernel Function*

Lichao Jiang	Harbin Engineering University
Xiaobing Shang	Harbin Engineering University
13:38-13:46	SunA9.2

208 *Implementation of A Modified Temperature Drift Errors Estimation System for Capacitive MEMS Gyros*

Bing Qi	Harbin Engineering University
Peng Li	Harbin Engineering University
Menghan Guan	Harbin Engineering University
13:46-13:54	SunA9.3

247 *Path planning method for marine dynamic target coverage search*

Zhaozhen Jiang	Naval submarine academy
Wenlong Wang	Naval submarine academy
Xuehai Sun	Naval submarine academy
Qiang Li	Naval submarine academy
Ming Liu	Naval submarine academy
13:54-14:02	SunA9.4

322 *Anti-disturbance Position and Attitude Control of Quadrotor UAV Based on Sliding-mode Method*

Jialiang Liu	Harbin Engineering University
Lipeng Wang	Harbin Engineering University
Donghui Yuan.	Harbin Engineering University
Ruotong Cao	Harbin Engineering University
14:02-14:10	SunA9.5

569 *Research on 3D observation path planning method for mobile platforms based on near-end strategy optimization*

Jingjing Zhang	Harbin Engineering University
Peng Dong	Chinese Equipment Project Management Center of the Naval Equipment Department of the People's Liberation Army
Dashi Wen	China Ship Development and Design Cente
Xinyu Liu	China Ship Development and Design Cente
Congrui Yu	Harbin Engineering University
14:10-14:18	SunA9.6

595 *A Two-Stage Optimization Algorithm for Articulated Automated Guided Vehicle Trajectory Planning in Complex Static Environments*

Jianlei Gao	China Industrial Control Systems Cyber Emergency Response
Zhe Wang	China Industrial Control Systems Cyber Emergency Response
Mo Wang	China Industrial Control Systems Cyber Emergency Response
Yun Li	China Industrial Control Systems Cyber Emergency Response
Tianyu Gong	China Industrial Control Systems Cyber Emergency Response
14:18-14:26	SunA9.7

453 *Improved Embedded Cubature Kalman Algorithmin in Cooperative Navigation*

Xiaozhen Yan	Harbin Institute of Technology at Weihai
Xiyu Wang	Harbin Institute of Technology at Weihai
Qinghua Luo	Harbin Institute of Technology at Weihai
14:26-14:34	SunA9.8

1006 *Adaptive Segmented Homing Trajectory Optimization for Pilot-type Parafoil Based on Terrain Analysis*

Yu Long	National University of Defense Technology
Mengying Zhang	National University of Defense Technology
Yanbin Lei	National University of Defense Technology
Lin Yang	National University of Defense Technology
Fan Yang	National University of Defense Technology
14:34-14:42	SunA9.9

1008 *Planning of multi-satellite ground-based access considering preparation time constraint*

Liyao Wang	National University of Defense Technology
Jin Zhang	National University of Defense Technology
Hongxi Zhou	No.63757Unit
14:42-14:50	SunA9.10

1226 *Open World Object Detection for Static Aerial Imagery based on Improved Faster R-CNN*

Xiayu Tian	Harbin Engineering University
Wenbo Xia	Beijing Institute of Electronic System Engineering
Bo Chen	Harbin Institute of Technology
Dawei Pan	Harbin Engineering University
14:50-14:58	SunA9.11

1329 *基于因子图的主从式 AUV 协同定位算法研究*

Su Wang	Dalian Naval Academy
Hongdian Huang	Harbin Engineering University
Jianwen Zhao	Harbin Engineering University

Hongjin Zhou	Dalian Naval Academy
Qian Li	Harbin Engineering University

14:58-15:06 SunA9.12

1492 *Control Barrier Function-Based Collision Avoidance Cooperative Guidance Law for Two-Pursuer Two-Evader Environment*

Xinyuan Lv	National University of Defense Technology
Xiaolong Liu	National University of Defense Technology
Chi Peng	National University of Defense Technology
Lina Geng	National University of Defense Technology
Jianjun Ma	National University of Defense Technology

15:06-15:14 SunA9.13

1528 *Design and Performance Analysis of IDLC-Based Landing Control System for Carrier-Based Aircraft*

Bing Wan	Naval Aviation University
Jie Wang	Naval Aviation University
Wei Han	Naval Aviation University
Yong Liang	Naval Aviation University
Xichao Su	Naval Aviation University

15:14-15:22 SunA9.14

1627 *Precision Airdrop Heading Angle Optimization via Traveling Salesman Problem*

Ziyan Zhang	National University of Defense Technology
Rui Wang	National University of Defense Technology
Guobin Zhang	National University of Defense Technology

15:22-15:30 SunA9.15

1652 *Assessing the Influence of Geomagnetic Disturbances on GNSS Navigation and Positioning Systems*

Huaiyi Guan	Naval Engineering University
Jun Fu	Naval Engineering University
Bao Li	Naval Engineering University
Hongwei Wei	Naval Engineering University
Pengfei Jiang	Naval Engineering University
Deying Yu	Naval Engineering University

15:30-15:38 SunA9.16

891 *Fast Moving-Base Initial Alignment method for MEMS-IMU Based on Backward Kalman Filter*

Xiaokang Yang	Northwestern Polytechnical University
Peiru Lyu	Northwestern Polytechnical University
Ye Tian	Northwestern Polytechnical University
Gongmin Yan	Northwestern Polytechnical University
Sihai Li	Northwestern Polytechnical University

SunA10	**3rd Floor Meeting Room VIP 02**
Identification GNC	**三层会议室 VIP 02**
Chairs: Yacun Guan	Hangzhou Dianzi University
Na Duan	Jiangsu Normal University

13:30-13:38 SunA10.1

393 *Local Enhancement Contrast Method for Maritime Tugboat Image Dehazing*

Liu Yang	China Ship Scientific Research CenterCSSRC
Zhengshu Shen	Jiangsu Ocean University of Ocean Engineering
Daofa Liu	Deepsea Technological Science Lian Yun Gang Center
Hongkun He	Jiangsu Ocean University of Ocean Engineering
Dazhi Huang	Jiangsu Ocean University of Ocean Engineering

13:38-13:46 SunA10.2

395 *Multiple pursuit-evasion games based reinforcement learning*

Yacun Guan	Hangzhou Dianzi University
Bin Jiang	Nanjing University of Aeronautics and Astronautics
Yun Chen	Hangzhou Dianzi University

13:46-13:54 SunA10.3

409 *Regularization Factor based Visual-Inertial SLAM Method Considering State Uncertainty in Dynamic Environments*

Yao Zhao	Jiangsu University of Technology
Naibao He	Jiangsu University of Technology
Zhi Xiong	Nanjing University of Aeronautics and Astronautics
Lin Zhang	Jiangsu University of Technology

13:54-14:02 SunA10.4

411 *Linear parameter modeling method for high hypersonic variant aircraft*

Wenjie Guo	Northwestern Polytechnical University
Jingyan Zhao	Northwestern Polytechnical University
Xiaoxiang Hu	Northwestern Polytechnical University
Hanyu Qian	Northwestern Polytechnical University
14:02-14:10	SunA10.5

445 *无人机基于视觉的机场自主驶入驶出流程建模*

Tian Yin	AVIC Chengdu Aircraft Design and Research Institute
Bo Ma	AVIC Chengdu Aircraft Design and Research Institute
Rui wang	AVIC Chengdu Aircraft Design and Research Institute
Tuo Gou	AVIC Chengdu Aircraft Design and Research Institute
Kun Liang	AVIC Chengdu Aircraft Design and Research Institute
14:10-14:18	SunA10.6

492 *Application of Pulse Magnetic Treatment in Gyroscope rolling bearing*

Xinming Zhang	Beijing Keeven Aviation Instrument Co.
Ying Zhu	Beijing Keeven Aviation Instrument Co.
Chaowei Wang	Beijing Keeven Aviation Instrument Co.
Wen Ji	Tsinghua University
Zhipeng Cai	Tsinghua University
14:18-14:26	SunA10.7

525 *Design of non-collocated space sampling sensing and actuation based on a class of convective diffusion equations*

Desong Gao	University of Jinan
Xiju Zong	University of Jinan
14:26-14:34	SunA10.8

528 *Adaptive Mutation Transfer Strategies based Higher_x005f Order Quantum Genetic Algorithm for Satellite Scheduling Problem*

Xiaohan Sun	Space Engineering University
Yuan Ren	Space Engineering University
Linghui Yu	DFH Satellite Co.
Dandan Wang	DFH Satellite Co.
Xiongzi Chen	DFH Satellite Co.
Yanchao He	DFH Satellite Co.
14:34-14:42	SunA10.9

621 *Research on Velocity Measurement Method Based on Non-Contact Electrical Impedance Detection*

Shijia Jin	JiLin Agricultural Science and Technology College
14:42-14:50	SunA10.10

776 *5G and D2D Network for Smart Cities Using Internet of Thing Services*

Muhammad Usman	Beihang University
Juhua Pu	Beihang University
Attiq Ur Rehman	Huazhong University of Science and Technology
Songfeng Lu	Huazhong University of Science and Technology
14:50-14:58	SunA10.11

843 *基于 BEV 表示的无人驾驶矿卡 3D 目标检测算法*

Jie Liu	Huazhong University of Science and Technology
Gang Peng	Huazhong University of Science and Technology
14:58-15:06	SunA10.12

1082 *Constraint-Following for Trajectory-Tracking Control of AUVs with Measurement Errors*

Yuan Yang	Hunan University
Feidiao Zou	Hunan University
Rong Li	Hunan University
Runze Zheng	Hunan University
Hui Yin	Hunan University
15:06-15:14	SunA10.13

1390 *状态约束下的四旋翼无人机姿态跟踪控制*

Yuang Liu	Jiangsu Normal University
Na Duan	Jiangsu Normal University
Can Li	Jiangsu Normal University
Changhui Wan	Jiangsu Normal University
15:14-15:22	SunA10.14

1685 *基于改进扩张状态观测器的异步电机低频转速辨识控制*

Guochao Xie	Jiangsu Normal University
Na Duan	Jiangsu Normal University
Changhui Wan	Jiangsu Normal University
Jingyao Cheng	Jiangsu Normal University
15:22-15:30	SunA10.15

1734 *Kinematic analysis method of Baxter dual-arm cooperative robot with seven degrees of freedom*

Guoxing Chang	University of Jinan

Jin Cheng	University of Jinan
Hengjing Liu	University of Jinan
15:30-15:38	SunA10.16

1151 *A New Interactive Multi Model High Order Unscented Kalman Filter for Improving Target Tracking Accuracy and Robustness*

Jiaxin Hou	Naval University of Engineering
Houpu Li	Naval University of Engineering
Shuguang Wu	Naval University of Engineering
Yanting Yu	Naval University of Engineering
Juntong Chen	Naval University of Engineering
Meng Li	Naval University of Engineering
Shaofeng Bian	Naval University of Engineering

SunA11	**3rd Floor Aisle**
Poster Session 1	**三层廊厅**
Chairs: Shiqi Gong	Beihang University
Yongbin Sun	Beihang University
13:30-15:30	SunA11.1

917 *Online Safe Flight Control Method Based on Constraint Reinforcement Learning*

Jiawei Zhao	Xi'an Research Institute of Hi-tech
Haotian Xu	Tsinghua University
Zhaolei Wang	Beijing Aerospace Automatic Control Institute
Tao Zhang	Tsinghua University
13:30-15:30	Sun A11.2

918 *3-D Path Planning for UAV Based on the Improved IFDS*

Zhiyu Li	AVIC Xi'an Flight Automatic Control Research Institute
Xianglun Zhang	AVIC Xi'an Flight Automatic Control Research Institute
Qiang Tang	AVIC Xi'an Flight Automatic Control Research Institute
Ling Zuo	AVIC Xi'an Flight Automatic Control Research Institute
Wenqian Zhang	AVIC Xi'an Flight Automatic Control Research Institute
Shichao Ma	AVIC Xi'an Flight Automatic Control Research Institute
Yukun Yang	AVIC Xi'an Flight Automatic Control Research Institute
Lin Hou	AVIC Xi'an Flight Automatic Control Research Institute
Hao Li	AVIC Xi'an Flight Automatic Control Research Institute
Jiayun Wen	AVIC Xi'an Flight Automatic Control Research Institute
13:30-15:30	Sun A11.3

920 *飞机自主着陆引导中的鲁棒跑道检测算法研究*

Hui Huang	AVIC Shenyang Aircraft Design and Research Institute
Bin Niu	AVIC Shenyang Aircraft Design and Research Institute
Di Wu	AVIC Shenyang Aircraft Design and Research Institute
Yifan Qi	AVIC Shenyang Aircraft Design and Research Institute
13:30-15:30	Sun A11.4

924 *An Autonomous Relative Navigation Algorithm Based on Interframe and Scene Matching*

Jinjiang Wang	AVIC Xi'an Flight Automatic Control Research Institute
Jiahang Dong	AVIC Xi'an Flight Automatic Control Research Institute
Yazhou Yue	AVIC Xi'an Flight Automatic Control Research Institute
Qi Zhou	AVIC Xi'an Flight Automatic Control Research Institute
Xiaodong Zhang	AVIC Xi'an Flight Automatic Control Research Institute
Haofeng Jiang	AVIC Xi'an Flight Automatic Control Research Institute
Haoming Wang	AVIC Xi'an Flight Automatic Control Research Institute
Guanjie Wang	AVIC Xi'an Flight Automatic Control Research Institute
Shu Wang	AVIC Xi'an Flight Automatic Control Research Institute
13:30-15:30	Sun A11.5

926 *Distributed Cooperative Guidance Law Design via Look Angle Tracking*

Xin Yi	Beijing Institute of Technology
Wei Dong	Beijing Institute of Technology
Yingjie Jiao	Northwestern Polytechnical University
Pengyu Wang	Korea Advanced Institute of Science and Technology
Chunyan Wang	Beijing Institute of Technology
Fang Deng	Beijing Institute of Technology
13:30-15:30	Sun A11.6

929 *Random Error Suppression of Hemispheric Resonance Gyroscope Based on ITD*

Yabo Wang	Wuhan Second Ship Design and Research Institute
Xu Gao	Harbin Institute of Technology
Jian Yang	Wuhan Second Ship Design and Research Institute
Wei Gao	Harbin Institute of Technology
13:30-15:30	Sun A11.7

933 *On Pilot-in-the-Loop Flight Simulation for Direct Lift Control during Landing Approaches*

Xiaolei Qu	Northwestern Polytechnical University

Xiaoyang He	AVIC Shenyang Aircraft Design and Research Institute
Menghua Li	Beihang University
Linghong Lan	Beihang University
13:30-15:30	Sun A11.8

936 *Transition Trajectory Planning for Tilt-Rotor Aircraft based on SA-IGA Algorithm*

Zongyun Chen	Nanjing University of Aeronautics and Astronautics
Zhiqi Zhang	Nanjing University of Aeronautics and Astronautics
Shouzhao Sheng	Nanjing University of Aeronautics and Astronautics
Suozhong Yuan	Nanjing University of Aeronautics and Astronautics
13:30-15:30	Sun A11.9

939 *Survey on Integrated Guidance and Control of Unmanned Aerial Vehicle*

Yuxie Luo	Beihang University
Jia Song	Beihang University
Mingfei Zhao	Beihang University
13:30-15:30	Sun A11.10

940 *Self-Organized Behavior-Based Multi-UAV Collaborative Obstacle Avoidance in Urban Environments*

Zhihao Gao	Beijing Information Science and Technology University
Xiaobin Xu	Beijing Information Science and Technology University
Shiyao Lin	China Research and Development Academy of Machinery Equipment
Junfang Fan	Beijing Information Science and Technology University
Xu Wang	Beijing Information Science and Technology University
Chengyu Gu	Beijing Information Science and Technology University
13:30-15:30	Sun A11.11

941 *Design and Implementation of Adaptive Management Framework for Avionics System Services*

Zhilei Gao	Beihang University
Jin Xiao	Beihang University
Xiaoguang Hu	Beihang University
Xiangyu Zhao	Science and Technology on Space Physics Laboratory
13:30-15:30	Sun A11.12

944 *Design of Nap-of-the-Earth of Helicopter Flight Control Law Based on Dynamic Inversion and Robust Complete Tracking*

Panpan Xiong	Nanjing University of Aeronautics and Astronautics
Shouzhao Sheng	Nanjing University of Aeronautics and Astronautics
13:30-15:30	Sun A11.13

946 *Integrated Design of the Airframe and Trajectory of Aerospace Vehicles*

Zhijun Sun	Yangzhou Collaborative Innovation Research Institute of Shenyang Aircraft Design and Research Institute
Biao Liu	Yangzhou Collaborative Innovation Research Institute of Shenyang Aircraft Design and Research Institute
Yibo Li	Yangzhou Collaborative Innovation Research Institute of Shenyang Aircraft Design and Research Institute
Liang Xu	Yangzhou Collaborative Innovation Research Institute of Shenyang Aircraft Design and Research Institute
13:30-15:30	Sun A11.14

948 *Lithium Battery RUL Prediction Method Based on Degradation Model Dynamic Updating*

Fei Jiang	Nanjing University of Aeronautics and Astronautics
Chengjie Han	Nanjing University of Aeronautics and Astronautics
Cong Peng	Nanjing University of Aeronautics and Astronautics
13:30-15:30	Sun A11.15

949 *基于 FFT 的 LVDT 信号解调方法*

Dezhi Kong	AVIC Xi'AN Flight Automatic Control Research Institute
Yitao Huang	AVIC Xi'AN Flight Automatic Control Research Institute
Haigang Xu	AVIC Xi'AN Flight Automatic Control Research Institute
Shuai Cao	AVIC Xi'AN Flight Automatic Control Research Institute
Shaoguang Du	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	Sun A11.16

950 *Fault reconstruction method of neural network observer group for high-speed vehicle*

Cong Li	Northwestern Polytechnical University
Yibo Ding	Northwestern Polytechnical University
Cheng Bi	Northwestern Polytechnical University
Xiaokui Yue	Northwestern Polytechnical University
Yuhao Wang	Beijing Electro-mechanical Engineering Institute
13:30-15:30	Sun A11.17

952 *Learning to Mine Context Information for Remote Sensing*

Small Object Detection

Lang Li	Northwestern Polytechnical University
Jie Tang	Northwestern Polytechnical University
Zhiqiang Chi	Northwestern Polytechnical University
Yunqiang Niu	Northwestern Polytechnical University
Jun Ren	Science and Technology on Complex System Control and Intelligent Agent Cooperation Laboratory
Lei Li	Science and Technology on Complex System Control and Intelligent Agent Cooperation Laboratory
Xiwen Yao	Northwestern Polytechnical University
Gong Cheng	Northwestern Polytechnical University
Junwei Han	Northwestern Polytechnical University
13:30-15:30	Sun A11.18

953 *Dynamic Gesture Recognition Using R3D Network with Adaptive Temporal Feature Resolutions*

Yuren Sun	Nanjing University of Aeronautics and Astronautics
Hui He	Nanjing University of Aeronautics and Astronautics
Chaoying Tang	Nanjing University of Aeronautics and Astronautics
Siyu Huang	Nanjing University of Aeronautics and Astronautics
Biao Wang	Nanjing University of Aeronautics and Astronautics
Taiping Jiang	Anhui University of Technology
13:30-15:30	Sun A11.19

955 *Cauchy-based Robust Kalman Filter applied in Guidance Information Estimation*

Jiawei Ren	Nankai University
Xiaoyu Zhang	Nankai University
Shoupeng Li	Nankai University
Yueying Pei	Nankai University
13:30-15:30	Sun A11.20

956 *网络攻击下导弹自适应事件触发制导律研究*

Yuxin Gao	Nanjing University of Aeronautics and Astronautics
Shaojie Zhang	Nanjing University of Aeronautics and Astronautics
Chunsheng Liu	Nanjing University of Aeronautics and Astronautics
13:30-15:30	Sun A11.21

964 *Preliminary Modeling and Analysis of Planar Two-Mass Wheel System with Dampers*

Haoling Yin	Bauman Moscow State Technical University
Haoyang Li	Beihang University
Yichen Ju	Bauman Moscow State Technical University
Chuan Cao	CNPC Engineering Technology R&D Company Limited
Yehan Wang	CNPC Engineering Technology R&D Company Limited
Li Fu	Beihang University
13:30-15:30	Sun A11.22

965 *Inertial-Visual Navigation Technology Based on Scene Matching in GNSS Denial Environments*

Haofeng Jiang	AVIC Xi’an Flight Automatic Control Research Institute
Yazhou Yue	AVIC Xi’an Flight Automatic Control Research Institute
Jiahang Dong	AVIC Xi’an Flight Automatic Control Research Institute
Qi Zhou	AVIC Xi’an Flight Automatic Control Research Institute
Xiaodong Zhang	AVIC Xi’an Flight Automatic Control Research Institute
Nan Liu	AVIC Xi’an Flight Automatic Control Research Institute
Shu Wang	AVIC Xi’an Flight Automatic Control Research Institute
Jinjiang Wang	AVIC Xi’an Flight Automatic Control Research Institute
Guanjie Wang	AVIC Xi’an Flight Automatic Control Research Institute
Haoming Wang	AVIC Xi’an Flight Automatic Control Research Institute
13:30-15:30	Sun A11.23

968 *基于退化注入的场路耦合模型的锂离子电池 SOC 估计方法*

Bo Sun	Beihang University
Tongshu Lin	Beihang University
Zeyu Wu	Beihang University
Cheng Qian	Beihang University
Leyang Zhou	Beihang University
Zechen Yi	Beihang University
13:30-15:30	Sun A11.24

969 *Cross-Modality Fusion Deformable Transformer for Multispectral Object Detection*

Yigan Wang	Nanjing University of Aeronautics and Astronautics
Chaoying Tang	Nanjing University of Aeronautics and Astronautics
Qiaohan Shi	Nanjing University of Aeronautics and Astronautics

13:30-15:30	Sun A11.25

973 *Fixed-Time Actuator Fault-Tolerant Control with Prescribed Performance for Quadrotor UAVs*

Hao Liu	Southwest University of Science and Technology
Yuying Guo	Southwest University of Science and Technology

13:30-15:30	Sun A11.26

977 *Event Triggered Consensus Algorithm for Leader-Follower Multi-agent Systems Under Jointly-connected Topology*

Hongdan Luo	Northwestern Polytechnical University
Sun Yang	Northwestern Polytechnical University
Shixuan Yang	Northwestern Polytechnical University
Yu-jie Si	Northwestern Polytechnical University
Aijun Li	Beijing Institute of Electronic Engineering
Yong Guo	Northwestern Polytechnical University

13:30-15:30	Sun A11.27

982 *Attitude Control of Spacecraft Based on Deep Reinforcement Learning TD3 Algorithm*

Zhuoyue Peng	Shanghai Jiao Tong University
Qiang Shen	Shanghai Jiao Tong University
Chi Song	Shanghai Jiao Tong University

13:30-15:30	Sun A11.28

986 *Multi-UAV Cooperative Multi-Objective Task Allocation Based on Deep Reinforcement Learning*

Jingyi Gu	Northwestern Polytechnical University
Shunmin Li	Systems Engineering Research Institute
Guanqun Wu	Beijing Institute of Spacecraft System Engineering
Aijun Li	Northwestern Polytechnical University
Yong Guo	Northwestern Polytechnical University

13:30-15:30	Sun A11.29

987 *MT-DeepLabv3+: An Enhanced Deep Learning Approach for the Detection of Resident Space Objects in Geostationary Orbit*

Jiaxin Liu	Nanjing University of Aeronautics and Astronautics
Feng Yu	Nanjing University of Aeronautics and Astronautics
Yinghao Wu	Nanjing University of Aeronautics and Astronautics
Zihan Zhen	Nanjing University of Aeronautics and Astronautics

13:30-15:30	Sun A11.30

993 *Swing suppression and path tracking control of Quadrotor-Slung-Load System with unknown mass load*

Cheng Xin	Beihang University
Wenhao Wang	Beihang University
Zhang Jing	Beihang University
Lingyu Yang	Beihang University

13:30-15:30	Sun A11.31

995 *基于冗余性分析的 3D Zernike 矩描述子改进*

Junjie Zhou	Beihang University
Guoxin Qu	Beijing System Design Institude of Electro-mechanic Engineering
Kedong Wang	Beihang University

13:30-15:30	Sun A11.32

996 *Low altitude terrain following trajectory control of unmanned aerial vehicles based on energy protection*

Kaizhi Yang	Beijing Keeven Aviation Instrument
Ying Zhu	Beijing Keeven Aviation Instrument
Wentao Yin	Beijing Keeven Aviation Instrument

13:30-15:30	Sun A11.33

998 *飞行员足底压力状态实时评估系统设计研究*

Zhongrui Zhao	Shenyang Aircraft Design and Research Institute
Liyang Yao	Shenyang Aircraft Design and Research Institute
Jinlei Zheng	Shenyang Aircraft Design and Research Institute
Yueming Wu	Shenyang Aircraft Design and Research Institute
Ying Peng	Northwestemn Polytechnical University

13:30-15:30	Sun A11.34

999 *Real-time Prediction of Multi-Step Ahead Non-Cooperative Target Aircraft Positions using ED-LSTM*

Shu Wang	AVIC Xi'an Flight Automatic Control Research Institute
Yibing Lan	AVIC Xi'an Flight Automatic Control Research Institute
Weijia Wang	AVIC Xi'an Flight Automatic Control Research Institute
Quanlin Qi	AVIC Xi'an Flight Automatic Control Research Institute
Yazhou Yue	AVIC Xi'an Flight Automatic Control Research Institute

13:30-15:30	Sun A11.35

1000 *Online generation of longitudinal trajectories for TAEM phase of RLV based on offline trajectory library*

Yunyu Bai	AVIC Xi'an Flight Automatic Control Research Institute
Teng Ma	AVIC Xi'an Flight Automatic Control Research Institute
Zhe Deng	AVIC Xi'an Flight Automatic

Zhan Wang	Control Research Institute AVIC Xi’an Flight Automatic Control Research Institute
Guangwen Li	Northwestern Polytechnical University
13:30-15:30	Sun A11.36

***1001** A Distributed Unbalance Task Assignment Algorithm for Multi-UAV Interception*

Xiaodong Lu	Northwestern Polytechnical University
Yiming Wang	Northwestern Polytechnical University
Jialiang Zhang	Shanghai Electro-Mechanical Engineering Institute
Guanghui Wu	Shanghai Electro-Mechanical Engineering Institute
Mengjie Zhu	Shanghai Electro-Mechanical Engineering Institute
13:30-15:30	Sun A11.37

***1003** 基于数据驱动的组合导航欺骗智能检测研究*

Chaxiaoyu Zhou	Beihang University
Guoxin Qu	Beijing System Design Institude of Electro-mechanic Engineering
Kedong Wang	Beihang University
13:30-15:30	Sun A11.38

***1004** 基于旋角修正的 2D Zernike 矩地形匹配算法*

Quan Hu	Beihang University
Guoxin Qu	Beijing System Design Institude of Electro-mechanic Engineering
Kedong Wang	Beihang University
13:30-15:30	Sun A11.39

***1005** Research on Electric motors health assessment technology based on information fusion*

Shujia Qin	BeiHang University
Hongmei Liu	BeiHang University
Yilin Liu	System Engineering Research Institute of China State Shipbuilding Corporation Limited
Guoao Ning	BeiHang University
Chengcheng Wang	Instrumentation Technology and Economy Institute
Nuo Zhao	China Institute of Nuclear Industry Strategy
Laifa Tao	BeiHang University
13:30-15:30	Sun A11.40

***1007** An Stochastic Model Predictive Control method for UAV Path Planning*

Gaoqi Liu	Sichuan University
Mingming Shi	Sichuan University
Bin Li	Sichuan University
13:30-15:30	Sun A11.41

***1009** 基于滑模共轴旋翼无人机姿态控制*

Fengshuo Wang	College of Intelligence Science and Technology National University of Defense Technology Changsha
Peng Li	College of Intelligence Science and Technology National University of Defense Technology Changsha
13:30-15:30	Sun A11.42

***1011** Sliding Mode based Line-of-Sight Tracking for Hypersonic Gliding Vehicle*

Wanru Ha	Beijing Institute of Technology
Jie Wang	Beijing Institute of Electronic System Engineering
Junhui Liu	Beijing Institute of Technology
Jiayuan Shan	Beijing Institute of Technology
13:30-15:30	Sun A11.43

***1013** High Precision Grasping Control Based on Linear Quadratic Regulator for Three-joint Aerial Manipulator*

Xinyu Zhu	Beihang University
Jiang Wu	Beihang University
13:30-15:30	Sun A11.44

***1014** 知识与数据驱动结合的空空导弹参数辨识与建模方法*

Yibing Lan	AVIC Xi’an Flight Automatic Control Research Institute
Pengbo Wu	AVIC Xi’an Flight Automatic Control Research Institute
Minghui Zhang	AVIC Xi’an Flight Automatic Control Research Institute
13:30-15:30	Sun A11.45

***1018** Model Reference Adaptive Disturbance Rejection Control Based on RBF-CMAC of A RLV*

Sui Xu	AVIC Xi’an Flight Automatic Control Research Institute
Yunyan Wu	AVIC Xi’an Flight Automatic Control Research Institute
Yueping Wang	AVIC Xi’an Flight Automatic Control Research Institute
Guangwen Li	Northwestern Polytechnical University
13:30-15:30	Sun A11.46

***1019** Robust structured H∞ control of multibody unmanned aerial vehicle*

Han Yan	Beijing Institute of Control Engineering
Dong Sun	Beihang University
Qingxian Li	Beihang University
Pengyuan Qi	Beihang University
13:30-15:30	Sun A11.47

***1020** 基于熵权法的登机门开启限速装置行星轮系参数设计*

Wenjing Zhi	Aviation Equipment Research Institute, AVIC Qing’an Group

Guocai Li	Aviation Equipment Research Institute, AVIC Qing’an Group
Chen Zhang	Aviation Equipment Research Institute, AVIC Qing’an Group
Wenjuan Zheng	Aviation Equipment Research Institute, AVIC Qing’an Group
Dongping Liu	Aviation Equipment Research Institute, AVIC Qing’an Group
13:30-15:30	Sun A11.48

***1022** A High Reliability Navigation System Configuration Scheme and Optimal Configuration Analysis Method*

Jingwen Huang	AVIC Xi’an Flight Automatic Control Research Institute
Zhu Jin	AVIC Xi’an Flight Automatic Control Research Institute
Yong Mo	AVIC Xi’an Flight Automatic Control Research Institute
Liu Gao	AVIC Xi’an Flight Automatic Control Research Institute
Yunyan Wu	AVIC Xi’an Flight Automatic Control Research Institute
13:30-15:30	Sun A11.49

***1026** Signal Denoising Method Based on AITD-IBD-ITF for Hemispherical Resonant Gyroscope in Force-to-Rebalance Mode*

Ruizhao Cheng	BeiHang University
Gongliu Yang	Zhejiang University
Qingzhong Cai	BeiHang University
Suier Wang	CRSC Research & Design Institute Group
Xiaodi Yi	BeiHang University
13:30-15:30	Sun A11.50

***1029** Research on Control Method for Flexible Mounting CMG Gimbal Servo System Based on Structural Filter*

Nuo Su	Beijing Institute of Control Engineering
Ming Lu	Beijing Institute of Control Engineering
Weiheng Zhao	Beijing Institute of Control Engineering
Limei Tian	Beijing Institute of Control Engineering
Qiang Zhang	Beijing Institute of Control Engineering
Yuewei Hu	Beijing Institute of Control Engineering
Zhulin Liang	Beijing Institute of Control Engineering
Zhixin Zhao	Beijing Institute of Control Engineering
13:30-15:30	Sun A11.51

***1035** Model Predictive Control with Deck Motion Prediction for UAS Carrier Landing*

Jingxuan Zeng	Nanjing University of Aeronautics and Astronautics
Chuntao Li	Nanjing University of Aeronautics and Astronautics
Xinru Wang	Nanjing University of Aeronautics and Astronautics
Yuepu Han	Nanjing University of Aeronautics and Astronautics
Zikang Su	Nanjing University of Aeronautics and Astronautics
13:30-15:30	Sun A11.52

***1037** 临近空间高动态退化星图模拟*

Jinglin Ma	Beihang University
Guoxin Qu	Beijing System Design Institude of Electro-mechanic Engineering
Kedong Wang	Beihang University
13:30-15:30	Sun A11.53

***1039** Factor-Graph-Based Multi-Source Information Fusion Localization Method*

Hongfu Liu	National University of Defense Technology
Kaiyan Liang	University of Electronic Science and Technology of China
Yajing Fu	National University of Defense Technology
Daoqiang Zhou	University of Electronic Science and Technology of China
Le Chang	University of Electronic Science and Technology of China
13:30-15:30	Sun A11.54

***1043** The Study of Association Analysis on Aircraft Control Systems Data*

Qian Xu	Beijing Aerospace Automatic Control Institute
Na Yao	Beijing Aerospace Automatic Control Institute
Kunfeng Lu	Beijing Aerospace Automatic Control Institute
Chuxiang Ni	North University of China
Nuoqi Xu	Beijing Electronic Technology Vocational College
13:30-15:30	Sun A11.55

***1048** Low-Speed Frame Control of SGCMG Based on High-Precision Grating Angle Measurement*

Weiheng Zhao	Beijing Institute of Control Engineering
Limei Tian	Beijing Institute of Control Engineering
Nuo Su	Beijing Institute of Control Engineering
Yuewei Hu	Beijing Institute of Control Engineering
Qiang Zhang	Beijing Institute of Control Engineering

Ming Lu	Beijing Institute of Control Engineering
Zhulin liang	Beijing Institute of Control Engineering
Zhixin Zhao	Beijing Institute of Control Engineering
13:30-15:30	Sun A11.56

1050 *Virtual-control-augmented Nonlinear Adaptive Sliding Mode Formation Control for Intercepting Missiles*

Zihan Wang	Beijing Institute of Technology
Jingliang Sun	Beijing Institute of Technology
Teng Long	Beijing Institute of Technology
Yingjie Jiao	Northwestern Polytechnical University
Junzhi Li	Beijing Institute of Technology
13:30-15:30	Sun A11.57

1051 *Research on Beyond Visual Range Air Combat Technology Based on Hybrid Decision Models*

Zhen Li	AVIC Shenyang Aircraft Design and Research Institute
Yanzhang Zhou	AVIC Shenyang Aircraft Design and Research Institute
Tianyue Chen	AVIC Shenyang Aircraft Design and Research Institute
Shihao Li	AVIC Shenyang Aircraft Design and Research Institute
Helu Yang	Beihang University
13:30-15:30	Sun A11.58

1055 *Detection of Wind Turbine Blade Surface Defects Based on Images Captured by UAVs*

Qiaohan Shi	Nanjing University of Aeronautics and Astronautics
Chaoying Tang	Nanjing University of Aeronautics and Astronautics
Yigan Wang	Nanjing University of Aeronautics and Astronautics
Biao Wang	Nanjing University of Aeronautics and Astronautics
Xin Liu	Hunan Sky Aviation Technology Co.
13:30-15:30	Sun A11.59

1056 *YOLOv8 for Small Infrared Target Detection*

Yilan Zhuo	Harbin Institute of Technology
Wei Li	Harbin Institute of Technology
Ju Huo	Harbin Institute of Technology
Tao Chao	Harbin Institute of Technology
13:30-15:30	Sun A11.60

1059 *Distributed Task Allocation for Large-Scale Heterogeneous UAVs Considering Resource Balance**

Fangyu Shi	Beihang University
Rui Zhou	Beihang University
13:30-15:30	Sun A11.61

1065 *On Disturbance-Rejection Guidance Laws For Missiles With Canard/Tail Rudder Control*

Hongyu Zhao	Shanghai Electromechanical Engineering Research Institute
Shengli Xu	Shanghai Electromechanical Engineering Research Institute
Yifan Ren	Shanghai Electromechanical Engineering Research Institute
Ya Yang	Shanghai Electromechanical Engineering Research Institute
Wei Yin	Shanghai Electromechanical Engineering Research Institute
13:30-15:30	Sun A11.62

1070 *The laser mapping algorithm integrating ground constraints and semantic constraints*

Guochen Niu	Civil Aviation University of China
Zhiwei Qi	Civil Aviation University of China
Xiangyu Luan	Civil Aviation University of China
13:30-15:30	Sun A11.63

1071 *Active Obstacle Avoidance Based on Improved Dynamic Window Approach for Off-axis Full-trailer Vehicles*

Dandan Hu	Civil Aviation University of China
Jinju Zhao	Civil Aviation University of China
Guochen Niu	Civil Aviation University of China
13:30-15:30	Sun A11.64

1072 *Multi-target Tracking Algorithm for Low-altitude UAVs Based on Greedy Strategy*

Zhuo Chen	Northwestern Polytechnical University
Kang Liu	Northwestern Polytechnical University
13:30-15:30	Sun A11.65

1074 *FSONet: Side-Scan Sonar Image Recognition Based on Feature Space Optimization**

Yuhui Li	Northeastern University
Zexin Guo	Northeastern University
Junyi Wang	Northeastern University
Jun Fu	Northeastern University
13:30-15:30	Sun A11.66

1075 *SYv5Net: A VOCs Gas Detection Method for Infrared Videos*

Zhenyi Xu	Hefei Comprehensive National Science Center
Kehao Shi	University of Science and Technology of China
Yang Cao	Hefei Comprehensive National Science Center
Yu Kang	Hefei Comprehensive National Science Center
13:30-15:30	Sun A11.67

1077 *Fast solution of underwater vehicle vibration response based on POD method*

Heng Wang	Northwestern Polytechnical University

Kuan Lu	Northwestern Polytechnical University
Jun Liu	AVIC Shenyang Aircraft Design and Research Institute
Jianzhong Tong	AVIC Shenyang Aircraft Design and Research Institute
Wei Zheng	AVIC Shenyang Aircraft Design and Research Institute
Kangyu Zhang	Northwestern Polytechnical University
13:30-15:30	Sun A11.68

1078 *Single-pixel image-free target recognition based on encoding matrix sequence*

He Huang	Huaqiao University
Hui Shao	Huaqiao University
YuXiao Wei	Beijing Institute of Technology
HuiJuan Zhang	Beijing Institute of Technology
Shuai-Jun Zhou	Beijing Aerospace Automatic Control Institute
Yuan-Jin Yu	Beijing Institute of Technology
13:30-15:30	Sun A11.69

1080 *Dynamic Stability of Spinning Guided Projectile with Pseudo-angle of Attack Feedback Overload Autopilot in High Altitude Environment*

Heting Wang	Beijing Institute of Technology
Hui Wang	Beijing Institute of Technology
Keqing Guo	Beijing Institute of Technology
Yuanyue Lei	Beijing Institute of Technology
Jing Liu	Beijing Institute of Technology
13:30-15:30	Sun A11.70

1085 *Guidance Law with Terminal Velocity Constraint for Hypersonic Morphing Vehicle*

Yizheng Li	Beijing Institute of Technology
Junhui Liu	Beijing Institute of Technology
Jiayuan Shan	Beijing Institute of Technology
Jianan Wang	Beijing Institute of Technology
13:30-15:30	Sun A11.71

1089 *UAV situational level formation control strategy for Beyond Visual Range (BVR) air combat*

Xiaojun Zhang	AVIC Chengdu Aircraft Design and Research Institute
Zhongrong Chen	AVIC Chengdu Aircraft Design and Research Institute
Yujia Tie	AVIC Chengdu Aircraft Design and Research InstituteAVIC Chengdu Aircraft Design and Research Institute
Yinchao Chen	
13:30-15:30	Sun A11.72

1090 *Nonlinear Model Predictive Control for UAV Trajectory Optimization*

Yi Cui	Sichuan University
Bin Li	Sichuan University
Mingming Shi	Sichuan University
13:30-15:30	Sun A11.73

1093 *Analytical Method for the Number of Consecutive Multi-Circle Revisits of Ground Targets by Satellite*

Fusheng Li	Harbin Institute of Technology
Xi Liang	Beijing Institute of Astronautical Systems Engineering
Zenan Zhong	Harbin Institute of Technology
Tao Chao	Harbin Institute of Technology
13:30-15:30	Sun A11.74

1096 *Analysis of Trim Characteristics and Control Performance for the Single-Engine Failed Civil Aircraft during Landing and Approaching*

Jinli Han	Beihang University
Li Li	AVIC Xi'AN Flight Automatic Control Research Institute
Jing Zhang	Beihang University
Lingyu Yang	Beihang University
13:30-15:30	Sun A11.75

1099 *典型超视距空战多偏好机动决策方案研究*

Bingwei Yang	Beijing Institute of Technology
Li Mo	Beijing Institute of Technology
Chao Xia	AVIC Chengdu Aircraft Design and Research Institute
Dengyu Yin	AVIC Chengdu Aircraft Design and Research Institute
Maolong Lv	AVIC Chengdu Aircraft Design and Research Institute
13:30-15:30	Sun A11.76

1101 *Modular 4D Trajectory Prediction Framework for Flight Management System under Multiple RTA Restrictions*

Pengpeng Guo	Tsinghua University
Bohang Liang	Tsinghua University
Zheng Fang	Tsinghua University
Kan Yang	Tsinghua University
Qing Li	Tsinghua University
13:30-15:30	Sun A11.77

1103 *Event-triggered Predefined-time Cooperative Guidance Law with Impact Angle Constraint*

Qi Guo	Beijing Institute of Technology
Yuxiang Nan	Northwest Industries Group Company Ltd
Baokui Geng	China North Industries Corp
Zijian Ni	Beijing Institute of Technology
Wei Wang	Beijing Institute of Technology
13:30-15:30	Sun A11.78

1104 *基于积分终端滑模的 SGCMG 伺服系统的抗干扰控制*

Ming Lu	Beijing Institute of Control Engineering
Nuo Su	Beijing Institute of Control Engineering
Weiheng Zhao	Beijing Institute of Control Engineering
Limei Tian	Beijing Institute of Control

	Engineering
13:30-15:30	Sun A11.79

1105 *机载嵌入式实时数据库索引技术研究*

	AVIC Xi'an Flight Automatic
Xiaoyu Wang	Control Research Institute
	AVIC Xi'an Flight Automatic
Jiawei Gao	Control Research Institute
	AVIC Xi'an Flight Automatic
Wangfu Ma	Control Research Institute
13:30-15:30	Sun A11.80

1106 *Progress and Prospects of Object Detection Based on Few-Shot Learning*

Shihong Li	Tsinghua University
Zhongbin Zhang	Tsinghua University
Pengpeng Guo	Tsinghua University
Kan Yang	Tsinghua University
Qing Li	Tsinghua University
13:30-15:30	Sun A11.81

1107 *Multi-Agent Recurrent Actor-Critic for Cooperative Decision-Making in Within Visual Range Air Combat*

Can Chen	Beijing Institute of Technology
	Chengdu Aircraft Design and
Dengyu Yin	Research Institute
Li Mo	Beijing Institute of Technology
Maolong Lv	AirForce Engineering University
	Chengdu Aircraft Design and
Dan Lin	Research Institute
13:30-15:30	Sun A11.82

1108 *Research on Dynamic Modeling and Control Method of Twin-fuselage Aircraft Considering Control Surface Fault*

	AVIC First Aircraft Design and
Ma Xiaolei	Research Institute
	AVIC First Aircraft Design and
He Chao	Research Institute
	AVIC First Aircraft Design and
Liu Shimin	Research Institute
	AVIC First Aircraft Design and
Xue Yuan	Research Institute
	AVIC First Aircraft Design and
Fan Xiaohui	Research Institute
13:30-15:30	Sun A11.83

1111 *Event-triggered strategy for network control system with observer based on state predictor*

Xinjie Chen	Jiangsu University of Technology
Bo Li	Jiangsu University of Technology
Junjie Zhao	Jiangsu University of Technology
Erlin Zhu	Jiangsu University of Technology
13:30-15:30	Sun A11.84

1116 *非常规布局飞机飞控系统终极备份方案研究*

	AVIC Xi’an Flight Automatic
Teng Ma	Control Research Institute
	AVIC Xi’an Flight Automatic
YunYu Bai	Control Research Institute
Dong Shan	AVIC Xi’an Flight Automatic
	Control Research Institute
	AVIC Xi’an Flight Automatic
JinLong Li	Control Research Institute
	AVIC Xi’an Flight Automatic
Peng Hei	Control Research Institute
13:30-15:30	Sun A11.85

1119 *Parameter Modification of Hydraulic System Model*

	AVIC Shenyang Aircraft Design
Jiang Nan	and Research Institute
	AVIC Shenyang Aircraft Design
Li Shu	and Research Institute
Zhao Yiran	Beihang University
Dong Shaopeng	Beihang University
13:30-15:30	Sun A11.86

1120 *Adaptive fault-tolerant time-varying attitude coordinated control for completely distributed heterogenous minisatellite formation*

Hao Liu	Beihang University
Deyuan Liu	Beihang University
Xinning Yi	Beihang University
Ruitao Fan	Beihang University
Shangheng Li	Beihang University
13:30-15:30	Sun A11.87

1122 *Distributed constrainted optimization algorithm equipped with nabla fractional dynamics*

Shuaiyu Zhou	Southeast University
Xiaolin Hong	Southeast University
Xintong Ni	Southeast University
Yiheng Wei	Southeast University
13:30-15:30	Sun A11.88

1125 *Models Integration for Turbofan Engine Control System Design*

Yining Yao	Tsinghua University
Kan Yang	Tsinghua University
Qing Li	Tsinghua University
13:30-15:30	Sun A11.89

1126 *LiDAR-Based Visual Inertial Odometry for High Altitude UAV*

	AVIC Xi’an Flight Automatic
Jiahang Dong	Control Research Institute
	AVIC Xi’an Flight Automatic
Hongjie Lei	Control Research Institute
	AVIC Xi’an Flight Automatic
Yazhou Yue	Control Research Institute
	AVIC Xi’an Flight Automatic
Qi Zhou	Control Research Institute
	AVIC Xi’an Flight Automatic
Xiaodong Zhang	Control Research Institute
	AVIC Xi’an Flight Automatic
Haoming Wang	Control Research Institute
	AVIC Xi’an Flight Automatic
Jinjiang Wang	Control Research Institute
	AVIC Xi’an Flight Automatic
Haofeng Jiang	Control Research Institute
Guanjie Wang	AVIC Xi’an Flight Automatic

	Control Research Institute
13:30-15:30	Sun A11.90

1128 *High-order Sliding-mode Disturbance Observer based Fixed-time Backstepping Control for Hypersonic Vehicles*

	Northwestern Polytechnical
Ruixuan Liu	University
	Northwestern Polytechnical
Aijun Li	University
	Northwestern Polytechnical
Changqing Wang	University
13:30-15:30	Sun A11.91

1129 *基于人工神经网络的电推进卫星地球同步转移轨道推力估计方法*

Hechao Yang	Sichuan University
Xiuqiang Jiang	Sichuan University
Yuandong Ji	Sichuan University
13:30-15:30	Sun A11.92

1131 *Autonomous UAV Exploration in Unknown Environments Using Octomap*

Pei Chi	Beihang University
Jiahong Wei	Beihang University
Jiang Zhao	Beihang University
Yingxun Wang	Beihang University
13:30-15:30	Sun A11.93

1132 *ALearnable and Mechanistic Framework for Long-term Time Series Forecasting*

Yaqing Wu	Southeast University
Xiaoyi Liu	Southeast University
Qi Shao	Southeast University
Duxin Chen	Southeast University
Wenwu Yu	Southeast University
13:30-15:30	Sun A11.94

1133 *Space Non-cooperative Target Threat Assessment Method Based on Optimized Combination Weighting Model*

Caihui Whang	Xidian University
Dongzhu Feng	Xidian University
Pei Dai	Xidian University
	Beijing Space Vehicle Design
Hehe Guo	Department
	Beijing Institute of Tracking and
Xiaoming Wang	Communication Technology
13:30-15:30	Sun A11.95

1135 *Infrared Anti-jamming Algorithm Based on Multi-source Data Fusion*

	Northwestern Polytechnical
Shuang Du	University
	Northwestern Polytechnical
Wei Tang	University
	Northwestern Polytechnical
Jingxi Zhang	University
	Northwestern Polytechnical
Yupeng Gu	University
13:30-15:30	Sun A11.96

1136 *Research on Low Stress Packaging of High Precision MEMS Gyroscopes*

	AVIC Xi'an Flight Automatic
Yunkang Song	Control Research Institute
	AVIC Xi'an Flight Automatic
Yunjie Yang	Control Research Institute
	AVIC Xi'an Flight Automatic
Xin Yan	Control Research Institute
Shizhang Fan	Northwestern University
Zhongyang Yao	Hunan University
	AVIC Xi'an Flight Automatic
Gang Wang	Control Research Institute
13:30-15:30	Sun A11.97

1139 *ADistributed Bi-objective Shortest Path Algorithm with Pruning Techniques*

Shulei Zhou	Southeast University
Yuanqiu Mo	Southeast University
Jian qin	Southeast University
Wenwu yu	Southeast University
13:30-15:30	Sun A11.98

1140 *Fault-tolerant adaptive quantized control of strict-feedback nonlinear systems*

	Xi'an Modern Control Technology
Yajun Li	Research Institute
	Xi'an Modern Control Technology
Rui Pan	Research Institute
	Xi'an Modern Control Technology
Jinping Li	Research Institute
	Xi'an Modern Control Technology
Jiang Chang	Research Institute
	Xi'an Modern Control Technology
Dengwei Gao	Research Institute
13:30-15:30	Sun A11.99

1150

	University of Science and
Wenhao Li	Technology of China
	University of Science and
Lihong Pei	Technology of China
	University of Science and
Lixue Zheng	Technology of China
	University of Science and
Kai Qi	Technology of China
	University of Science and
Yu Kang	Technology of China
	Hefei Comprehensive National
Zerui Li	Science Center
	University of Science and
Wenjun Lv	Technology of China
13:30-15:30	Sun A11.100

1152 *Low-altitude penetration trajectory planning for UAV formation based on consistency-improved particle swarm algorithm*

	AVIC, Chengdu Aircraft Design
Liang Tianjiao	and Research Institute
Qiao Gang	Chongqing University

Wang Jingbo	AVIC, Chengdu Aircraft Design and Research Institute
Tie Yujia	AVIC, Chengdu Aircraft Design and Research Institute
Li Dao	AVIC, Chengdu Aircraft Design and Research Institute
13:30-15:30	Sun A11.101

1153 *Guidance law identification of incoming missiles based on adaptive IMM-EKF*

Hua Wentao	Chinese Aeronautical Establishment Graduate School
Ji Shupeng	Chinese Aeronautical Establishment Graduate School
Hua Wenbo	AVIC Computing Technique Research Institute
Tian Hongliang	National Key Laboratory of Air-based Information Perception and Fusion
13:30-15:30	Sun A11.102

1155

Yunjie Yang	Tsinghua University
Saite Zhang	Tsinghua University
Xiangyang Wang	Tsinghua University
Zhihui Du	Tsinghua University
Xiaming Yuan	Tsinghua University
Jinlai Deng	Tsinghua University
Wenan Liao	Tsinghua University
Jihong Zhu	Tsinghua University
13:30-15:30	Sun A11.103

1156 *Fixed-time blended control for agile missiles with the novel multi-source control mode*

Jiaxun LI	Beijing Institute of Technology
Jianqiao YU	Beijing Institute of Technology
13:30-15:30	Sun A11.104

1157 *Design and realization of Excel-based UAV flight parameter data decoding software*

Jinshu Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Liang Fu	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	Sun A11.105

1158 *Research on Multi-UAV Coordinated Strike Task Allocation Based on Particle Swarm Optimization*

Xun Yilin	Xi’an Modern Control Technology Research Institute
Ma Yunkai	Xi’an Modern Control Technology Research Institute
Zhao Mengying	Institute of Industrial Hygiene of Ordnance Institute
Xu Hang	Xi’an Modern Control Technology Research Institute
Wang Yike	Xi’an Modern Control Technology Research Institute
Ma Shichao	AVIC Xi’an Flight Automatic Control Research Institute
13:30-15:30	Sun A11.106

1162 *并联作动筒驱动舵面单液压抖动问题研究*

Lei Zhang	AVIC Shenyang Aircraft Design and Research Institute
Zhongrui Zhao	AVIC Shenyang Aircraft Design and Research Institute
Yuliang Yang	AVIC Shenyang Aircraft Design and Research Institute
Zhenyu Liu	AVIC Shenyang Aircraft Design and Research Institute
Minghao Tai	AVIC Shenyang Aircraft Design and Research Institute
13:30-15:30	Sun A11.107

1163 *Study on Pre-shift Strategy of 3DHT Automatic Transmission*

Yang Gao	Ningbo Geely Royal Engine Components Co., Ltd
Yiqiang Liu	Ningbo Geely Royal Engine Components Co., Ltd
Weishan Huang	Ningbo Geely Royal Engine Components Co., Ltd
Ruiguang Wang	Ningbo Geely Royal Engine Components Co., Ltd
Man Wang	Ningbo Geely Royal Engine Components Co., Ltd
Zheng Huang	Ningbo Geely Royal Engine Components Co., Ltd
Xueliang Shan	Ningbo Geely Royal Engine Components Co., Ltd
Li Liu	FAW-Volkswagen Automotive Co., Ltd
Mingqi Gu	Remote Commercial Vehicle Technology Co., Ltd
13:30-15:30	Sun A11.108

1164 *Study on the Fly-by-wire Flight Control System integrated HIRF/L Test Design and Compliance Method*

Zheng Zhao	Shanghai Aircraft Design and Research Institute
Jingzhou Zhao	Shanghai Aircraft Design and Research Institute
Jihai Ye	Shanghai Aircraft Design and Research Institute
Jizhi Wu	Shanghai Aircraft Design and Research Institute
13:30-15:30	Sun A11.109

1170 *Research on low cost spoofing implementation of GPS based on HackRF one*

Jiangfeng Lai	Space Engineering University
Xiangtai Ma	Space Engineering University
Yanfeng Hu	Space Engineering University
13:30-15:30	Sun A11.110

1171 *Enhancing Spacecraft Safety through Formal Verification of Attitude Control Systems*

Chi Song	Shanghai Jiao Tong University

Zhuoyue Peng	Shanghai Jiao Tong University
Yang Hu	Shanghai Jiao Tong University
Jiaju Wang	Shanghai Jiao Tong University
Zhenyu Pang	Shanghai Jiao Tong University
Qiang Shen	Shanghai Jiao Tong University
13:30-15:30	Sun A11.111

1172 *Study on Aerospace Equipment System Information Support Effectiveness Bottleneck*

Shaokai Wang	Beijing Institute of Control Engineering
Ke Long	China Academy of Space Technology
Hong Wang	Beijing Institute of Control Engineering
Tao Xue	Beijing Aerospace Automatic Control Research Institute
13:30-15:30	Sun A11.112

1175 *Multi-objective optimization path planning algorithm for manned robot based on UVND-ACO*

Qingji Gao	Civil Aviation University of China
Liangliang She	Civil Aviation University of China
Haoming Li	Civil Aviation University of China
13:30-15:30	Sun A11.113

1185 *Collaborative Pursuit Method for Unmanned Ground Vehicle Formations Based on Leader-Follower*

Yunrui Li	Nanjing University of Aeronautics and Astronautics
Xunhong Lv	Nanjing University of Aeronautics and Astronautics
Cheng Ni	Nanjing University of Aeronautics and Astronautics
Wenjie He	Nanjing University of Aeronautics and Astronautics
Changhao Zheng	Nanjing University of Aeronautics and Astronautics
Zehui Mao	Nanjing University of Aeronautics and Astronautics
13:30-15:30	Sun A11.114

1187 *Research on Mathematical Modeling Method of Tilt-Rotor Aircraft*

Qiang Chen	AVIC Xi’an Flight Automatic Control Research Institute
Ning Zhang	AVIC Xi’an Flight Automatic Control Research Institute
Lulu Xue	AVIC Xi’an Flight Automatic Control Research Institute
Zefeng Chen	AVIC Xi’an Flight Automatic Control Research Institute
13:30-15:30	Sun A11.115

1188 *A SLAM Loop Closure Detection Method That Fuses Visual and 3D Laser Information*

Qingji Gao	Civil Aviation University of China
Yunyan Li	Civil Aviation University of China
Xuanyao Jia	Civil Aviation University of China
13:30-15:30	Sun A11.116

1192 *A Data-Driven Approach to Fault-Tolerant Information Redundancy for Aircraft*

Jie Zhong	Sichuan University
Heng Zhang	Sichuan University
Qiang Miao	Sichuan University
13:30-15:30	Sun A11.117

1193 *Model Predictive Control for Spacecraft Attitude Reorientation Using Deep Koopman Operator*

Wenhao Zhang	Sichuan University
Bin Li	Sichuan University
Mingming Shi	Sichuan University
13:30-15:30	Sun A11.118

1194 *基于分布式扩张状态观测器的多飞行器编队控制*

Xianzhi Wang	Northwestern Polytechnical University
Guofei Li	Northwestern Polytechnical University
Yanan Chang	Northwestern Polytechnical University
13:30-15:30	Sun A11.119

1195 *Dynamics Modeling and Analysis of Hose Whipping Phenomenon in the Hose-Drogue Aerial Refueling System with Variable Length*

Zehua Zhang	Northwestern Polytechnical University
Wenbi Zhao	Northwestern Polytechnical University
Zimeng Wu	Northwestern Polytechnical University
Su Yang	Northwestern Polytechnical University
Yaohong Qu	Northwestern Polytechnical University
13:30-15:30	SunA11.120

1196 *考虑攻击时间和角度约束的预定时间收敛协同制导方法*

Yanan Chang	Northwestern Polytechnical University
Xianzhi Wang	Northwestern Polytechnical University
Guofei Li	Northwestern Polytechnical University
13:30-15:30	Sun A11.121

1197 *通信降级下的集群协同任务局部重分配*

Pengyong Fu	Nanjing University Of Aeronautics And Astronautics
Yanli Du	Nanjing University Of Aeronautics And Astronautics
Yanbin Liu	Nanjing University Of Aeronautics And Astronautics
Yueping Wang	AVIC Xi'AN Flight Automatic Control Research Institute
Yunyan WU	AVIC Xi'AN Flight Automatic Control Research Institute

13:30-15:30	Sun A11.122

1198 *Distributed Shape Control of a Multi-Segment Continuum Arm with Bending Angle Constraint*

Zhiqiang Ai	AVIC Shenyang Aircraft Design and Research Institute
Xiaozhi Dou	AVIC Shenyang Aircraft Design and Research Institute
Yang Wang	AVIC Shenyang Aircraft Design and Research Institute
Honghao Yu	University of Science and Technology Beijing
Zhiji Han	University of Science and Technology Beijing

13:30-15:30	Sun A11.123

1201 *输出跟踪的空间惯性传感器参考质量自适应切换控制*

Xiaoyun Sun	Nanjing University Of Aeronautics And Astronautics
Qianyun Zhang	Shanghai Jiao Tong University
Qiang Shen	Shanghai Jiao Tong University
Shufan Wu	Shanghai Jiao Tong University

13:30-15:30	Sun A11.124

1204 *基于强化学习方法的多智能体追逃博弈任务分配*

Shangheng Li	Beihang University
Hao Liu	Beihang University
Ziming Ren	Beihang University
Yafan Li	China Research and Development Academy of Machinery Equipment
Dawei Liu	China Research and Development Academy of Machinery Equipment

13:30-15:30	Sun A11.125

1206 *博弈环境下的多无人机系统协同路径规划*

Ruitao Fan	Beihang University
Hao Liu	Beihang University
Ming Cheng	Beihang University
Chaoqun Ma	China Research and Development Academy of Machinery Equipment
Dawei Liu	China Research and Development Academy of Machinery Equipment

13:30-15:30	Sun A11.126

1207 *Predefined-time Distributed Space-constrained Cooperative Guidance Law*

Zhichen Yu	Beijing Institute of Technology
Peng Huang	Northwest Industries Group Company Ltd
Shiyao Lin	China Research and Development Academy of Machinery Equipment
Hongyan Zhang	Beijing Institute of Technology
Bailin Chen	Beijing Institute of Technology

13:30-15:30	Sun A11.127

1208 *基于自适应动态规划的多飞行器编队控制方法*

Jie Xiao	Northwestern Polytechnical University
Qingpu Tang	Northwestern Polytechnical University
Jiale Li	Northwestern Polytechnical University
Guofei Li	Northwestern Polytechnical University

13:30-15:30	Sun A11.128

1210 *Optimized Cascade Control Strategy for Bi-copter UAV based on Fuzzy-PID and ADRC*

Wenchao Li	Northwestern Polytechnical University
Yaoyu Liu	Northwestern Polytechnical University
Yang Yu	Shanghai Jiao Tong University
Jianlin Chen	Northwestern Polytechnical University

13:30-15:30	Sun A11.129

1212 *UAV Visual Navigation Algorithm Based on Feature Confidence-Driven Attention Redistribution*

Weijian Zhang	Beijing Institute of Technology
Zhihong Deng	Beijing Institute of Technology
Li Ming	Beijing Institute of Automation Control Equipment
Liang Zhao	Beijing Institute of Automation Control Equipment

13:30-15:30	Sun A11.130

1214 *Recommendation of Small-Sample Indicator Based on Sentence-BERT*

Zenglin Li	School of Electronics And Information Northwestern Polytechnical University
Yujie Cui	School of Electronics And Information Northwestern Polytechnical University
Xinyu Zhang	School of Electronics And Information Northwestern Polytechnical University
Wenfeng Wu	National Defense University PLA China
Bo Li	School of Electronics And Information Northwestern Polytechnical University

13:30-15:30	Sun A11.131

1215 *Distributed Consensus Control of Nonlinear Multi-Agent Systems with Unknown Parameters: A High-Order Fully Actuated System Approach*

Cheng He	Nanjing University of Aeronautics and Astronautics
Ruiyun Qi	Nanjing University of Aeronautics and Astronautics

13:30-15:30	Sun A11.132

1221 *Hierarchical Invariant Graph Contrastive Learning for Unsupervised Graph Classification*

Jieying Qian	Southeast University
Qi Shao	Southeast University

Duxin Chen	Southeast University
Wenwu Yu	Southeast University
13:30-15:30	Sun A11.133

1222 *On Thermal Characteristic Experiment of High-Pressure Pipeline in Civil Aircraft Hydraulic Systems*

Jianwei Hu	Shanghai Aircraft Design and Research Institute
Qiang Liu	Shanghai Aircraft Design and Research Institute
Zhang Luo	Shanghai Aircraft Design and Research Institute
13:30-15:30	Sun A11.134

1224 *Safety Analysis of China-made Civil Aircraft Fly-by-Wire Control System from the Perspective of Test Pilots*

Xin Tian	Northwestern Polytechnical University
Zhan Hao	Northwestern Polytechnical University
Guo Yongguan	Northwestern Polytechnical University
Liu Yan	AVIC Flight Automatic Control Research Institution
Meng Yang	AVIC Flight Automatic Control Research Institution
13:30-15:30	Sun A11.135

1228 *Energy-based Range Augmentation Analysis for Maneuver-Assisted Jumping-Glide Trajectory Design*

Yuankai Li	University of Electronic Science and Technology of China
Lianxing Wang	University of Electronic Science and Technology of China
Ju Tang	University of Electronic Science and Technology of China
Gun Li	University of Electronic Science and Technology of China
13:30-15:30	Sun A11.136

1229 *A Model-based Test Cases Generation Method for Seeker Software*

Jing-Ao Shi	Beihang University
Beibei Yin	Beihang University
Qing Cai	Beihang University
13:30-15:30	Sun A11.137

1231 *Research on Comprehensive Test Standards for UAV swarms*

Zhikai He	China Aviation Integrated Technology Research Institute
13:30-15:30	Sun A11.138

1233 *Multi-UAV Formation Maintenance with Nonlinear Model Predictive Control Method*

Gang Ke	Northwestern Polytechnical University
Jinxi Lang	Northwestern Polytechnical University
Zhen Huang	Northwestern Polytechnical University
Yan Li	Northwestern Polytechnical University
13:30-15:30	Sun A11.139

1236 *Robust Drogue Distance Estimation Method Based on YOLOv3 and Linear Regression Algorithm*

Ziming Liu	AVIC Xi'an Flight Automatic Control Research Institute
Chunxin Wang	AVIC Xi'an Flight Automatic Control Research Institute
Weijia Wang	AVIC Xi'an Flight Automatic Control Research Institute
13:30-15:30	Sun A11.140

1237 *Research and Application of Flipped Classroom Teaching Mode in Automatic Control Theory*

Suoxia Miao	Nanchang Institute of Technology
Housheng Su	Huazhong University of Science and Technology
13:30-15:30	Sun A11.141

1239 *Enhanced State Estimation for Cruise Missiles Navigation: A BDS-Aided VIO Approach*

Zhiming Gao	School of Aerospace Engineering, Beijing Institute of Technology
Hanyue Li	School of Aerospace Engineering, Beijing Institute of Technology
Junhui Liu	School of Aerospace Engineering, Beijing Institute of Technology
Qirui Yang	National Key Laboratory of Information Systems Engineering
Jianan Wang	School of Aerospace Engineering, Beijing Institute of Technology
Jiayuan Shan	School of Aerospace Engineering, Beijing Institute of Technology
13:30-15:30	Sun A11.142

1242 *Research and Development of Target Registration and Tracking for Multi-source Information Fusion*

Zenan He	Zhejiang University
Jingbao Lu	Zhejiang University
Yuhao Shi	Zhejiang University
Zhitao Liu	Zhejiang University
Hongye Su	Zhejiang University
13:30-15:30	Sun A11.143

1245 *Inertial-Geomagnetic Integrated Navigation Method based on Kalman filter and Adaptive search area*

Qinghua Luo	Harbin Institute of Technology
Boyuan Liu	Harbin Institute of Technology
Mutong Yu	Harbin Institute of Technology
Yuhao Su	Harbin Institute of Technology
Longxin Yang	Harbin Institute of Technology
Lan Wang	Harbin Institute of Technology
13:30-15:30	Sun A11.144

1255 *SERF 原子耦合磁强计抽运光功率误差分析*

Jiale Quan	Beihang University

Ye Liu	Beihang University
Longyan Ma	Beihang University
Wenfeng Fan	Beihang University
Wei Quan	Beihang University
13:30-15:30	Sun A11.145

1258 *基于误差累积因子的高超声速飞行器渐进控制*

Shui Lang	Xi'an University Of Technology
Guangle Gao	Xi'an University Of Technology
Xiaolei Qu	Northwestern Polytechnical University
Yajun Li	Xi'an Modern Control Technology Research Institude
13:30-15:30	Sun A11.146

1262 *A Fault Data Generation method for Enhanced Fault Diagnosis Based on PCA-DDPM-CNN Models*

PengchaoWang	Beihang University
HaoxinGu	Beihang University
YujieCheng	Beihang University
LixiangJiang	Shenhua China
13:30-15:30	Sun A11.147

1264 *面向复杂低空扰动的倾转旋翼机悬停鲁棒控制策略*

Xin Jin	AVIC Xi'AN Flight Automatic Control Research Institute
Jiaming Wei	AVIC Xi'AN Flight Automatic Control Research Institute
Siyuan He	Northwestern Polytechnical University
Liang Fu	AVIC Xi'AN Flight Automatic Control Research Institute
Lin Wang	AVIC Xi'AN Flight Automatic Control Research Institute
13:30-15:30	Sun A11.148

1270 *A pre-training method for motor fault diagnosis based on Siamese residual network*

Wang Gaowei	Beihang University
Zhou An	Beihang University
Zeng Jiyan	Beihang University
Cheng Yujie	Beihang University
Jiang Lixiang	Shenhua China
13:30-15:30	Sun A11.149

1271 *Fault Diagnosis of Advanced Layout UAVs Based on Neural Networks and Adaptive Observers*

Kaizhao Xu	Nanjing University of Aeronautics and Astronautics
Tianxing Xu	Nanjing University of Aeronautics and Astronautics
Yaqin Li	Nanjing University of Aeronautics and Astronautics
13:30-15:30	Sun A11.150

1272 *Incremental Dynamic Inversion Adaptive Control of Coaxial High-speed Helicopter Based on Neural Network*

Yaqin Li	Nanjing University of Aeronautics and Astronautics
Mengmeng Lv	Nanjing University of Aeronautics and Astronautics
Kaizhao Xu	Nanjing University of Aeronautics and Astronautics
13:30-15:30	Sun A11.151

1273 *TBCC 发动机模态转换性能优化方法研究*

Haoliang Zhang	Nanjing University of Aeronautics and Astronautics
Jian Lu	Nanjing University of Aeronautics and Astronautics
Yiqun Wang	Nanjing University of Aeronautics and Astronautics
13:30-15:30	Sun A11.152

1274 *自适应动力与热管理系统多目标智能控制方法研究*

Jiacheng Zheng	Nanjing University of Aeronautics and Astronautics
Si Gao	Nanjing University of Aeronautics and Astronautics
Jian Lu	Nanjing University of Aeronautics and Astronautics
13:30-15:30	Sun A11.153

1275 *基于改进特征点提取的多传感器融合建图方法*

Guochen Niu	Civil Aviation University of China
Xiangyu Luan	Civil Aviation University of China
13:30-15:30	Sun A11.154

1279 *Time-coordination Entry Guidance for Unpowered Gliding Morphing Aircrafts Using Deep Neural Networks*

Ziqi Xu	Beihang University
Jialin Zhu	China Academy of Launch vehicle Technology
Shengping Gong	Beihang University
Tianren Li	China Academy of Launch vehicle Technology
13:30-15:30	Sun A11.155

1282 *Analysis of the influence of map resolution on scene matching accuracy*

Bowen Li	Nanjing University of Aeronautics and Astronautics
Qinghua Zeng	Nanjing University of Aeronautics and Astronautics
Yineng Li	Nanjing University of Aeronautics and Astronautics
Ziqi Jin	Nanjing University of Aeronautics and Astronautics
Zhi Xiong	Nanjing University of Aeronautics and Astronautics
Peng Zhuo	Nanjing University of Aeronautics and Astronautics
13:30-15:30	Sun A11.156

1286 *A Dynamic Event Triggering Enclosing Control for Multirobot Systems With Angle Constraints Using Bearing Measurements*

Tengda Liu	Liaoning University of Technology
Yongming Li	Liaoning University of Technology

13:30-15:30	Sun A11.157

1290 *Reinforcement Learning based Attitude Tracking Control of Unmanned Aerial Vehicles with Prescribed Performance*

Weining Huang	Shenyang Aircraft Design and Research Institute
Dapeng Yang	Shenyang Aircraft Design and Research Institute
Man Zhang	Shenyang Aircraft Design and Research Institute
Xiaoye Wang	Shenyang Aircraft Design and Research Institute

13:30-15:30	Sun A11.158

1294 *Cooperative Anti-disturbance for Spacecraft Cluster Attitude Control under Dynamic Topology*

Shaohui Li	Beihang University
Pengfei Xia	Beihang University
Jianzhong Qiao	Beihang University

13:30-15:30	Sun A11.159

1301 *Study on the lever-arm and unsteady effects on measurements of angle of attack in takeoff and landing phases*

ZhongyongZou	Chengdu Aircraft Design and Research Institute
ShuangshuangYang	Chengdu Aircraft Design and Research Institute
GangFeng	Chengdu Aircraft Design and Research Institute
SaihuPu	Chengdu Aircraft Design and Research Institute
GuanjiangGuo	Chengdu Aircraft Design and Research Institute

13:30-15:30	Sun A11.160

1302 *Design of ESO-LQR Based Control Law for a VTOL Cooperative Twin-Mother UAV*

Yining Zhao	Beihang University
Song Wang	Beihang University
Tongrui Chen	Beihang University
Zhiyang Ma	Beihang University
Konstantin Lelkov	Moscow Aviation Institute

13:30-15:30	Sun A11.161

1304 *Fixed-time Sliding Mode Attitude Cooperative Control of Satellite Formation System with Cross-coupling Method*

Yinhao Ju	Harbin Institute of Technology
Xiaolei Li	Harbin Institute of Technology
Feilong Tang	Harbin Institute of Technology
Yiming Wang	Harbin Institute of Technology

13:30-15:30	Sun A11.162

1305 *飞控舵机模型监控策略的虚拟故障验证技术研究*

Zhongrui Zhao	AVIC Shenyang Aircraft Design and Research Institute
Zehua Ge	AVIC Shenyang Aircraft Design and Research Institute
Zhijun Song	AVIC Shenyang Aircraft Design and Research Institute
Zhiming Yan	Beihang University
Jianing Luo	AVIC Shenyang Aircraft Design and Research Institute

13:30-15:30	Sun A11.163

1307 *A Gravity Matching Area Selection Method Based on GA-Bagging-SVM*

Wenzhe Zhang	Beijing Institute of Technology
Zhengwei Sun	Beijing Institute of Technology
Zhihong Deng	Beijing Institute of Technology

13:30-15:30	Sun A11.164

1308 *Dynamic SLAM Algorithm for Semantic-Driven Unmanned Platforms in Multi-Factor Environments*

Jingyi Wei	Nanjing University of Science and Technology
Zhenpeng Yin	Nanjing University of Science and Technology
Jiajun Lin	Nanjing University of Science and Technology
Hongyang Bai	Nanjing University of Science and Technology
Yuman Yuan	Nanjing University of Science and Technology
Xiaochuan Zhao	Beijing Institute of Computer and Electronics Application
Jinzhu Shi	Beijing Institute of Computer and Electronics Application

13:30-15:30	Sun A11.165

1315 *Data-Augmentation-based Monocular Visual Obstacle Localization Method for UAV*

Yanjun Wang	Beijing Institute of Technology
Teng Long	Beijing Institute of Technology
Jianxin Zhong	Beijing Institute of Technology
Zeyang Xie	Xi'an Modern Control Technology Research Institute
Jingliang Sun	Beijing Institute of Technology
Zhenlin Zhou	Beijing Institute of Technology

13:30-15:30	Sun A11.166

1318 *学科公共实验平台融入本科实验教学的研究*

Ting Zhang	Beijing Institute of Technology

13:30-15:30	Sun A11.167

1326 *软管式空中加油系统锥套运动特性分析及对接控制综述*

Tuo Gou	GraduateSchoolofChineseAeronauticalEstablishment
Kun Liang	Chinese Aeronautical Establishment
Bo Ma	Chinese Aeronautical Establishment
Rui Wang	Chinese Aeronautical Establishment
Tian Yin	GraduateSchoolofChineseAeronauticalEstablishment

13:30-15:30	Sun A11.168

1331 *Autonomous Vehicle Path Planning Algorithm Based on Improved Q-learning*

Yuelong Wang	Harbin Institute of Technology

Songyan Wang	Harbin Institute of Technology
Tao Chao	Harbin Institute of Technology
13:30-15:30	Sun A11.169

1332 *Three-Dimensional Prescribed-Time Cooperative Guidance Law With Impact Angle Constraint*

Hongru Ning	Beijing Institute of Technology
Yongzhi Sheng	Beijing Institute of Technology
13:30-15:30	Sun A11.170

1333 *Dynamics Modeling and Lateral Stability Control of Rotary Wing Aerial Recovery UAV*

Guocheng Yan	Beihang University
Honglun Wang	Beihang University
Yanxiang Wang	Beihang University
13:30-15:30	Sun A11.171

1335 *Attitude Control of Launch Vehicles through Observer-Based Model Predictive Control*

Yan Meng	Beihang University
Xiang Yu	Beihang University
Jianzhong Qiao	Beihang University
Yukai Zhu	Beihang University
13:30-15:30	Sun A11.172

1338 *FCU2C:Engine blade crack detection method based on U2-Net and Canny*

Anqi Zhang	Beihang University
Yue Zhao	Beihang University
Hongwei Chu	Shanxi Zhidian Technology Co., Ltd
Yujin Feng	Shanxi Zhidian Technology Co., Ltd
Li Fu	Beihang University
Yuwei Liu	Beihang University
13:30-15:30	Sun A11.173

1339 *Zero-Sideslip Roll Maneuver Stability Analysis Based Extended Bifurcation Analysis of a Tailless Fighter*

Yun Jiang	Beihang University
Daochuan Li	Beihang University
Zi Kan	Beihang University
Bohao Dong	Beihang University
Chong Zhen	AVIC Shenyang Aircraft Design and Research Institute
13:30-15:30	Sun A11.174

1341 *The design and verification of a novel combined load simulator for the servomechanism of spacecrafts with gimbaled engine*

Xiaodong Zhou	Beijing Institute of Control Engineering
Daning Zhou	Beijing Institute of Control Engineering
Yucong Xiong	Beijing Institute of Control Engineering
Baohe Shao	Beijing Institute of Control Engineering
Jingchao Zhao	Beijing Institute of Control Engineering
13:30-15:30	Sun A11.175

1343 *Modeling Method about Gyro Error Dynamics with Multiphysics coupling Based on Sparse Identification of Nonlinear Dynamics*

Haoyang Li	Beihang University
Yanping Zhang	CNPC Engineering Technology R&D Campany Litmited
Haoling Yin	National Engineering Research Center of Oil & Gas Drilling and completion Technology
Lingling Wang	Beihang University
Li Fu	Beihang University
13:30-15:30	Sun A11.176

1344 *Two-Level Volt/Var Control in Distribution Network Based on Partition Method Considering Cyberattacks*

He Zhang	Southeast University
Wenwu Yu	Southeast University
Hongzhe Liu	Southeast University
Zeci Chen	Southeast University
13:30-15:30	Sun A11.177

1346 *Global 3D Orientation Control of a Multibody System using DDPG based on Squirrels' Strategy for Safe Landing while the Bodies Tumbling in Air*

Tianqi Ma	Tsinghua University
Tao Zhang	Tsinghua University
13:30-15:30	Sun A11.178

1347 *面向无线电导航系统的 MBSE 应用研究*

Yangkang Zhang	AVIC Xi'AN Flight Automatic Control Research Institute

SunB1	**3rd Floor Meeting Room 305**
Evolution GNC	**3 层会议室 305**
Chairs: Zhi Xiong	Nanjing Univ. of Aeronautics and Astronautics
Yinghuang Liu	Nanchang Hangkong Univ.
15:50-15:58	SunB1.1

177 *Research on Multi domain Joint Reconnaissance of UVA Swarm*

Mingqiu Ren	Air Force Early Warning Academy
Bingqie Wang	Air Force Early Warning Academy
Yi Leng	Air Force Early Warning Academy
15:58-16:06	SunB1.2

181 *Adaptive Fuzzy Tracking Control for MIMO Nonlinear Systems with Sensor Faults*

Junhao Yuan	Liaocheng Univ.
Wei Sun	Liaocheng Univ.
16:06-16:14	SunB1.3

186 *A Novel Relative Navigation Method for Aerial Refueling with INS and Triple-frequency BDS*

Xiyu Fu	Nanjing Univ. of Aeronautics and Astronautics
Yongrong Sun	Nanjing Univ. of Aeronautics and Astronautics

Kedong Zhao	Nanjing Univ. of Aeronautics and Astronautics
Yao Li	Nanjing Univ. of Aeronautics and Astronautics
Shuchen Xu	Nanjing Univ. of Aeronautics and Astronautics
16:14-16:22	SunB1.4

209 *基于AHRS 的无人机集群协同导航方法*

Chenfa Shi	Nanjing Univ. of Aeronautics and Astronautics
Zhi Xiong	Nanjing Univ. of Aeronautics and Astronautics
Xu Jiang	Nanjing Univ. of Aeronautics and Astronautics
Qijie Li	Nanjing Univ. of Aeronautics and Astronautics
16:22-16:30	SunB1.5

289 *Research on Aircraft Firepower Distribution Problem based on Improved Chaotic Adaptive Genetic Algorithm*

Wei Pan	Army Academy of Artillery and Air Defense
Wenyu Dong	Army Academy of Artillery and Air Defense
Feng Huang	Army Academy of Artillery and Air Defense
Sili Liu	Army Academy of Artillery and Air Defense
Wei Pan	Army Academy of Artillery and Air Defense
Wenyu Dong	Army Academy of Artillery and Air Defense
16:30-16:38	SunB1.6

294 *UAV swarm cooperative navigation Technology in partial GNSS-denied Environment*

Siying Lin	Nanjing Univ. of Aeronautics and Astronautics
Feng Yu	Nanjing Univ. of Aeronautics and Astronautics
Zijun Zhou	Nanjing Univ. of Aeronautics and Astronautics
Chenyang Li	Nanjing Univ. of Aeronautics and Astronautics
16:38-16:46	SunB1.7

348 *Landmark-based Multi-sensor Fusion SLAM Algorithm for Autonomous Positioning in GNSS-denied Environments*

Mengmeng Sheng	Nanjing Univ. of Aeronautics and Astronautics
Rong Wang	Nanjing Univ. of Aeronautics and Astronautics
Jingxin Zhao	Nanjing Univ. of Aeronautics and Astronautics
Zhi Xiong	Nanjing Univ. of Aeronautics and Astronautics
Jianye Liu	Nanjing Univ. of Aeronautics and Astronautics
16:46-16:54	SunB1.8

422 *A Visual-Inertial Localization Method Based on Motion Feature Constraints*

Yanfei Li	Nanjing Univ. of Aeronautics and Astronautics
Zhi Xiong	Nanjing Univ. of Aeronautics and Astronautics
Jingqi Wang	Nanjing Univ. of Aeronautics and Astronautics
Guanhong Gao	Nanjing Univ. of Aeronautics and Astronautics
16:54-17:02	SunB1.9

677 *Particle Swarm Optimization-based Extreme Learning Machine for Ground Targets Threat Assessment*

Yunfeng Zhao	Nanjing Univ. of Science & Technology
Xingxiu Li	Nanjing Univ. of Science & Technology
Panlong Wu	Nanjing Univ. of Science & Technology
Xiangmin Wang	Nanjing Univ. of Science & Technology
Qiang Guo	Zhengzhou Institute of Science and Technology
17:02-17:10	SunB1.10

758 *Robust attitude tracking control of Quadrotor UAV based on adaptive super-twist sliding mode method*

Yinghua Wu	Linyi Univ.
Ancai Zhang	Linyi Univ.
Xiao Liang	Linyi Univ.
Xinghui Zhang	Linyi Univ.
Wenbo Zheng	Linyi Univ.
17:10-17:18	SunB1.11

765 *Event-triggered Sliding Mode Control of Collaborative Space Robots for In-Space Assembly*

Le Zhang	Nanjing Univ. of Aeronautics and Astronautics
Shidong Xu	Nanjing Univ. of Aeronautics and Astronautics
Hao Wen	Nanjing Univ. of Aeronautics and Astronautics
17:18-17:26	SunB1.12

1166 *有限时间收敛的自适应滑模协同末制导*

Shaowei Huang	Nanjing Univ. of Aeronautics and Astronautics
Yanli Du	Nanjing Univ. of Aeronautics and Astronautics
Yanbin Liu	Nanjing Univ. of Aeronautics and Astronautics
Yueping Wang	AVIC Xi’an Flight Automatic Control Research Institute
Wu Liu	AVIC Xi’an Flight Automatic Control Research Institute

17:26-17:34	SunB1.13

1592 *Force Control of Manipulation Loading System with Spherical Actuator*

Yinghuang Liu	Nanchang Hangkong Univ.
Zhi Lu	Nanchang Hangkong Univ.
Rui Hou	Nanchang Hangkong Univ.

17:34-17:42	SunB1.14

1606 *Optimization and Control of Spherical Actuator Manipulation Loading System*

Yinghuang Liu	Nanchang Hangkong Univ.
Rui Hou	Nanchang Hangkong Univ.
Zhi Lu	Nanchang Hangkong Univ.

17:42-17:50	SunB1.15

1687 *Quad-Rotor Collision Avoidance via Sequential Convex Programming with Reference Correction*

Tianhao Liu	Beijing Institute of Technology
Runqi Chai	Beijing Institute of Technology
Senchun Chai	Beijing Institute of Technology

SunB2	**3rd Floor Meeting Room 306**
Flight gnc	**3 层会议室 306**
Chairs: Siyuan Wang	Beihang Univ.
Ge Dong	Tsinghua Univ.
15:50-15:58	SunB2.1

273 *Effectiveness Evaluation Analysis of UAV Swarm Honeycomb Launch System*

Wei Yang	Shaanxi Institute of Technology
Dejun Wu	Shaanxi Institute of Technology

15:58-16:06	SunB2.2

435 *An MFCC and Attention Mechanism-Based CNN Model for Fault Detection in Acoustic or Vibration Time-Series Data*

Wenchi Pang	Shannxi Normal Univ.
Zhang Guo	Shannxi Normal Univ.
Jisheng Li	Shannxi Normal Univ.

16:06-16:14	SunB2.3

538 *Research on Control Methods and Path Planning for AUVs*

Chunxiao Gao	Shanghai Maritime Univ.
Fuxiao Tan	Shanghai Maritime Univ.

16:14-16:22	SunB2.4

759 *Adaptive Intelligent Excitation Control for Power Systems Based on Finite-Time Stabilization*

Qingkai Xing	Qingdao Univ.
Honghong Wang	Qingdao Univ.
Gang Xu	Weifang Vocational College
Kai Wang	Qingdao Univ.

16:22-16:30	SunB2.5

943 *Wind-Resistant Flight Control for Amphibious Flying Car*

Kangyao Huang	Tsinghua Univ.
Baoshang Zhou	Tsinghua Univ.
Songsong Rong	Tsinghua Univ.
Xinyu Zhang	Tsinghua Univ.
Huaping Liu	Tsinghua Univ.

16:30-16:38	SunB2.6

1021 *Full State Constraints-Based Distributed Cooperative Learning Control of Multi-Agent Systems*

Qing Guo	Inner Mongolia Univ.
Shaoqi Ren	Inner Mongolia Univ.
Xiaodong Zhang	Baotou Depot of China Railway Hohhot Bureau Group Co., Ltd.
Jinping Jia	Tianshui Normal Univ.
Fei Gao	Inner Mongolia Univ.

16:38-16:46	SunB2.7

1049 *Ordered Genetic Algorithm for Entrance Dependent Vehicle Routing Problem in Farms*

Haotian Xu	Tsinghua Univ.
Xiaohui Fan	Tsinghua Univ.
Jialin Zhu	China Academy of Launch Vehicle Technology
Qing Zhuo	Tsinghua Univ.
Tao Zhang	Tsinghua Univ.

16:46-16:54	SunB2.8

1053 *Optimized Task Allocation for Unmanned Aerial Vehicle Swarms in Smart Agriculture*

Yixuan Fan	Tsinghua Univ.
Haotian Xu	Tsinghua Univ.
Tianren Li	China Academy of Launch Vehicle Technology
Wenbo Zhao	Tsinghua Univ.
Tian Bai	Systems Engineering Research Institute
Qing Zhuo	Tsinghua Univ.
Tao Zhang	Tsinghua Univ.

16:54-17:02	SunB2.9

1110 *Learning Observer-based Fault-Tolerant Tracking Control For Hypersonic Vehicle*

Shihao Wang	Qufu Normal Univ.
Teng Cao	Qufu Normal Univ.
Yi Gao	Qufu Normal Univ.

17:02-17:10	SunB2.10

1191 *MPC-SINDy-based Method on Quadrotor UAV Control with Unknown Environmental Disturbance*

Maoyang Chen	Nantong Univ.
Dianhao Zhang	Nantong Univ.
Yiming Xu	Nantong Univ.

17:10-17:18	SunB2.11

1398 *A Frequency Contrastive Learning Method With Few Labeled Data for Fault Diagnosis*

Qiujin Liang	Tsinghua Univ.
Yuhao Jin	Tsinghua Univ.
Tao Zhang	Tsinghua Univ.

17:18-17:26	SunB2.12

1478 *Cascade Control Strategy Base on MPC for UAVs Collaborative Payload Transport*

Jiahao Yang	Shanghai Univ.
Juntong Qi	Shanghai Univ.
Yan Peng	Shanghai Univ.
Yuan Ping	EFY Intelligent control (Hainan) Technology Co. Ltd
Chong Wu	EFY Intelligent control (Hainan)

	Technology Co. Ltd
Mingming Wang	Tianjin Univ.
17:26-17:34	SunB2.13

1632 *Multi-objective Trajectory Optimization of Robotic Arm Based on Improved Dung Beetle Optimization algorithm*

Tao Sui	Shandong Univ. of Science and Technology
Kexin Wan	Shandong Univ. of Science and Technology
Xiuzhi Liu	Shandong Univ. of Science and Technology
Yixiang Feng	Shandong Univ. of Science and Technology
Zehua Chen	Shandong Univ. of Science and Technology
17:34-17:42	SunB2.14

1639 *Scalable Coordination of Pursuers with Nonholonomic Constraint in Multi-Player Reach-Avoid Games*

Ziqi He	Shanghai Jiao Tong Univ.
Bochen Li	Shanghai Jiao Tong Univ.
Chenggang Wang	Shanghai Jiao Tong Univ.
Lei Song	Shanghai Jiao Tong Univ.
Dan Huang	Shanghai Jiao Tong Univ.
17:42-17:50	SunB2.15

1722 *Large Angle Attitude Control of Satellite using Model Predictive Control*

Dandan Su	Bauman Moscow State Technical Univ.
K.A. Neusypin	Bauman Moscow State Technical Univ.
Li Fu	Beihang Univ.
Ge Dong	Tsinghua Univ.

SunB3	**3rd Floor Meeting Room 307**
Vision gnc	**3 层会议室 307**
Chairs: Zhaowei Ma	National Univ.of Defense Technology
Xianguo Yu	National Univ.of Defense Technology
15:50-15:58	SunB3.1

138 *H∞ Control Laws for Helicopter Sling Load Flight*

Changqi Liu	Northwestern Polytechnical Univ.
Aijun Li	Northwestern Polytechnical Univ.
Zuo Li	Northwestern Polytechnical Univ.
15:58-16:06	SunB3.2

263 *Active Inceptors Operation Principles and Key Technologies*

Chao Zhang	Xi’an Jiaotong Univ.
16:06-16:14	SunB3.3

310 *UAV positioning method based on heterogeneous image matching under GPS denial*

Yang Yang	Sichuan Univ. of Science & Engineering
Pinde Song	Sichuan Univ. of Science & Engineering
Guoqin Wang	Sichuan Univ. of Science & Engineering
Chunlai Zhong	Sichuan Univ. of Science & Engineering
Lijia Cao	Sichuan Univ. of Science & Engineering
16:14-16:22	SunB3.4

384 *YBTrack：一种基于深度学习的无人机视觉目标跟踪系统*

Yuda Gao	AVIC Xi’an Flight Automatic Control Research Institute
Shaolong Song	AVIC Xi’an Flight Automatic Control Research Institute
Bo Xue	AVIC Xi’an Flight Automatic Control Research Institute
16:22-16:30	SunB3.5

506 *Robustness and scalability of multi-agent systems: the role of memory information*

Jiamin Wang	Xidian Univ.
Jian Liu	Xidian Univ.
Yuanshi Zheng	Xidian Univ.
16:30-16:38	SunB3.6

567 *基于随机涨落光场的超高精度角速度鲁棒探测*

Chengliang Zhao	Soochow Univ.
Xingyuan Lu	Soochow Univ.
16:38-16:46	SunB3.7

672 *Existence of Pareto Optimal Triples for Multi-objective Optimal Control Problems with Free Terminal Time*

Ye Hong	Southwest Jiaotong Univ.
16:46-16:54	SunB3.8

825 *Synchronization Control of Uncertain Teleoperation Systems under Time-varying Delay and Input Saturation*

Hongyang Li	Xihua Univ.
Xia Liu	Xihua Univ.
16:54-17:02	SunB3.9

1180 *Reflection and Exploration on the Digital Delivery of Ship Equipment*

Pingbo Yu	China Coast Guard Academy
Wei Wei	China Coast Guard Academy
Hao Chen	National Univ. of Defense Technology
17:02-17:10	SunB3.10

1243 *基于神经网络的地形等高线辅助导航*

Rui Li	Northwestern Polytechnical Univ.
Xun Tang	Northwestern Polytechnical Univ.
Yanwei Du	Northwestern Polytechnical Univ.
Rui Zhang	Northwestern Polytechnical Univ.
Bin Xu	Northwestern Polytechnical Univ.
17:10-17:18	SunB3.11

1306 *Event-triggered based disturbance observer and PI depth control for UUVs*

Xiaoyu Sun	Yangzhou Univ.
Weixin Wang	Yangzhou Univ.
Yang Yi	Yangzhou Univ.
Rui Cao	Yangzhou Univ.
17:18-17:26	SunB3.12

1391 *Real-Time Identification and Compensation of Phase Error for Whole-Angle Hemispherical Resonator Gyroscope Based on*

Forgetting Filter and Virtual Rotation

Kaichen Yan	Northwestern Polytechnical Univ.
Xiaoxu Wang	Northwestern Polytechnical Univ.
Xiquan Wang	Northwestern Polytechnical Univ.
Qianbo Lu	Northwestern Polytechnical Univ.
17:26-17:34	SunB3.13

1624 *Cooperative Target Localization of Aircraft Cluster Based on Multi-view Image Information Fusion*

Weinan Zhao	Northwestern Polytechnical Univ.
Dingwen Zhang	Northwestern Polytechnical Univ.
Lei Li	Beijing Electro-Mechanical Engineering Institute
Jiaqi Chen	Northwestern Polytechnical Univ.
Jun Ren	Beijing Electro-Mechanical Engineering Institute
Hang Qi	Beijing Electro-Mechanical Engineering Institute
Ruitao Lu	Rocket Force Univ. of Engineering,
Jinwen Hu	Northwestern Polytechnical Univ.
Junwei Han	Northwestern Polytechnical Univ.
17:34-17:42	SunB3.14

1633 *OGRRT-Connect: An improved RRT algorithm based on opposite guided sampling*

Yilong Wu	Soochow Univ.
Shuxin Xie	Suzhou Vocational Univ.
Zhenhua Wang	Soochow Univ.
Chao Liu	Soochow Univ.
Guodong Chen	Soochow Univ.
Lining Sun	Soochow Univ.
17:42-17:50	SunB3.15

1638 *A Collision Avoidance Algorithm Design and Implementation for UAV Based on Visual Localization*

Minkun Zhao	Northwestern Polytechnical Univ.
Xiaoxiong Liu	Northwestern Polytechnical Univ.
Xinlong Xu	Northwestern Polytechnical Univ.

SunB4	**3rd Floor Meeting Room 309**
Perception GNC	**3 层会议室 309**
Chairs: Yuanshi Zheng	Xidian Univ.
Le Wang	High-Tech Institute of Xi'an
15:50-15:58	SunB4.1

235 *Research on Multi domain Joint Reconnaissance of UVA Swarm*

Yingli Wang	China Univ. of Mining and Technology
Qianxin Wang	China Univ. of Mining and Technology
Han Zhang	China Univ. of Mining and Technology
Xiaojun Duan	National Univ. of Defense Technology
15:58-16:06	SunB4.2

473 *Research on Marine Pilling Process Deduction and Intelligent Decision System Based on Virtual Reality Platform*

Chengyong Wen	CCCC Fourth Harbor Engineering Institute Co., Ltd
Meihong Lin	CCCC Fourth Harbor Engineering Institute Co., Ltd
16:06-16:14	SunB4.3

700 *Research on non-affine system control method based on incremental dynamic inverse*

Yanqing Cheng	China Aerodynamics Research and Development Center
Yunxiang Zhang	China Aerodynamics Research and Development Center
Xiancai Zhang	China Aerodynamics Research and Development Center
Fengqi Zheng	China Aerodynamics Research and Development Center
Xi Yue	China Aerodynamics Research and Development Center
16:14-16:22	SunB4.4

754 *Neural Network-based Robust Formation Control for 6-DOF Multi-spacecraft Subject to Unknown Disturbances*

Dongchen Han	Univ. of Electronic Science and Technology of China
Mengji Shi	Univ. of Electronic Science and Technology of China
Weixiang Gao	Southwest Institute of Technical Physics
Jiangfeng Yue	Univ. of Electronic Science and Technology of China
Boxian Lin	Univ. of Electronic Science and Technology of China
Kaiyu Qin	Univ. of Electronic Science and Technology of China
16:22-16:30	SunB4.5

816 *多超高速飞行器通信保持控制与立体合围制导技术研究*

Xi Li	China Academy of Launch Vehicle Technology
Feng Gao	China Academy of Launch Vehicle Technology
Dong Guo	China Academy of Launch Vehicle Technology
16:30-16:38	SunB4.6

1263 *A method of model predictive adaptive scaling formation for the multi-UAV system in cluttered environments*

Mingxing Qin	High-Tech Institute of Xi'an
Le Wang	High-Tech Institute of Xi'an
Jianxiang Xi	High-Tech Institute of Xi'an
Miao Zhao	Naval Univ. of Engineering
Zhong Wang	High-Tech Institute of Xi'an
16:38-16:46	SunB4.7

1314 *Impact Time Proportional Navigation Guidance for Hypersonic Flight Vehicles Based on DFNN*

Zichun Guo	High-Tech Institute of Xi'an
Le Wang	High-Tech Institute of Xi'an
Jianxiang Xi	High-Tech Institute of Xi'an
Miao Zhao	Naval Univ. of Engineering
Mingxing Qin	High-Tech Institute of Xi'an
16:46-16:54	SunB4.8

1428 *基于线性卷积混叠过程的自监督式光纤传感信号分离*

Zhao Chen	Xi'an Electronic Engineering

	Research Institute
Zechao Liu	Zhejiang Lab
16:54-17:02	SunB4.9

1442 *Multi-agent path finding based on improved CBS algorithm*

Yuhui Sun	Institute of Microelectronics of the Chinese Academy of Sciences
Shaoyun Xu	Institute of Microelectronics of the Chinese Academy of Sciences
Yang Wang	Institute of Microelectronics of the Chinese Academy of Sciences
Shu Zhang	Institute of Microelectronics of the Chinese Academy of Sciences
Yuexing Hao	Institute of Microelectronics of the Chinese Academy of Sciences
17:02-17:10	SunB4.10

1494 *PDF control for rotation-modulating RLG INS*

Lu Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Hongjie Lei	AVIC Airborne Systems LTD
Pu Chen	AVIC Xi'an Flight Automatic Control Research Institute
Weilong Li	AVIC Xi'an Flight Automatic Control Research Institute
17:10-17:18	SunB4.11

1471 *A Deep Learning Neural Network Control Approach for Quadrotor UAV Landing on a Moving Platform*

Jiahan Peng	Beijing Institute of Technology
Kewei Xia	Beijing Institute of Technology
17:18-17:26	SunB4.12

1586 *Research on autonomous task allocation method for UAVs under communication degradation conditions*

Qi Zhao	China State Shipbuilding Corporation Limited
Ruoyun Song	China State Shipbuilding Corporation Limited
17:26-17:34	SunB4.13

1599 *Research on Performance Evaluation of Remote Obstacles along the One Engine Inoperative Departure Procedure at High Altitude and Complex Terrain Airport*

Jiang Yu	Civil Aviation Flight Univ. of China
17:34-17:42	SunB4.14

1615 *Dynamics and Control of dual-Satellite Electromagnetic Formation in the port-Hamiltonian Framework*

Jiaming Wang	China Academy of Space Technology
Qingrui Zhou	China Academy of Space Technology
Wei Zheng	China Academy of Space Technology
Jingdong Diao	China Academy of Space Technology
17:42-17:50	SunB4.15

1694 *接触式机械密封流固热特性分析*

Chao Peng	Sun Yat-sen Univ.
Shuang Tan	Sun Yat-sen Univ.
Di Liu	Beihang Univ.
Xiaoping Ouyang	Zhejiang Univ.

SunB5	**3rd Floor Meeting Room 310**
Intelligent GNC	**3 层会议室 310**
Chairs: Huangchao Yu	National Univ.of Defense Technology
Su Cao	National Univ.of Defense Technology
15:50-15:58	SunB5.1

166 *Decoupled Geometric Control of the Quadrotor UAV Based on Incremental Nonlinear Dynamic Inversion*

Jinghe Hu	Tianjin Univ.
Bin Xian	Tianjin Univ.
15:58-16:06	SunB5.2

255 *Longitudinal Control and Optimization of Fixed-Wing UAV based on Deep Reinforcement Learning*

Haiyang He	Nanjing Univ. of Aeronautics and Astronautics
Zhengen Zhao	Nanjing Univ. of Aeronautics and Astronautics
Fei Kong	Nanjing Univ. of Aeronautics and Astronautics
16:06-16:14	SunB5.3

346 *Vibration Suppression Control for 2D TORA System With Parametric Uncertainties*

Xinran Yang	Hebei Univ. of Technology
He Chen	Hubei Key Laboratory of Digital Textile Equipment (Wuhan Textile Univ.)
16:14-16:22	SunB5.4

442 *Fully-Actuated System Approach for Underactuated System Control Based on High-Order State Estimation*

Tong Yang	Nankai Univ.
Menghua Zhang	Univ. of Jinan
Wei Sun	Liaocheng Univ.
Qingxiang Wu	Nankai Univ.
Ning Sun	Nankai Univ.
16:22-16:30	SunB5.5

444 *Dynamic Modeling of Variable-Length Dual Cable Boom Cranes With Postural Adjustments*

Xiaoxue Feng	Nankai Univ.
Tong Yang	Nankai Univ.
Tao Zhang	Taian Quality and Technical Inspection and Testing Institute (Taian Special Equipment Inspection and Research Institute)
Jing Wang	Taian Quality and Technical Inspection and Testing Institute (Taian Special Equipment Inspection and Research Institute)
Ruiping Pang	Shandong Luneng Special Equipment Inspection and Testing Co., Ltd
Xiaowei Chen	Taian Quality and Technical Inspection and Testing Institute

	(Taian Special Equipment Inspection and Research Institute)
Qingxiang Wu	Nankai Univ.
Ning Sun	Nankai Univ.
16:30-16:38	SunB5.6

458 *Incremental Geometric Control For A Small Size Unmanned Helicopter*

Aochen Ma	Tianjin Univ.
Bin Xian	Tianjin Univ.
16:38-16:46	SunB5.7

856 *Control Barrier Function-based Discrete-Time Adaptive Control for Uncertain Systems*

Hao Xu	Beijing Institute of Technology
Zhongjiao Shi	Beijing Institute of Technology
Liangyu Zhao	Beijing Institute of Technology
16:46-16:54	SunB5.8

970 *Downsample-based Improved Dense Point Cloud Registration Framework*

Shuai Yang	Beijing Institute of Technology
Chunlei Song	Beijing Institute of Technology
Yongqiang Han	Beijing Institute of Technology
Jiabin Chen	Beijing Institute of Technology
Zhengquan Piao	China North Artificial Intelligence & Innovation Research Institute
Zhenhao Wang	China North Artificial Intelligence & Innovation Research Institute
16:54-17:02	SunB5.9

1073 *Ultra-Wideband based Robot Swarm Coordinate Rapid Initialization in GNSS-Denied and Motion-Constrained Environments*

Jianguang Xiang	National Univ. of Defense Technology
Xiaofeng He	National Univ. of Defense Technology
Lilian Zhang	National Univ. of Defense Technology
Xueyu Du	National Univ. of Defense Technology
Ruiguang He	National Univ. of Defense Technology
Ruochen Liu	National Univ. of Defense Technology
17:02-17:10	SunB5.10

1218 *DiCar-SLAM: A Distributed Multi-Robot SLAM System with Enhanced Scan Context and Lateral Robustness*

Yushan Peng	National Univ. of Defense Technology
Zongyang Chen	National Univ. of Defense Technology
Changhao Chen	National Univ. of Defense Technology
Xianfei Pan	National Univ. of Defense Technology
17:10-17:18	SunB5.11

1289 *基于简化太阳方位角的绝对航向角解算方法*

Min Zhang	Beijing Institute of Technology
Xia Wang	Beijing Institute of Technology
Yuyang Li	Beijing Institute of Technology
17:18-17:26	SunB5.12

1328 *Hybrid Control of Thrusters and Reaction Wheels for Angular Velocity Damping in Satellite Attitude Control*

Yanbo Yang	Wuhan Univ.
Di Huang	Wuhan Univ.
17:26-17:34	SunB5.13

1340 *Stable Control for the Planar P-R type Underactuated Robot based Trajectory Planning and Intelligent Algorithm*

Zilin Shu	Wuhan Institute of Technology
Xiangyu Gong	Wuhan Institute of Technology
Ziang Wei	Wuhan Institute of Technology
Zixin Huang	Wuhan Institute of Technology
17:34-17:42	SunB5.14

1411 *Research on detonation position estimation based on genetic algorithm*

Yangyang Zhang	Rocket Force Univ. of Engineering, Xi'an
You Wu	Jiangnan Univ.
Ye Chen	PLA 96901 Unit
Qiuhui Yang	PLA 96901 Unit
Chuanxiang Li	Rocket Force Univ. of Engineering
Jin Li	PLA 96901 Unit
17:42-17:50	SunB5.15

1435 *基于模型预测控制的无人机-无人车协同编队控制*

Jiangzhen Ma	Tianjin Univ.
Lei Cui	Tianjin Univ.

SunB6	**3rd Floor Meeting Room 311**
Aircraft GNC	**3 层会议室 311**
Chairs: Fei Cen	China Aerodynamics Research and Development Center
Chao Zhou	National Univ. of DefenseTechnology
15:50-15:58	SunB6.1

446 *基于尾部外形优化的航炮吊舱抖动稳定性分析研究*

Hui Wang	AVIC Qing'an Group Co., Ltd.
Li Zhang	AVIC Qing'an Group Co., Ltd.
Mina Ma	AVIC Qing'an Group Co., Ltd.
Wanming Wu	AVIC Qing'an Group Co., Ltd.
15:58-16:06	SunB6.2

599 *An aircraft maneuvering control method based on velocity vectors*

Dapeng Yang	FuDan Univ.
Yibo Zheng	Northwestern Polytechnical Univ.
Huanying Jin	Shenyang Aircraft Design and Research Institute
Jinwei Zhao	Shenyang Aircraft Design and Research Institute
Haitong Zhou	Shenyang Aircraft Design and Research Institute
Yongxi Lyu	Northwestern Polytechnical Univ.
Jiaming Liu	Northwestern Polytechnical Univ.

16:06-16:14	SunB6.3

1047 *Research and Simulation of Brushless DC Motor Control Based on Fuzzy Neural Network*

Jiaxuan Xie	AVIC Qing'an Group Co., Ltd.
Yining Liu	AVIC Qing'an Group Co., Ltd.
Shaomin Zhang	AVIC Qing'an Group Co., Ltd.
16:14-16:22	SunB6.4

1054 *Landing Footprint Generation with No-fly Zone Constraint*

Xinlu Guo	Dalian Univ. of Technology
Yi Fang	Shenyang Aircraft Design & Research Institute
Yongzhen Liu	Shenyang Aircraft Design & Research Institute
Jili Zhang	Yangzhou Collaborative Innovation Research Institute
16:22-16:30	SunB6.5

1095 *Hypersonic vehicle morphing decision based on neural network*

Linfei Hou	Dalian Univ. of Technology
Hao Liu	Shenyang Aircraft Design and Research Institute
Huanying Jin	Shenyang Aircraft Design and Research Institute
Rui Wang	Dalian Univ. of Technology
16:30-16:38	SunB6.6

1109 *Modeling and Control Methods for Hypersonic Vehicle Considering Inlet Unstart*

Yingyu Tang	Dalian Univ. of Technology
Man Zhang	Shenyang Aircraft Design & Research Institute, Shenyang Liaoning 110035, China
Mingyuan Zhai	Shenyang Aircraft Design & Research Institute, Shenyang Liaoning 110035, China
Jiaxin Li	Sun Yat-Sen Univ.
Jun Liu	Dalian Univ. of Technology
16:38-16:46	SunB6.7

1123 *Dynamic inverse control method for STOVL aircraft in transition phase based on torque distribution*

Shaochen Wang	Dalian Univ. of Technology
Shilong Ruan	Dalian Univ. of Technology
Lei Zhang	Shenyang Aircraft Design and Research Institute
Weiguang Shao	Dalian Univ. of Technology
16:46-16:54	SunB6.8

1137 *Hypersonic flight vehicle rigid/flexible state estimation using INS and FADS*

Weiguang Shao	Dalian Univ. of Technology
Jinwei Zhao	Shenyang Aircraft Design Institute
Yanguo Hu	Shenyang Aircraft Design Institute
Dong Zhe	Dalian Univ. of Technology
Guoqiang Wu	Dalian Univ. of Technology
16:54-17:02	SunB6.9

1244 *电静液作动器低温启动性能研究*

Yanxin Liu	AVIC Qing'an Group Co., Ltd.
Liangliang Bai	AVIC Qing'an Group Co., Ltd.
Junfei Zhang	AVIC Qing'an Group Co., Ltd.
Shihui Du	AVIC Qing'an Group Co., Ltd.
17:02-17:10	SunB6.10

1476 *Research on the Relationship Between Sealing Assembly Structure and Internal Flow Field Characteristics of Aviation High Pressure Directional Valve*

Tao Zhang	AVIC Qing'an Group Co., Ltd.
Yongtao Luo	AVIC Qing'an Group Co., Ltd.
Yongpeng Wang	AVIC Qing'an Group Co., Ltd.
Yunlong Gao	AVIC Qing'an Group Co., Ltd.
Wei Xu	AVIC Qing'an Group Co., Ltd.
Kun Li	AVIC Qing'an Group Co., Ltd.
17:10-17:18	SunB6.11

1558 *主动磁悬浮轴承功率放大器的设计与仿真分析*

Gang Xin	AVIC Qing'an Group Co., Ltd.
Xiaoming Li	AVIC Qing'an Group Co., Ltd.
17:18-17:26	SunB6.12

1570 *Control Strategy Study for Aircraft Bay Door Based on Variable Displacement Hydraulic Motor*

Changhong Gao	AVIC Qing'an Group Co., Ltd.
Yiqing Yang	AVIC Qing'an Group Co., Ltd.
Yansong Liu	AVIC Qing'an Group Co., Ltd.
17:26-17:34	SunB6.13

1571 *Uncertainty Analysis and Belief Reliability Calculation of Brake*

Yi Li	AVIC Qing'an Group Co., Ltd.
Zhaowei Lang	AVIC Qing'an Group Co., Ltd.
17:34-17:42	SunB6.14

1572 *Research on Distributed Double Redundancy Flap*

Diancheng Wu	AVIC Qing'an Group Co., Ltd.
Gaojie Ma	AVIC Qing'an Group Co., Ltd.
Haitao Liu	AVIC Qing'an Group Co., Ltd.
17:42-17:50	SunB6.15

1578 *Research on Position Sensorless Control of Dual Winding Permanent Magnet Synchronous Motor*

Hong Dai	AVIC Qing'an Group Co., Ltd.

SunB7	**3rd Floor Meeting Room 312**
Classic GNC	**3 层会议室 312**
Chairs: Tao Chao	Harbin Institute of Technology
Zhi Wang	Academy of Mathematics and Systems Science, CAS
15:50-15:58	SunB7.1

125 *Adaptive dual-layer super-twisting sliding mode control of morphing aircraft*

Fangzheng Zhou	Huazhong Univ. of Science and Technology
Huijin Fan	Huazhong Univ. of Science and Technology
Lei Liu	Huazhong Univ. of Science and Technology
Bo Wang	Huazhong Univ. of Science and Technology

15:58-16:06	SunB7.2

1092 *A trajectory optimization method for powered aeroassisted orbital transfer vehicle*

Mengdi Zhang	Harbin Institute of Technology
Zenan Zhong	Harbin Institute of Technology
Qiushi Wu	Beijing Institute of Astronautical Systems Engineering
Tao Chao	Harbin Institute of Technology

16:06-16:14	SunB7.3

1579 *Fault-tolerance method for microsatellite on-board computers based on on-board resource redundancy*

Hao Zhang	Northwestern Polytechnical Univ.
Ju Zhou	Northwestern Polytechnical Univ.
Guanghui Liu	Northwestern Polytechnical Univ.
Jianguo Guo	Northwestern Polytechnical Univ.
Zian Hao	Northwestern Polytechnical Univ.

16:14-16:22	SunB7.4

1724 *Midcourse Trajectory Modification Approach Based on Predictive-Control for Hypersonic Vehicle*

Yu Cheng	Harbin Institute of Technology
Guoxing Yi	Harbin Institute of Technology
Hao Wang	Harbin Institute of Technology
Yiran Chen	Harbin Institute of Technology
Yisong Zhang	Harbin Institute of Technology

16:22-16:30	SunB7.5

221 *Two-stage Differential Game Guidance Law withTerminal Angle and Hard Acceleration Constraints*

Dongchen Lu	Northwestern Polytechnical Univ.
Jianguo Guo	Northwestern Polytechnical Univ.
Ruimin Jiang	Northwestern Polytechnical Univ.

16:30-16:38	SunB7.6

660 *UWB-Inertial fusion localization algorithm based on Error-State Kalman filter in GNSS-denied environments*

Xu Wen	Harbin Institute of Technology
Jiadong Yang	Harbin Institute of Technology
Junxi Tian	Harbin Institute of Technology
Tao Chao	Harbin Institute of Technology

16:38-16:46	SunB7.7

972 *Research on Closed-loop Subspace Identification Method of a Quadrotor*

Yu Qiao	Harbin Institute of Technology
Shenming Quan	Electro-Mechanical Engineering Institute
Songyan Wang	Harbin Institute of Technology
Ming Yang	Harbin Institute of Technology
Tao Chao	Harbin Institute of Technology

16:46-16:54	SunB7.8

319 *Application of An Efficient Two-Stage Approach in Path Planning of Lunar Rover*

Zhaojun Nie	Harbin Institute of Technology
Chao Ye	Harbin Institute of Technology

16:54-17:02	SunB7.9

490 *Adaptive Regulation of Hammerstein Systems with Nonlinear Observations*

Mingxia Ding	Academy of Mathematics and Systems Science, CAS
Wenxiao Zhao	Academy of Mathematics and Systems Science, CAS

17:02-17:10	SunB7.10

1076 *Complete Coverage Path Planning Method for Lunar Surface Drilling Exploration Area Detection*

Zhiyi Yan	Univ. of Chinese Academy of Sciences
Peng Zhang	Academy of Mathematics and Systems Science, CAS
Zhi Wang	Academy of Mathematics and Systems Science, CAS
Shijing He	Academy of Mathematics and Systems Science, CAS
Minying He	Academy of Mathematics and Systems Science, CAS

17:10-17:18	SunB7.11

1238 *Research on the interaction mechanism between the excavation wheel and lunar soil based on the discrete element method*

Shijing He	Univ. of Chinese Academy of Sciences
Peng Zhang	Academy of Mathematics and Systems Science, CAS
Zhi Wang	Academy of Mathematics and Systems Science, CAS
Minying He	Univ. of Chinese Academy of Sciences
Yuchen Zhang	Univ. of Chinese Academy of Sciences
Hanzhe Yang	Academy of Mathematics and Systems Science, CAS

17:18-17:26	SunB7.12

1605 *Design and Analysis of a four-wheel deployable Planetary Rover Based on Wheel-Soil Dynamics*

Shaoheng Hu	Beijing Jiaotong Univ.
Mengyang Wang	Beijing Jiaotong Univ.
Yaning Zhang	Beijing Jiaotong Univ.
Xianhong Zhang	Beijing Jiaotong Univ.
Ruiming Li	Beijing Jiaotong Univ.

17:26-17:34	SunB7.13

1678 *Framework Design of a Real-time Decision Support System for Drilling Site Selection Based on Three-Dimensional Dynamic Mapping*

Minying He	Univ. of Chinese Academy of Sciences
Zhi Wang	Academy of Mathematics and Systems Science, CAS
Shijing He	Univ. of Chinese Academy of Sciences
Peng Zhang	Academy of Mathematics and Systems Science, CAS

Zhiyi Yan	Academy of Mathematics and Systems Science, CAS
Ming Yang	Beijing Institute of Control Engineering
17:34-17:42	SunB7.14

781 *Neural Network Feedforward aided Composite AntiDisturbance Control for Hypersonic Morphing Vehicle*

Xingyu Wu	Beihang Univ.
Honglun Wang	Beihang Univ.
Yuebin Lun	Beihang Univ.
Bin Ren	Beihang Univ.
17:42-17:50	SunB7.15

1490 *高阶扰动引力场中机动突防导弹落点精确预报方法*

Lei Wang	National Univ. of Defense Technology
Xiang Zhou	National Univ. of Defense Technology
Weihu Zhao	National Univ. of Defense Technology
Xianzhe Cheng	National Univ. of Defense Technology
Wei Zheng	National Univ. of Defense Technology

SunB8 Advanced GNC	**3rd Floor Meeting Room 313 三层会议室 313**
Chairs: Wei Dong	Beijing Institute of Technology
Qiang Shen	Shanghai Jiao Tong Univ.
15:50-15:58	SunB8.1

113 *Attitude consensus of multiple uncertain spacecraft systems with sensor faults and input delay*

Yunhan Li	Aerosace Science and Industry Space Engineering Development Co., Ltd
Xing Xin	Aerosace Science and Industry Space Engineering Development Co., Ltd
Chunyan Wang	Beijing Institute of Technology
Keyu Zheng	Aerosace Science and Industry Space Engineering Development Co., Ltd
15:58-16:06	SunB8.2

808 *Backstepping ADRC of Unmanned Aerial Vehicle Systems with Output Constraints*

Ning Zhou	Hebei Univ. of Science and Technology
Tao Wang	Hebei Univ. of Science and Technology
Mengran Niu	Hebei Univ. of Science and Technology
Lele Xi	Hebei Univ. of Science and Technology
Canyang Zhao	Hebei Univ. of Science and Technology
16:06-16:14	SunB8.3

1619 *Impact Speed Constrained Guidance Law under Drag Uncertainty for Gliding Vehicle*

Xinwan Kong	Beijing Institute of Technology
Cheng Zhang	Beijing Institute of Technology
16:14-16:22	SunB8.4

316 *Hyperbola-Like Impact Angle Guidance Law With Reduced Look Angle Variation*

Chunjiang Wu	Beihang Univ.
Qinglei Hu	Beihang Univ.
Tuo Han	Beihang Univ.
16:22-16:30	SunB8.5

589 *Distributed UAV Swarm Collaborative SLAM Based on Visual-inertial-ranging Measurement*

Yicheng Shou	Beijing Institute of Technology
Zhuoyue Song	Beijing Institute of Technology
Haoyu Qi	Beijing Institute of Technology
Zhen Li	Beijing Institute of Technology
Wenjie Chen	Beijing Institute of Technology
16:30-16:38	SunB8.6

709 *Collaborative Trajectory Planning for Hypersonic Vehicles Considering Angle Constraints*

Qingyang Li	Beijing Institute of Technology
Junhui Liu	Beijing Institute of Technology
Jiayuan Shan	Beijing Institute of Technology
Jianan Wang	Beijing Institute of Technology
16:38-16:46	SunB8.7

951 *Understanding Decisions of Object Detectors via Saliency Maps*

Jin Xiao	Beihang Univ.
Wenrui Liu	Beihang Univ.
Weipeng Wang	Beihang Univ.
Xiaoguang Hu	Beihang Univ.
16:46-16:54	SunB8.8

345 *Fault diagnosis of aero-engine sensors based on kernel principal element analysis*

Huihui Li	Shanghai Jiao Tong Univ.
Linfeng Gou	Northwestern Polytechnical Univ.
Qiang Shen	Shanghai Jiao Tong Univ.
Meng Zhang	AECC Aero-engine control system institute
16:54-17:02	SunB8.9

1247 *Distributed Model Predictive Control for Spacecraft Formation with Safety Requirements*

Zeyang Zhao	Shanghai Jiao Tong Univ.
Qiang Shen	Shanghai Jiao Tong Univ.
Hongji Zhuang	Shanghai Jiao Tong Univ.
17:02-17:10	SunB8.10

1422 *数据驱动的模型参考自适应一致性控制*

Ziyuan Ma	Nanjing Univ. of Aeronautics and Astronautics
Xiaoyun Sun	Shanghai Jiao Tong Univ.
Meng Li	Jiuquan City 14 Branch
Huajun Gong	Nanjing Univ. of Aeronautics and Astronautics

Xinhua Wang	Nanjing Univ. of Aeronautics and Astronautics
17:10-17:18	SunB8.11

428 *Improved P-RRT* and Modified Dynamic Window Approach for UAV Dynamic Trajectory Planning*

Xiangyu Zhu	Shanghai Maritime Univ.
Bo Li	Shanghai Maritime Univ.
Hongyue Ma	Shanghai Maritime Univ.
17:18-17:26	SunB8.12

681 *Implementation Method of Ground Model for Commercial Aircraft Autoland Control*

Zeyu Kang	Commercial Aircraft Corporation of China
Zibo Wei	Commercial Aircraft Corporation of China
Xiaoyi Gong	Commercial Aircraft Corporation of China
Chao Zhou	Commercial Aircraft Corporation of China
Hui Shao	Commercial Aircraft Corporation of China
17:26-17:34	SunB8.13

1015 *Design and Simulation of Automatic Flare Control Law for Civil Aircrafts*

Ziqin Xu	Commercial Aircraft Corporation of China
Haonan Xu	Commercial Aircraft Corporation of China
Chang Liu	Commercial Aircraft Corporation of China
Zeyu Kang	Commercial Aircraft Corporation of China
Zibo Wei	Commercial Aircraft Corporation of China
17:34-17:42	SunB8.14

1365 *Multi-view Correlation Learning Cross-modal Retrieval Based On Multi-layer Attention*

Zhichao Han	Universiti Putra Malaysia
Azreen Bin Azman	Universiti Putra Malaysia
Fatimah Binti Khalid	Universiti Putra Malaysia
Mas Rina Binti Mustaffa	Universiti Putra Malaysia
17:42-17:50	SunB8.15

1705 *Unsupervised Method For Cross-modal Retrieval Based On Domain Adaptive Learning*

Zhichao Han	Guangxi Vocational Normal Univ.
Weiwei Chen	Guangxi Vocational Normal Univ.
Chengjia Huang	Xiangsihu College Guangxi Univ. For Nationalities
Xinpan Yuan	Hunan Univ. of Technology
Haoyu Ruan	Hunan Univ.
Zhihao Jiang	Shenzhen Lazada Software Technology Company Limited

SunB9	**3rd Floor Meeting Room VIP 01**
Autonomous GNC	**3 层会议室 VIP 01**
Chairs: Delin Luo	Xiamen University
Yang Xu	Northwestern Polytechnical University
15:50-15:58	SunB9.1

1443 *Adaptive Finite-Time Formation Constraint Control for Heterogeneous Multi-agent Systems*

Qu Chen	Liaoning University of Technology
Shu Li	Liaoning University of Technology
Lei Liu	Liaoning University of Technology
Yanjun Liu	Liaoning University of Technology
15:58-16:06	SunB9.2

270 *UAVs Cluster Target Round up Strategy Based on Neighborhood Cognitive Consistency*

Zhaotian Wei	Air Force Engineering University
Ruixuan Wei	Air Force Engineering University
16:06-16:14	SunB9.3

292 *Formation Tracking Control of Second-Order Multi-Agent Systems: A Perspective from Distributed Optimization*

Jiangyuan Tian	Air Force Engineering University
Ruixuan Wei	Air Force Engineering University
16:14-16:22	SunB9.4

794 *无环流与有粘流流体动力的关系研究*

Xianwu Lin	Xiamen University
Penghui Guo	Xiamen University
16:22-16:30	SunB9.5

833 *基于视景仿真的倾转旋翼机飞行品质评价系统*

Zhenyi Yao	Nanjing University of Aeronautics and Astronautics
Biao Wang	Nanjing University of Aeronautics and Astronautics
Chaoying Tang	Nanjing University of Aeronautics and Astronautics
Feng Yang	Aviation Key Laboratory of Science and Technology on Aero Electromechanical System Integration
16:30-16:38	SunB9.6

962 *Dynamic event-triggered robust cooperative path following control of fixed-wing UAVs*

Ziyi Yang	Xiamen University
Zhengyu Guo	National Key Laboratory of Air-based Information Perception and Fusion
Yang Xu	Northwestern Polytechnical University
Delin Luo	Xiamen University
16:38-16:46	SunB9.7

967 *Deep Reinforcement Learning-Based Local Path Planning with Memory-Guided*

Xu Wang	Beijing Information Science and Technology University
Xiaobin Xu	Beijing Information Science and Technology University
Shiyao Lin	China Research and Development

	Academy of Machinery Equipment
Junfang Fan	Beijing Information Science and Technology University
Zhihao Gao	Beijing Information Science and Technology University
Chengyu Gu	Beijing Information Science and Technology University
16:46-16:54	SunB9.8

355 *Study on Vacuum Cold Welding Prevention of In-orbit Refueling Pipeline Disconnection*

Weichen Wang	Beijing Institute of Spacecraft System Engineering
Weizhen Pan	Beijing Institute of Spacecraft System Engineering
Shengran Dong	Beijing Institute of Spacecraft System Engineering
Jianyu Lei	Beijing Institute of Spacecraft System Engineering
Sheng Yang	Beijing Institute of Spacecraft System Engineering
16:54-17:02	SunB9.9

1147 *Research on Solar Sail Design and Control Based on Origami Principles*

Junhao Wu	National University of Defense Technology
Xiang Zhang	Defense Innovation Institute, Academy of Military Sciences
Kangjia Fu	Defense Innovation Institute, Academy of Military Sciences
Xuesong Wu	Defense Innovation Institute, Academy of Military Sciences
Chong Sun	Northwestern Polytechnical University
Zongyu Wu	National University of Defense Technology
17:02-17:10	SunB9.10

1034 *Cooperative tactical intent recognition based on self-supervised learning under multimodal information*

Kai Wu	Chinese Aeronautical Establishment
Bo Liu	Chinese Aeronautical Establishment
Zhaojiang Chen	Chinese Aeronautical Establishment
Sujie Li	Chinese Aeronautical Establishment
Weining Li	Chinese Aeronautical Establishment
17:10-17:18	SunB9.11

1618 *A Midcourse Differential Game Penetration Guidance Law for Ballistic Missiles Considering Handover Point*

Xuanting Liu	Nanjing University of Science and Technology
Ruisheng Sun	Nanjing University of Science and Technology
Ri Zhao	China Academy of Launch Vehicle Technology
Zhenyu Zhang	Nanjing University of Science and Technology
Wei Chen	Nanjing University of Science and Technology
17:18-17:26	SunB9.12

1682 *Stealthy Deception Attack for One-on-One Unmanned Aerial Vehicle Air Combat*

Wenya Wan	Xi'an University of Technology
Yijie Liu	Xi'an University of Technology
Yingmin Yi	Xi'an University of Technology
17:26-17:34	SunB9.13

767 *A novel attack missile guidance method considering the terminal angle constraint of the attack missile-target-defense missile game*

Jiaxing Pan	Northwestern Polytechnical University
Jiajia Ma	Northwest Institute of Mechanical and Electrical Engineering,
Junhua Huang	Jiangxi Guoke Defence Group Co. Ltd.
Chong Sun	Northwestern Polytechnical University
17:34-17:42	SunB9.14

1591 *Research on Active Disturbance Rejection Control of Digital Cabin Pressure Regulating System*

Xiaoma Liu	China Astronaut Research and Training Center
Lei Yang	China Astronaut Research and Training Center
Jingsong Yang	China Astronaut Research and Training Center
Dianfei Pan	China Astronaut Research and Training Center
Zhen Zhang	China Astronaut Research and Training Center
Zhuo Peng	China Astronaut Research and Training Center
17:42-17:50	SunB9.15

1010 *Research on analytical redundancy reconstruction of flight control sensor signals for carrier-based aircrafts*

Jiahao Ma	Beihang University
Yunpeng Ma	Beihang University
Dapeng Zhou	AVIC Shenyang Aircraft Design and Research Institute
Min Xu	Chinese People's Liberation Army Aviation School
17:50-17:58	SunB9.16

1701 *A Survey on Disaster Prediction Methods*

Rui Xu	National Univ. of Defense Technology
Bing Xie	National Univ. of Defense Technology
Xueqiang Gu	National Univ. of Defense Technology

Shengjian Bai	National Univ. of Defense Technology

SunB10	**3rd Floor Meeting Room VIP 02**
Novel GNC	**3 层会议室 VIP 02**
Chairs: Xiaolong Chen	AVIC Xi'an Flight Automatic Control Research Institute
Ziyang Zhen	Nanjing University of Aeronautics and Astronautics
15:50-15:58	SunB10.1

942 *Research on Active Disturbance Rejection Control and Optimization Method for High-speed Helicopter*

Tianqi Peng	Nanjing University of Aeronautics and Astronautics
Shouzhao Sheng	Nanjing University of Aeronautics and Astronautics
15:58-16:06	SunB10.2

1032 *Multi-Agent Path Planning for Simultaneous Arrival Based on Conflict-Based Search*

Haoxian Jiang	Beihang University
Guanzhong Liu	Unit 95369 of PLA
Rui Zhou	Beihang University
16:06-16:14	SunB10.3

1149 *Aerodynamic interference compensation of tilt-rotor via model based active disturbance rejection control*

Zefeng Chen	AVIC Xi'an Flight Automatic Control Research Institute
Ning Zhang	AVIC Xi'an Flight Automatic Control Research Institute
Yuelong Ma	AVIC Xi'an Flight Automatic Control Research Institute
16:14-16:22	SunB10.4

1426 *Optimization Method for Tilting Transition Trajectory of Tiltrotor*

Lulu Xue	AVIC Xi'an Flight Automatic Control Research Institute
Jing Zhang	Northwestern Polytechnical University
Ning Zhang	AVIC Xi'an Flight Automatic Control Research Institute
Qiang Chen	AVIC Xi'an Flight Automatic Control Research Institute
16:22-16:30	SunB10.5

509 *A Survey on Relative Navigation Used in UAV Teaming*

Xiaolong Chen	AVIC Xi'an Flight Automatic Control Research Institute
Jia Li	AVIC Xi'an Flight Automatic Control Research Institute
Shiqi Che	Northwestern Polytechnical University
Qing Li	Tsinghua University
16:30-16:38	SunB10.6

830 *Target State Estimation of Integrated Flight/Fire Control System for Armed Helicopter*

Yehua Liu	Nanjing University of Aeronautics and Astronautics
Pengfei Zhai	Nanjing University of Aeronautics and Astronautics
Peng Xie	Nanjing University of Aeronautics and Astronautics
Yuxin Tian	Nanjing University of Aeronautics and Astronautics
Yuanlong Lei	Nanjing University of Aeronautics and Astronautics
Shouzhao Sheng	Nanjing University of Aeronautics and Astronautics
Huajun Gong	Nanjing University of Aeronautics and Astronautics
16:38-16:46	SunB10.7

1342 *Flight control law of direct lift control based on direct decoupling of crosslinking coefficient*

Liting Song	Naval Aviation University
Yang Zhang	Naval Academy
Xiaolei Qu	AVIC Shenyang Aircraft Design and Research Institute
Jie Wang	Naval Aviation University
Zhiyuan Yin	Naval Aviation University
Yi Zhou	Naval Academy
16:46-16:54	SunB10.8

1399 *Model-Free Adaptive Angular Rate Control for Carrier-Based Aircraft*

Yuchun Zou	Nanjing University of Aeronautics and Astronautics
Chenggong Tao	Nanjing University of Aeronautics and Astronautics
Jian Ding	Nanjing University of Aeronautics and Astronautics
Zhibin Yin	Nanjing University of Aeronautics and Astronautics
Ziyang Zhen	Nanjing University of Aeronautics and Astronautics
16:54-17:02	SunB10.9

549 *Fault Detection and Estimation for Drag-Free Satellite Actuator Based on Adaptive Sliding Mode Observer*

Jikun Yang	Yancheng Institute of Technology
Zhenkun Lu	Wenzhou University of Technology
Zhanxiu Wang	Yancheng Teachers University
Lei Wang	Yancheng Institute of Technology
Zhaofeng Chen	Yancheng Institute of Technology
Ziyao Cheng	Yancheng Institute of Technology
Zongming Li	Shandong Hongfeng Intelligent Equipment Co., Ltd.
17:02-17:10	SunB10.10

1706 *Formation flying and transfer orbit analysis for LISA*

Zhuo Li	Shanghai Institute of Satellite Engineering
Huixiang Ling	Shanghai Institute of Satellite Engineering
Tao Nie	Beijing Institute of Technology
Xiao Zhao	Shanghai Institute of Satellite

	Engineering
Qingzhong Gan	Shanghai Institute of Spaceflight Control Technology

17:10-17:18 SunB10.11

286 *Formation Modes Design and Application for Fixed-Wing UAV*

Ling Zuo	AVIC Xi'an Flight Automatic Control Research Institute
Lin Hou	AVIC Xi'an Flight Automatic Control Research Institute
Wei Qin	AVIC Xi'an Flight Automatic Control Research Institute
Xianglun Zhang	AVIC Xi'an Flight Automatic Control Research Institute
Sen Yang	AVIC Xi'an Flight Automatic Control Research Institute
Zhiyu Li	AVIC Xi'an Flight Automatic Control Research Institute

17:18-17:26 SunB10.12

367 *From Collaborative Flight to Task Collaboration: Researches and Tests on Multiple Small Fixed-wing UAVs*

Weiping Yang	AVIC Xi'an Flight Automatic Control Research Institute
Qiang Tang	AVIC Xi'an Flight Automatic Control Research Institute

17:26-17:34 SunB10.13

1112 *Federated Interactive Multiple Model Filtering for Multi-UAV Cooperative Target Tracking*

Haozhe He	Xi'an Modern Control Technology Research Institute
Jiawen Wang	Xi'an Modern Control Technology Research Institute
Shaoqi Wang	Xi'an Modern Control Technology Research Institute
Cong Nie	Xi'an Modern Control Technology Research Institute
Shichao Ma	AVIC Xi'an Flight Automatic Control Research Institute

17:34-17:42 SunB10.14

1124 *A Hierarchical and Modular Software Architecture for Task Collaboration of UAV Swarms*

Yukun Yang	AVIC Xi'an Flight Automatic Control Research Institute
Yazhou Yue	AVIC Xi'an Flight Automatic Control Research Institute
Qiang Tang	AVIC Xi'an Flight Automatic Control Research Institute
Xianglun Zhang	AVIC Xi'an Flight Automatic Control Research Institute
Hao Li	AVIC Xi'an Flight Automatic Control Research Institute
Shichao Ma	AVIC Xi'an Flight Automatic Control Research Institute
Zhiyu Li	AVIC Xi'an Flight Automatic Control Research Institute
Jiayun Wen	AVIC Xi'an Flight Automatic Control Research Institute

17:42-17:50 SunB10.15

1219 *UAVs formation obstacle avoidance method based on improved artificial potentials and virtual leaders*

Jiayun Wen	AVIC Xi'an Flight Automatic Control Research Institute
Qiang Tang	AVIC Xi'an Flight Automatic Control Research Institute
Xianglun Zhang	AVIC Xi'an Flight Automatic Control Research Institute
Hao Li	AVIC Xi'an Flight Automatic Control Research Institute
Yukun Yang	AVIC Xi'an Flight Automatic Control Research Institute
Shichao Ma	AVIC Xi'an Flight Automatic Control Research Institute
Zhiyu Li	AVIC Xi'an Flight Automatic Control Research Institute

SunB11 **3rd Floor Aisle**

Poster Session 2 **3 层廊厅**

Chairs: Xiaoshan Gao	Beihang University
Yuwei Zhang	Beihang University

15:50-17:50 SunB11.1

1348 *A Hierarchical Framework for Autonomous Air Combat Decision System*

Yunpeng Cai	Shenyang Aircraft Design and Research Institute
Lizheng Cao	Shenyang Aircraft Design and Research Institute
Hang Li	Beihang Univ.
Lingyu Yang	Beihang Univ.

15:50-17:50 SunB11.2

1351 *面向空中加油的两段式锥套位置解算方法研究*

Yu Wang	AVIC Shenyang Aircraft Design and Research Institute
Peng Qian	AVIC Shenyang Aircraft Design and Research Institute
Yunhe Xu	AVIC Shenyang Aircraft Design and Research Institute
Zheng Sun	AVIC Shenyang Aircraft Design and Research Institute

15:50-17:50 SunB11.3

1352 *Low-Thrust Collision Avoidance Maneuver Design Considering Square Mahalanobis Distance Constraint*

Mengdie Huang	Nanjing University of Aeronautics and Astronautics
Shuang Li	Nanjing University of Aeronautics and Astronautics

15:50-17:50 SunB11.4

1353 *An Algorithm of Global Trajectory Planning Based on Improved Rapid-exploring Random Tree for UAVs*

Hao Wang	Harbin Institute of Technology

Guoxing Yi	Harbin Institute of Technology
Yiran Chen	Harbin Institute of Technology
Zhennan Wei	Harbin Institute of Technology
Yu Cheng	Harbin Institute of Technology
Yisong Zhang	Harbin Institute of Technology
Ziyang Qi	Harbin Institute of Technology
15:50-17:50	SunB11.5

1359 *Velocity Free Workspace Trajectory Tracking Control of Free-floating Space Manipulator with Small Overshoot*

Hang Zhou	Shanghai Jiao Tong Univ.
Qiang Shen	Shanghai Jiao Tong Univ.
Shufan Wu	Shanghai Jiao Tong Univ.
Vladimir Yu. Razoumny	Peoples' Friendship Univ. of Russia
Yury N. Razoumny	Peoples' Friendship Univ. of Russia
15:50-17:50	SunB11.6

1360 *Flight-YOLO: A Small Objection Detection Algorithm from Unmanned Aerial Vehicle Perspective*

Yixuan Shi	Shanghai Univ.
Juntong Qi	Shanghai Univ.
Yan Peng	Shanghai Univ.
Yuan Ping	EFY Intelligent Control (Hainan) Technology
Chong Wu	EFY Intelligent Control (Hainan) Technology
Mingming Wan	Tianjin Univ.
15:50-17:50	SunB11.7

1362 *基于逆向强化模仿学习的自动驾驶决策方法研究*

Guochen Niu	Civil Aviation Univ. of China
Zhiheng Han	Civil Aviation Univ. of China
Hui Xia	Civil Aviation Univ. of China
15:50-17:50	SunB11.8

1364 *Anti-disturbance attitude control for hypersonic flight vehicles with electromechanical actuator dynamics*

Zhihui Wang	Beihang Univ.
Yu Wang	Beihang Univ.
Hao Teng	Beihang Univ.
Chenliang Wan	Beihang Univ.
Jianzhong Qiao	Beihang Univ.
15:50-17:50	SunB11.9

1366 *Online uncertainty analysis of aircraft disc brake pad wear considering thermo- mechanical coupling*

Bo Sun	Beihang Univ.
Leyang Zhou	Beihang Univ.
Zeyu Wu	Beihang Univ.
Junlin Pan	Beihang Univ.
Jiankun Xu	Beihang Univ.
Tongshu Lin	Beihang Univ.
Zechen Yi	Beihang Univ.
15:50-17:50	SunB11.10

1367 *Robust Lyapunov-Based Attitude Tracking Control Allocation Under Actuator Faults*

Junhao Hou	Shanghai Jiao Tong Univ.
Hongji Zhuang	Shanghai Jiao Tong Univ.
Qiang Shen	Shanghai Jiao Tong Univ.
15:50-17:50	SunB11.11

1368 *高动态下的多重模糊弱小目标复原方法*

Jindong Yuan	Nanjing University of Aeronautics and Astronautics
Junfeng Wu	Nanjing University of Aeronautics and Astronautics
Guohua Kang	Nanjing University of Aeronautics and Astronautics
15:50-17:50	SunB11.12

1371 *Event-triggered Spacecraft Formation Flying Control With Guaranteed Performance*

Tao Guan	Sichuan Univ.
Bin Li	Sichuan Univ.
Mingming Shi	Sichuan Univ.
15:50-17:50	SunB11.13

1372 *基于凸优化方法的高精度回归轨道最优控制*

Yanchao He	Chinese Academy of Space Technology
Lei Zhang	Chinese Academy of Space Technology
Yijun Yang	Chinese Academy of Space Technology
Qian Chen	Chinese Academy of Space Technology.
15:50-17:50	SunB11.14

1375 *A lightweight navigation landmarks detection method based on KDS R-CNN*

Bin Tang	Rocket Force Univ.
Xiaogang Yang	Rocket Force Univ.
Ruitao Lu	Rocket Force Univ.
Jiwei Fan	Rocket Force Univ.
Shuang Su	Rocket Force Univ.
Zhenyu Zhang	Rocket Force Univ.
Zhengjie Zhu	Rocket Force Univ.
Zhenhao Cheng	Rocket Force Univ.
15:50-17:50	SunB11.15

1376 *Heading disambiguation method based on polarization change*

Tao Zuo	Beijing Institute of Technology
Leilei Li	Beijing Institute of Technology
Kai Liu	Beijing System Design Institute of Electromechanical Engineering
Xia Wang	Beijing Institute of Technology
Jiamei Hao	Beijing Institute of Technology
Wenzhen Lv	Beijing Institute of Technology
15:50-17:50	SunB11.16

1377 *无人机协同控制技术及应用关键问题研究*

Hongzhong Ma	Hiwing Aviation General Equipment Co., Ltd
Wenjuan Wang	Hiwing Aviation General Equipment Co., Ltd

15:50-17:50 SunB11.17

1378 *A New Method of Missile Agile Turning Using Terminal Sliding Mode Control*

Shuai Xie — Beijing Institute of Technology
Yong Yu — Beijing Institute of Technology
Zheng Li — Beijing Institute of Technology
Jianqiao Yu — Beijing Institute of Technology

15:50-17:50 SunB11.18

1382 *A Real-Time Estimation Method for Magnetic Interference of Low-Altitude UAV Platforms*

Peng Gu — National Space Science Center Chinese Academy of Sciences
Dong Gao — National Space Science Center Chinese Academy of Sciences
Chunjiang Bian — National Space Science Center Chinese Academy of Sciences
Minghui Zhu — National Space Science Center Chinese Academy of Sciences Sciences
Yichen Wang — National Space Science Center Chinese Academy of Sciences

15:50-17:50 SunB11.19

1383 *Coordinated Control of Linear Multi-Agent Systems Based on Task Consensus in dynamic*

Xudong Ji — Beihang Univ.
Weiming Li — Beihang Univ.
Hongxing Wei — Beihang Univ.
Guo Wu — Beihang Univ.

15:50-17:50 SunB11.20

1385 *SURF improved brain-inspired navigation algorithm based on RatSLAM*

Yixin Liu — Beihang Univ.
Zhihao Zhang — Beihang Univ.
Lingling Wang — Beihang Univ.
K. A. Neusypin — Bauman Moscow State Technical Univ.
M. S. Selezneva — Bauman Moscow State Technical Univ.
Li Fu — Beihang Univ.

15:50-17:50 SunB11.21

1386 *A hybrid coverage control method based on geodesic sensing and Voronoi partitioning for UAVs exploration*

Junwu Li — Shanghai Jiao Tong Univ.
Chenggang Wang — Shanghai Jiao Tong Univ.
Bochen Li — Shanghai Jiao Tong Univ.
Lu Ding — Guangxi Univ.
Lei Song — Shanghai Jiao Tong Univ.
Dan Huang — Shanghai Jiao Tong Univ.

15:50-17:50 SunB11.22

1388 *Multi-source Adaptive Fusion Spatiotemporal Network for Traffic Emission Prediction*

Guoan Zhang — Univ. of Science and Technology of China
Yang Cao — Univ. of Science and Technology of China
Lihong Pei — Univ. of Science and Technology of China
Yu Kang — Univ. of Science and Technology of China

15:50-17:50 SunB11.23

1389 *一种改进 RT-DETR 的密集行人检测算法*

Guochen Niu — Civil Aviation Univ. of China
Chongjun Wei — Civil Aviation Univ. of China

15:50-17:50 SunB11.24

1392 *基于 CNN-SVM 的卫星导航干扰检测方法*

Xiangzong Wu — Nanjing University of Aeronautics and Astronautics
Rui Xu — Nanjing University of Aeronautics and Astronautics
Yingjie Huang — Nanjing University of Aeronautics and Astronautics
Zheyi Hu — Nanjing University of Aeronautics and Astronautics
Qinghua Zeng — Nanjing University of Aeronautics and Astronautics

15:50-17:50 SunB11.25

1393 *Misalignment fault diagnosis of bearings based on ECSE-VMD and Group-ConvNeXt*

Bohao Huang — Beihang Univ.
Nuo Zhao — China Institute of Nuclear Industry Strategy.
Jin Si — Beijing Institute of Control and Electronic Technology
Jiayue Fang — Beijing Institute of Control and Electronic Technology
Laifa Tao — Beihang Univ.

15:50-17:50 SunB11.26

1394 *Adaptive backstepping control of an airship attitude in hovering mode*

Zeyu Wang — Bauman Moscow State Technical Univ.
Ning Tang — Bauman Moscow State Technical Univ.
K.A. Neusypin — Bauman Moscow State Technical Univ.
M.S. Selezneva — Bauman Moscow State Technical Univ.
Li Fu — Beihang Univ.

15:50-17:50 SunB11.27

1395 *基于平面拟合的地面分割方法改进研究*

Guochen Niu — Civil Aviation Univ. of China
Zhengyan Yuan — Civil Aviation Univ. of China

15:50-17:50 SunB11.28

1397 *H∞ Bumpless Switching Tracking Control of Tilt-Rotor UAV Based on AED-ADT*

Xiaoqi Huang — Hohai Univ.
Dawei Wu — Hohai Univ.
Dongjie Zhao — Hohai Univ.
Bolin Wang — Hohai Univ.
A. W. Almebo — Hohai Univ.

15:50-17:50 SunB11.29

1401 *基于改进 CCM 算法的原子自旋惯性测量误差分析方法*

Haowen Tian	Beihang Univ.
Jiaming Xu	Beihang Univ.
Lihong Duan	Beihang Univ.
Wenfeng Fan	Beihang Univ.
Wei Quan	Beihang Univ.
15:50-17:50	SunB11.30

1403 *Interacting Multiple Guidance Model for Interceptor Intention Prediction*

Haichen Zhang	Beihang Univ.
Tengjie Zheng	Beihang Univ.
Shengping Gong	Beihang Univ.
Lin Cheng	Beihang Univ.
15:50-17:50	SunB11.31

1405 *A Multi-Constraint Saturated Acceleration Compensation Method for Pedestrian Inertial Navigation under High-Dynamic Gaits*

Zhidong Meng	Beijing Institute of Technology
Zhihong Deng	Beijing Institute of Technology
Lijuan Wang	Beijing Institute of Aerospace Control Devices
Zhe Li	Beijing Institute of Technology
Ping Zhang	Beijing Institute of Technology
15:50-17:50	SunB11.32

1408 *LQR Based Gust Load Alleviation for a Blended-wing-body Aircraft*

CongJie Yang	Shanghai Jiao Tong Univ.
Shiqian Liu	Shanghai Jiao Tong Univ.
Jingzhou Dai Ruan	Shanghai Jiao Tong Univ.
Qian Zhang	Shanghai Jiao Tong Univ.
Lianyu Guo	Shanghai Jiao Tong Univ.
Han Chen	Shanghai Jiao Tong Univ.
Yunxing Meng	Shanghai Jiao Tong Univ.
15:50-17:50	SunB11.33

1410 *Neural Network Adaptive Control Enhanced by Meta-Learning-Based Feature Extraction for Hypersonic Vehicles*

Chaoran Qu,	Beihang Univ.
Lin Cheng	Beihang Univ.
Shengping Gong	Beihang Univ.
15:50-17:50	SunB11.34

1414 *Distributed Observer-based Formation of Discrete-time LTI Systems*

Wei Xu	Nanjing Univ.
Xiaoling Wang	Nanjing Univ.
Wen Yang	East China Univ. of Science and Technology
Housheng Su	Huazhong Univ. of Science and Technology
15:50-17:50	SunB11.35

1415 *Nonparametric Online Learning for Aircraft Residual Dynamics Driven by Noisy Observations*

Tengjie Zhen	Beihang Univ.
Lin Cheng	Beihang Univ.
Shengping Gong	Beihang Univ.
15:50-17:50	SunB11.36

1416 *Three-dimensional Generalized Nominal Effort Miss Guidance Law in Endo-atmosphere Boost Phase*

Jiacheng Deng	Beihang Univ.
Wanchun Chen	Beihang Univ.
Xuehe Zheng	Defense Technology Academy of China Aerospace Science & Industry Corporation
Shilei Zhao	Beijing Institute Of Control And Electronic Technology
Peng Zeng	Beijing Institute of Electronic System Engineering,
Chao Wang	Beijing Institute of Electronic System Engineering
Liang Yang	Beihang Univ.
15:50-17:50	SunB11.37

1417 *Robust Incremental Learning of Approximate Dynamic Programming for Nonlinear Terminal Guidance*

Han Wang	Beihang Univ.
Lin Cheng	Beihang Univ.
Shengping Gong	Beihang Univ.
15:50-17:50	SunB11.38

1418 *Reinforcement Learning-Incremental Nonlinear Dynamic Inversion Based Intelligent Fault-tolerant Control*

Qian Zhang	Shanghai Jiao Tong Univ.
Shiqian Liu	Shanghai Jiao Tong Univ.
Weizhi Lyu	Shanghai Jiao Tong Univ.
Congjie Yang	Shanghai Jiao Tong Univ.
Jingzhou Dai Ruan	Shanghai Jiao Tong Univ.
Han Chen	Shanghai Jiao Tong Univ.
15:50-17:50	SunB11.39

1420 *Simulation Study of AGCAS Based on Digital Terrain Elevation Data*

Fuxiang Qiao	AVIC Xi'an Flight Automatic Control Research Institute
Chen Zhou	AVIC Xi'an Flight Automatic Control Research Institute
Dandan Tang	AVIC Xi'an Flight Automatic Control Research Institute
Jiahang Lai	AVIC Xi'an Flight Automatic Control Research Institute
Wenqian Zhang	AVIC Xi'an Flight Automatic Control Research Institute
15:50-17:50	SunB11.40

1421 *Reinforcement Learning-Based Optimal Pursuit Strategy against Satellite Group*

He Ren	Beihang Univ.
Rui Zhong	Beihang Univ.
15:50-17:50	SunB11.41

1423 *基于神经网络控制器的无人机安全降落算法*

Shaopeng Yi	Beijing Institute of Technology
Wei Dong	Beijing Institute of Technology
Weilin Wang	Beijing Institute of Technology
Chunyan Wang	Beijing Institute of Technology
Jianan Wang	Beijing Institute of Technology

15:50-17:50 SunB11.42

1431 *Autopilot Stabilization Analysis of Reentry Vehicle with Elastic Vibration*

Yusang Hu — Beijing Institute of Control Engineering
Beijing Institute of Technology
Junhui Liu

15:50-17:50 SunB11.43

1432 *基于视觉的无人自主空中加油流程研究*

Yiwen Hu — AVIC Chengdu Aircraft Design and Research Institute
Bo Ma — AVIC Chengdu Aircraft Design and Research Institute
Tuo Gou — AVIC Chengdu Aircraft Design and Research Institute
Rui Wang — AVIC Chengdu Aircraft Design and Research Institute
Tian Yin — AVIC Chengdu Aircraft Design and Research Institute

15:50-17:50 SunB11.44

1433 *Anti-disturbance Control for Aerial-Recovery Drogue with Flexible Prescribed Performance*

Junfan Zhu — Beihang Univ.
Honglun Wang — Beihang Univ.
Yanxiang Wang — Beihang Univ.
Yiheng Liu — Beijing Institute of Astronautical System Engineering

15:50-17:50 SunB11.45

1441 *Multi-mode Computation Method for Target Orbit Reachable Set of Launch Vehicle Abort Mission*

Haifeng Hu — Beihang Univ.
Zeming Hao — Beijing Aerospace Automatic Control Institute
Cong Wang — Beihang Univ.
Ran Zhang — Beijing Aerospace Automatic Control Institute

15:50-17:50 SunB11.46

1445 *多弹协同打击空中目标制导技术研究*

Wenshuai Fan — Northwestern Polytechnical Univ.
Rui Pan — Xi'an Modern Control Technology Research Institute,
Guicai Fang — Aerospace-Technology-Institute-of-CARDC
Yi Luo
Yonghua Fan — Northwestern Polytechnical Univ.
Northwestern Polytechnical Univ.

15:50-17:50 SunB11.47

1446 *Attitude Control for the Chinese Satellite-to-satellite Tracking Gravimetry System*

Qirui Liu — Beijing Institute of Control Engineering
Yiwu Liu — Beijing Institute of Control Engineering
Bin Guan — Beijing Institute of Control Engineering

15:50-17:50 SunB11.48

1448 *一种线性时变模型预测控制算法*

Guochen Niu — Civil Aviation Univ. of China
Tian Chen — Civil Aviation Univ. of China
Chongjun Wei — Civil Aviation Univ. of China

15:50-17:50 SunB11.49

1451 *Comparison of Simplified Dynamics Models for Powered Descent Guidance Problem*

Xinglun Chen — Beihang Univ.
Ran Zhang — Beihang Univ.
Huifeng Li — Beihang Univ.

15:50-17:50 SunB11.50

1452 *Research of Key Technologies for Cooperative Navigation of Unmanned swarm in Satellite Denial Environments*

Ruoning Wang — National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Hongli Zhou — National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Hongchun Li — National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Wenxing Fu — National Key Laboratory of Complex System Control and Intelligent Agent Cooperation

15:50-17:50 SunB11.51

1453 *Predefined-Time Disturbance Observer based Hit-to-Kill Guidance Law*

Chengyu Zhao — Dalian Univ. of Technology
Feng Yang — Dalian Univ. of Technology
Ziheng Cheng — Dalian Univ. of Technology

15:50-17:50 SunB11.52

1455 *Research on the Architecture of Distributed Hardware-in-the-loop Simulation System Based on RTX*

Ciyu Ji — China North Industries Group Corporation Limited Aviation Ammunition Institute
Yangyang Zhao — China North Industries Group Corporation Limited Aviation Ammunition Institute
Jinyu Bao — China North Industries Group Corporation Limited Aviation Ammunition Institute
Changwei Mi — China North Industries Group Corporation Limited Aviation Ammunition Institute
Wentao Fan — China North Industries Group Corporation Limited Aviation Ammunition Institute

15:50-17:50 SunB11.53

1456 *Research on Method of Enhanced Aero Engine Control for Emergency Operating Based on the Relaxation of Limit protection parameter*

Sirui Pan — Civil Aviation Univ. of China
Wei Wang — Civil Aviation Univ. of China

15:50-17:50 SunB11.54

1457 *Nonlinear Model Predictive Control Deployed*

on Embedded Platform for a Small Unmanned Helicopter

Ding Xu	South China Univ. of Technology
Hailong Pei	South China Univ. of Technology
15:50-17:50	SunB11.55

1458 *A Scenario Generation Method for Newly-built PV Plants Based on Transfer Learning*

Mingyu Ke	Southeast Univ.
Wenwu Yu	Southeast Univ.
Hongzhe Liu	Southeast Univ.
Zeci Chen	Southeast Univ.
15:50-17:50	SunB11.56

1460 *基于全柔性建模的舵面液压伺服控制分析方法研究*

Zhenyu Liu	AVIC Shenyang Aircraft Design and Research Institute
Xiaohua Bi	AVIC Shenyang Aircraft Design and Research Institute
Lei Zhang	AVIC Shenyang Aircraft Design and Research Institute
Zehua Ge	AVIC Shenyang Aircraft Design and Research Institute
Tianyu Zhang	AVIC Shenyang Aircraft Design and Research Institute
15:50-17:50	SunB11.57

1462 *Learning to Navigate under Unified Scene Style*

Xinru Cui	Shanghai Jiao Tong Univ.
Zhe Liu	Shanghai Jiao Tong Univ.
Yue Gao	Shanghai Jiao Tong Univ.
15:50-17:50	SunB11.58

1463 *Trajectory Prediction and Cooperative Interception Strategy for Maneuverable Hypersonic Target*

Kaize Yu	Beihang Univ.
Xiaosong Li	China Academy of Launch Vehicle Technology
Jianglong Yu	Beihang Univ.
ChunwangJiang	China Academy of Launch Vehicle Technology
Qingke Tan	China Academy of Launch Vehicle Technology
Yanyan Wang	China Academy of Launch Vehicle Technology
15:50-17:50	SunB11.59

1469 *面向民机可视导航的场面多尺度目标检测*

Xuerui Zhang	Civil Aviation Univ. of China
Qijun Luo	Civil Aviation Univ. of China
Yong Chen	Commercial Aircraft Corporation of China
Kelin Zhong	Commercial Aircraft Corporation of China
Tao Zhang	Civil Aviation Univ. of China
15:50-17:50	SunB11.60

1470 *空间引力波探测惯性传感器静电反馈控制系统设计*

Qianyun Zhang	Shanghai Jiao Tong Univ.
Shufan Wu	Shanghai Jiao Tong Univ.
Xiaoyun Sun	Shanghai Jiao Tong Univ.
15:50-17:50	SunB11.61

1509 *The Method of Aircraft Strapdown Inertial Navigation Calibration Based on PSO-LSTM Network*

Wenyuan Cong	Ningbo Institute of Materials Technology and Engineering
Fengrui Xu	Ningbo Institute of Materials Technology and Engineering
Feifan Yu	Ningbo Institute of Materials Technology and Engineering
Xinmin Chen	Ningbo Institute of Materials Technology and Engineering
Yue Lin	Ningbo Institute of Materials Technology and Engineering
15:50-17:50	SunB11.62

1474 *Fault-tolerant orbit and attitude control for satellite formation with leader-following configuration*

Liming Fan	Beijing Institute of Spacecraft System Engineering
Qiang Zhang	Beijing Institute of Spacecraft System Engineering
Guangde Xu	Beijing Institute of Spacecraft System Engineering
Zongbo He	Beijing Institute of Spacecraft System Engineering
Mingyang Zhang	Beijing Institute of Spacecraft System Engineering
15:50-17:50	SunB11.63

1475 *Suitability Analysis of Scene Matching Navigation Based on Multiscale Co-Occurrence Matrices*

Nan Liu	AVIC Xi'AN Flight Automatic Control Research Institute
Xiaodong Zhang	AVIC Xi'AN Flight Automatic Control Research Institute
Qi Zhou	AVIC Xi'AN Flight Automatic Control Research Institute
Huaxia Wang	Taiyuan University of Science and Technology
15:50-17:50	SunB11.64

1477 *Robust Fusion of Multi-Spacecraft Observations for Non-Cooperative Target State Estimation*

Yiming Fang	Beijing University of Posts and Telecommunications
Xiangtian Zhao	Beijing University of Posts and Telecommunications
Mugen Peng	Beijing University of Posts and Telecommunications
Yafei Zhao	Beijing University of Posts and Telecommunications
Guangrong Lin	Yinhe Hangtian Technology (Shanghai) Co., Ltd.
15:50-17:50	SunB11.65

1479 *基于 Hp 自适应伪谱法的飞机速度矢量控制优化*

LingWei Kong	Beihang University
WeiQi Li	Beihang University

15:50-17:50	SunB11.66

***1482** Adaptive Micro-step Unscented Kalman Filter based on Sigma Points Symmetry*

Aiping Wang	Beihang University
Hai Zhang	Beihang University
Hongliang Huang	Beihang University

15:50-17:50	SunB11.67

***1486** Research on Fuzzing of Autonomous Driving Systems*

Pengcheng Wang	Beihang University
Simiao Gao	Beihang University
Zhonghao Li	Beihang University

15:50-17:50	SunB11.68

***1487** Research on the influence of tactical evolution on operational effectiveness of agents*

Quanlin Qi	AVIC Xi'AN Flight Automatic Control Research Institute
Pengbo Wu	AVIC Xi'AN Flight Automatic Control Research Institute
Weijia Wang	AVIC Xi'AN Flight Automatic Control Research Institute
Jie Chen	AVIC Xi'AN Flight Automatic Control Research Institute

15:50-17:50	SunB11.69

***1488** A Modular Transferable Network for Visual Navigation in Unstructured Environments*

Nanxi Chen	Shanghai Jiao Tong University
Zhe Liu	Shanghai Jiao Tong University
Tangwen Yin	Shanghai Jiao Tong University

15:50-17:50	SunB11.70

***1489** Evolutionary Game-based Decision Making for UAV Air Combat Manoeuvres*

Lei Sun	Nanjing University of Aeronautics and Astronautics
Yuhui Wang	Nanjing University of Aeronautics and Astronautics
Tongle Zhou	Nanjing University of Aeronautics and Astronautics
Zengliang Han	Nanjing University of Aeronautics and Astronautics

15:50-17:50	SunB11.71

***1493** Spatio-Temporal Flight Tube Planning for Launch Vehicle Debris Avoidance*

Kang Guo	Beihang University
Yuan Zhang	Beihang University
Huifeng Li	Beihang University

15:50-17:50	SunB11.72

***1496** 附加钟速约束的卫星实时钟差估计方法*

Hui Li	Harbin Engineering University
Wenzhen Peng	Harbin Engineering University
Xue Liu	Harbin Engineering University
Lihong Mo	Harbin Engineering University

15:50-17:50	SunB11.73

***1497** Research on Time-Coordinated Strategy for UAV Swarm Cooperative Attack on Multiple Ground-Moving Targets*

Zihui Yan	Air Force Engineering University
Xiaolong Liang	Air Force Engineering University
Yueqi Hou	Air Force Engineering University
Aiwu Yang	Air Force Engineering University
Aoyu Zheng	Air Force Engineering University

15:50-17:50	SunB11.74

***1498** Fault diagnosis of satellite power system based on Improved single-parameter decision-theoretic rough set and SVM for hybrid data*

Yanchen Dong	Beihang University
Nuo Zhao	China institute of nuclear strategy
Jingyi Xing	Beihang University
Ke Ma	Beihang University
Mingliang Suo	Beihang University

15:50-17:50	SunB11.75

***1502** A Method for Accurate Setting of Missile Working Time Sequence Benchmark*

Kun Zhang	Xi'an Modern Control Technology Research Institute
Bin Han	Xi'an Modern Control Technology Research Institute
Yining Yang	Xi'an Modern Control Technology Research Institute
Yue Jiang	Xi'an Modern Control Technology Research Institute
Ming Liu	Shaanxi Normal University
Shichao Ma	AVIC Xi'an Flight Automatic Control Research Institute

15:50-17:50	SunB11.76

***1504** Application of YOLOv5 in SAR image ship target detection*

Tao Zhang	Southeast University
He Wang	Southeast University
Wenwu Yu	Southeast University

15:50-17:50	SunB11.77

***1506** Cooperative Guidance Law with Variable Velocity for Impact Time and Angle Control*

Mengke Zhao	Tsinghua University
Ruiqing Wu	Unit 91776 of PLA
Heng Shi	Tsinghua University
Huijie Dong	Unit 91776 of PLA
Luhua Yang	Tsinghua University
Zhiqiang Cheng	Maritime Security Research Center

15:50-17:50	SunB11.78

***1507** 一种基于 PID 控制的动态队列限制算法*

Yuntao Wang	Southeast University
Wenwu Yu	Southeast University
Zeci Chen	Southeast University
Haofei Meng	Southeast University

15:50-17:50	SunB11.79

***1508** A Collaborative Control Method for Spacecraft Clusters Based on Multi agent Reinforcement Learning*

Xi Liang	Harbin Institute of Technology
Cheng Wei	Harbin Institute of Technology
Jianbo Zhao	Beijing Institute of Astronautical

Peng Wang	Systems Engineering Beijing Institute of Astronautical Systems Engineering
Zihao Cheng	Beijing Institute of Astronautical Systems Engineering
15:50-17:50	SunB11.80

***1510** Mars Aero-Ballistic Capture*

Zongfu Luo	Sun Yat-sen University
Chuankai Zhou	Sun Yat-sen University
15:50-17:50	SunB11.81

***1511** Image Captioning Based on Scene Graph Optimization*

Zi Wang	Southeast University
He Wang	Southeast University
Huazhou Hou	Purple Mountain Laboratories
Wenwu Yu	Southeast University
15:50-17:50	SunB11.82

***1512** A Review of Multi-UAV Collaboration in Adversarial Environments Based on Deep Reinforcement Learning*

Yuting Liu	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Hang Zhang	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Hongyin Zhao	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
15:50-17:50	SunB11.83

***1513** Direct Lift Control Landing of Carrier-based Aircraft Based on Preview Control*

Jie Wang	Naval Aviation University
Yang Zhang	Naval Aviation University
Ziyang Zhen	Nanjing University of Aeronautics and Astronautics
Liting Song	Naval Aviation University
15:50-17:50	SunB11.84

***1514** 一种资源受限下的联邦学习优化方法*

Xiaoyu Wang	Southeast University
Wenwu Yu	Southeast University
Zeci Chen	Southeast University
Haofei Meng	Southeast University
15:50-17:50	SunB11.85

***1515** UAV Swarm based on Intelligence Avoidance Scheme*

Jie Zhang	Nanjing University of Aeronautics and Astronautics
Menghua Zhou	Nanjing University of Aeronautics and Astronautics
Hanlin Sheng	Nanjing University of Aeronautics and Astronautics
15:50-17:50	SunB11.86

***1517** A Translation Method from SAR Images to Optical Images*

Zhenpo Tian	National Key Laboratory of Science and Technology on Aerospace Intelligent Control
Wen Ju	National Key Laboratory of Science and Technology on Aerospace Intelligent Control
Yuecheng Liu	National Key Laboratory of Science and Technology on Aerospace Intelligent Control
15:50-17:50	SunB11.87

***1518** Research Review on Path Planning for Multi-UAVs Cooperative Search*

Hongyin Zhao	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Hang Zhang	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Yuting Liu	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
Weixue Li	National Key Laboratory of Complex System Control and Intelligent Agent Cooperation
15:50-17:50	SunB11.88

***1519** Analysis of the current development status of overseas maritime search and rescue systems*

Huaiyi Guan	Naval Engineering University
Jun Fu	Naval Engineering University
Hongwei Wei	Naval Engineering University
Bao Li	Naval Engineering University
Pengfei Jiang	Naval Engineering University
Deying Yu	Naval Engineering University
15:50-17:50	SunB11.89

***1522** Drone-based Multi-object Tracking Combining Camera Motion Information and Single Object Tracking*

Bohui Fang	Northwestern Polytechnical University
Weiyu Shao	Northwestern Polytechnical University
Yuhang Zheng	Northwestern Polytechnical University
Tao Yang	Northwestern Polytechnical University
15:50-17:50	SunB11.90

***1523** Hierarchical Leader-Follower Control Consistency Analysis*

Weihan Li	Harbin Engineering University
Yingying Zhang	Harbin Engineering University
Zhi Zhang	Harbin Engineering University
Man Zhou	Harbin Engineering University
15:50-17:50	SunB11.91

***1525** Experimental Performance Evaluation of Porous Transducer-Based Liquid Circular Angular Accelerometers*

Simai Wang	Beijing Institute of Technology
Meiling Wang	Beijing Institute of Technology
Kexuan Zhai	Beijing Institute of Technology
Maoqi Ran	Beijing Institute of Technology

Chaoyang Zhai	Beijing Institute of Technology
15:50-17:50	SunB11.92

1526 *On-Orbit Mass Property Identification Algorithm Based on Manipulator-Driven Electric Thruster and Least Squares Method*

Yulong Shen	Beihang University
Lei Jin	Beihang University
Fei Pan	Shanghai Aerospace Control Technology Institute
Xiaotong Zhang	Shanghai Aerospace Control Technology Institute
15:50-17:50	SunB11.93

1529 *A Multi-Agent Reinforcement Learning Framework for Coordinated Multi-UAV Interception Strategies*

Hong Chen	Guangxi University
Bochen Li	Shanghai Jiao Tong University
Chenggang Wang	Shanghai Jiao Tong University
Lu Ding	Guangxi University
Lei Song	Shanghai Jiao Tong University
15:50-17:50	SunB11.94

1534 *基于误差状态消息传递的新型多传感器融合方法*

Jun Xiong	Nanjing University of Posts and Telecommunications
Xiang-peng Xie	Nanjing University of Posts and Telecommunications
Zhi Xiong	Nanjing University of Aeronautics and Astronautics
Yuan Zhuang	Wuhan University
15:50-17:50	SunB11.95

1536 *基于双流特征提取网络的车路协同感知方法*

Guochen Niu	Civil Aviation University of China
Xiangyu Sun	Civil Aviation University of China
Zhengyan Yuan	Civil Aviation University of China
15:50-17:50	SunB11.96

1539 *Troubleshooting Decision-making Method Using Reinforcement Learning Approach*

Qiang Zhang	Beijing Institute of Control Engineering
Limei Tian	Beijing Institute of Control Engineering
Baoding Liu	Beihang University
Yingguang Wang	Beijing Institute of Control Engineering
Jiyang hang	Beijing Institute of Control Engineering
Ming Lu	Beijing Institute of Control Engineering
Yuewei Hu	Beijing Institute of Control Engineering
Weiheng Zhao	Beijing Institute of Control Engineering
Nuo Su	Beijing Institute of Control Engineering
15:50-17:50	SunB11.97

1540 *基于软件无线电的蜂群无人机通信系统设计*

Zhinan Liu	AVIC Shenyang Aircraft Design Research Institute
Weichen Wang	Xi'an Technological University
Xiaoning Ma	AVIC Shenyang Aircraft Design Research Institute
Haoran Gong	AVIC Shenyang Aircraft Design Research Institute
15:50-17:50	SunB11.98

1541 *罗兰 C 接收机前端滤波方法研究*

Dahai Zhao	AVIC Shenyang Aircraft Design and Research Institute
Hao Wu	Xi'an Technological University
Huifeng shi	AVIC Shenyang Aircraft Design and Research Institute
Xiaoning Ma	AVIC Shenyang Aircraft Design and Research Institute
15:50-17:50	SunB11.99

1542 *旋翼飞行器自主决策与航路规划技术综述*

Fulong Jing	AVIC Shenyang Aircraft Design and Research Institute
Jinrong Li	Xidian University
Xiaoning Ma	AVIC Shenyang Aircraft Design and Research Institute
Lin Li	AVIC Shenyang Aircraft Design and Research Institute
15:50-17:50	SunB11.100

1545 *Robust close formation flight control based on vector fields*

Ruiping Zheng	Northwestern Polytechnical University
Qi Zhu	Northwestern Polytechnical University
Yongxi Lyu	Northwestern Polytechnical University
Jingping Shi	Northwestern Polytechnical University
15:50-17:50	SunB11.101

1550 *面向装备论证的体系仿真关键技术*

Wenyu Niu	Aviation Industry Corporation of China
Jiaqiang Zhu	Aviation Industry Corporation of China
Jing He	Aviation Industry Corporation of China
15:50-17:50	SunB11.102

1554 *Specified Impact Time Guidance Law against A Stationary Target with Wind Disturbance*

Yikun Yang	Beihang University
Jianglong Yu	Beihang University
Xiaoduo Li	Beihang University
Xiwang Dong	Beihang University
15:50-17:50	SunB11.103

1559 *基于能量爬升的空天飞行器两级入轨分离点优化研究*

Xiaole Yin	Nanjing University of Aeronautics and Astronautics
Boyi Chen	Nanjing University of Aeronautics and Astronautics
Hao Lei	Jiangsu Institute of Metrology

Yanbin Liu	Nanjing University of Aeronautics and Astronautics
15:50-17:50	SunB11.104

1560 *飞行器姿态控制永磁电机控制器热场分析*

Zhichao Tian	AVIC Qingan Group Co., Ltd
15:50-17:50	SunB11.105

1561 *基于ANSYS Maxwell 的旋转变压器接线故障模式分析*

Feng Liu	AVIC Qingan Group Co., Ltd
Bo Wang	AVIC Qingan Group Co., Ltd
Yue Xia	AVIC Qingan Group Co., Ltd
Wenjing Cui	AVIC Qingan Group Co., Ltd
15:50-17:50	SunB11.106

1565 *导叶控制装置线位移传感器输出异常故障研究*

Peng Xia	AVIC Qingan Group Co., Ltd
15:50-17:50	SunB11.107

1567 *A comprehensive review of target tracking control for UAV formation*

Hao Yu	Naval Aviation University
Xiuxia Yang	Naval Aviation University
Yi Zhang	Naval Aviation University
Zijie Jiang	Naval Aviation University
15:50-17:50	SunB11.108

1574 *Efficient Path Planning for UAV Formation Using Dubins Paths*

Jiazhan Gao	Xinjiang University
Minchi Kuang	Xinjiang University
Heng Shi	Tsinghua University
Xiaming Yuan	Tsinghua University
Jihong Zhu	Xinjiang University
Zhi Qiao	Tsinghua University
15:50-17:50	SunB11.109

1576 *The Dual-Antenna Moving Base North Finding Technique with Baseline and Attitude Constraints*

Qi Zhou	AVIC Xi'an Flight Automatic Control Research Institute
Guangen Gao	AVIC Xi'an Flight Automatic Control Research Institute
Kai Cheng	AVIC Xi'an Flight Automatic Control Research Institute
Jie Huang	AVIC Xi'an Flight Automatic Control Research Institute
15:50-17:50	SunB11.110

1577 *利用准逆轨拦截提升对机动目标的引战配合效率*

Dongyang Fang	Shanghai Electro-Mechanical Engineering Institute
Junlong Bao	Shanghai Electro-Mechanical Engineering Institute
15:50-17:50	SunB11.111

1582 *Design and working modal analysis of a rotary actuator system with hydraulic mutually exclusive function for main and standby valve-controlled motor*

Bing Han	AVIC Qingan Group Co., Ltd
Minxiang Chen	AVIC Qingan Group Co., Ltd
15:50-17:50	SunB11.112

1585 *The Mechanism and Conception of Collaborative Application of Foreign UAV Swarm*

Mingqiu Ren	Air Force Early Warning Academy
Bingqie Wang	Air Force Early Warning Academy
Yongxin Zhang	Air Force Early Warning Academy
15:50-17:50	SunB11.113

1589 *The analysis of influencing factors on geophysical field matching*

Shengwu Zhao	Beijing Institute of Technology
Wenzhe Zhang	Beijing Institute of Technology
Yu Wang	Beijing Institute of Technology
Zhihong Deng	Beijing Institute of Technology
15:50-17:50	SunB11.114

1593 *Spin Dynamics Simulation and Analysis with Improving Hybrid Kalviste Decomposing Method*

Lianghui Tu	Nanchang Hangkong University
Zhenwen Li	Nanchang Hangkong University
Ziliang Xie	Nanchang Hangkong University
Jian Fu	Nanchang Hangkong University
Chao Yan	Nanchang Hangkong University
15:50-17:50	SunB11.115

1596 *Simulation Modeling of Aircraft Virtual Maintenance System Based on Petri Nets*

Qingxia Qin	Civil Aviation University of China
Yu Wang	Beijing Aircraft Maintenance Engineering Co., Ltd
Xihua Ma	HNA Aviation Technology Co., Ltd
15:50-17:50	SunB11.116

1598 *Rapid Prediction Method of Impact Point for Spin Inertial Reentry under The Boundary-Layer Transition*

Shaoyue He	Beijing Institute of Technology
Qixin Ma	Beijing Mechanical and Electrical Engineering Institute
Qiang Li	Beijing Institute of Space long march vehicle
Qiuqiu Wen	Beijing Institute of Technology
Fei Peng	Science and Technology on Near-Surface Detection Laboratory
15:50-17:50	SunB11.117

1600 *Online Calibration Method for Missile-borne MEMS Gyroscopes assisted by Three-axis Geomagnetic Sensors*

Wenchao Mu	Nanjing University of Science and Technology
Fangxiu Jia	Nanjing University of Science and Technology
15:50-17:50	SunB11.118

1601 *High stability and precision sliding mode robust control of two-axis inertial stabilization platform*

Suwan Bu	Beihang University
Liang Yan	Beihang University
Nannan Du	Beihang University

Xinghua He	Beihang University
15:50-17:50	SunB11.119

1608 *基于改进人工蜂群算法的地下空间空地协同探测传感器优化配置*

Rongyi Bai	Nanjing University of Aeronautics and Astronautics
Mou Chen	Nanjing University of Aeronautics and Astronautics
Tongle Zhou	Nanjing University of Aeronautics and Astronautics
Kenan Yong	Nanjing University of Aeronautics and Astronautics
15:50-17:50	SunB11.120

1473 *Optimization Method for Lunar Navigation Satellite Constellation Targeting South Pole*

Shuo Yang	Beihang University
Rui Zhong	Beihang University
15:50-17:50	SunB11.121

1563 *Experimental Investigations on the Movement Performance of Hydraulic Actuation System of the Thrust Reverser Device*

Yangtao Tian	AVIC Qingan Group Co., Ltd
Kai Zhao	AVIC Qingan Group Co., Ltd
Yangyang Xu	AVIC Qingan Group Co., Ltd
15:50-17:50	SunB11.122

1613 *Angular–Momentum Management of Electromagnetic Satellite Formation*

Yingying Song	Nanjing Univ. of Science and Technology
Qingrui Zhou	Qian Xuesen Laboratory of Space Technology
Qingwei Chen	Nanjing Univ. of Science and Technology
JingDong Diao	Qian Xuesen Laboratory of Space Technology
15:50-17:50	SunB11.123

1614 *Multidisciplinary Design Optimization of Air and Space Aircraft Based on 3D CST Approach*

Hua Su	Northwestern Polytechnical Univ.
Qi Liu	Northwestern Polytechnical Univ.
Songyu Liu	Northwestern Polytechnical Univ.
Chunlin Gong	Northwestern Polytechnical Univ.
15:50-17:50	SunB11.124

1620 *A Simultaneous Navigation and Calibration Method Based on Underwater Beacon Array with Random Locations*

Ge Zhang	Harbin Institute of Technology
Guoxing Yi	Harbin Institute of Technology
Zhennan Wei	Harbin Institute of Technology
Hao Wang	Harbin Institute of Technology
Ziyang Qi	Harbin Institute of Technology
15:50-17:50	SunB11.125

1622 *Space-Time Cooperative Guidance Method Based on Differential Game with Finite-Time Convergence*

Zhan Chen	Northwestern Polytechnical Univ.
Wenxing Fu	Northwestern Polytechnical Univ.
Mengjing Gao	Northwestern Polytechnical Univ.
Ruitao Zhang	Northwestern Polytechnical Univ.
Yangwang Fang	Northwestern Polytechnical Univ.
15:50-17:50	SunB11.126

1623 *基于强化学习的履带式无人车导航路径跟踪控制*

Zhigang Ren	China Agricultural Univ.
Jian Chen	China Agricultural Univ.
Xing Mao	Ministry of Agriculture and Rural Affairs
Ni Ren	Ministry of Agriculture and Rural Affairs
15:50-17:50	SunB11.127

1625 *Source-free One-shot Infrared Video Object Segmentation Based on the Segment Anything Model*

Jiaqi Chen	Northwestern Polytechnical Univ.
Dingwen Zhang	Northwestern Polytechnical Univ.
Weinan Zhao	Northwestern Polytechnical Univ.
Lei Li	Beijing Electro-Mechanical Engineering Institute
Jun Ren	Beijing Electro-Mechanical Engineering Institute
Hang Qi	Beijing Electro-Mechanical Engineering Institute
Ruitao Lu	Rocket Force University of Engineering
Junwei Han	Northwestern Polytechnical Univ.
15:50-17:50	SunB11.128

1629 *Transformer based visual inertial odometry*

Sicheng Fei	Northwestern Polytechnical Univ.
Jingfeng Li	Northwestern Polytechnical Univ.
Lei Li	Beijing Electro-Mechanical Engineering Institute
Jie Liang	Beijing Electro-Mechanical Engineering Institute
Jinwen Hu	Northwestern Polytechnical Univ.
Dingwen Zhang	Northwestern Polytechnical Univ.
Junwei Han	Northwestern Polytechnical Univ.
15:50-17:50	SunB11.129

1630 *Fault Diagnosis of the Satellite with Limited Unlabeled Data through Deep Domain Adaptation*

Xurui Bao	Beihang Univ.
Hua Song	Beihang Univ.
15:50-17:50	SunB11.130

1635 *Risk Assessment and Analysis of the Marine Environment for Ice Navigation in the Arctic Sea Routes*

Xiaoting Yu	CSSC Marine Technology Co.,Ltd
Wenjing Shi	CSSC Marine Technology Co.,Ltd
Qingzhe Wang	CSSC Marine Technology Co.,Ltd
Ying Yao	CSSC Marine Technology Co.,Ltd
Xiaoyong Bai	CSSC Marine Technology Co.,Ltd
Xun Gong	CSSC Marine Technology Co.,Ltd
15:50-17:50	SunB11.131

1637 *An Architecture Design and Modeling Method for*

Equipment System

Changcheng Wang	AVIC Shenyang Aircraft Design and Research Institute
Xianmin Zhao	AVIC Shenyang Aircraft Design and Research Institute
Shaoqing Zhang	AVIC Shenyang Aircraft Design and Research Institute
15:50-17:50	SunB11.132

1641 *Pipeline Robot Collaborative Control System Based on TD3 Algorithm and Fuzzy-PID*

Jingmei Jian	Beihang Univ.
Hua Song	Beihang Univ.
15:50-17:50	SunB11.133

1642 *Bathymetric SLAM Approach Using Multibeam Sonar Toward Polar Region*

Zhaonan Jiao	Beijing Institute of Technology
Xinshuo Chen	Beijing Institute of Technology
Shengwu Zhao	Beijing Institute of Technology
Zhihong Deng	Beijing Institute of Technology
15:50-17:50	SunB11.134

1643 *ORCO-SLAM: Object Recognition for Neural SLAM in dynamic scenes*

Xinrui Chen	Harbin Institute of Technology
Ping Ma	Harbin Institute of Technology
Junxi Tian	Harbin Institute of Technology
Tao Chao	Harbin Institute of Technology
15:50-17:50	SunB11.135

1644 *Construction of echo signal model of multi-beam sounding sonar with polar characteristics*

Zhongxue Fan	Chinese Academy of Sciences
Shuwen Wang	Chinese Academy of Sciences
Xiaodong Liu	Chinese Academy of Sciences
Jinliang Cao	Chinese Academy of Sciences
Hui Xu	Chinese Academy of Sciences
ChengeWang	Chinese Academy of Sciences
15:50-17:50	SunB11.136

1645 *Research on the Control Strategy of Six-Degree-of-Freedom Manipulator Based on Linear Interpolation Programming*

Jineng Ouyang	Naval University. of Engineering
Zijian Liu	Chinese People's Liberation Army Unit 92001
Hua Ouyang	Naval University. of Engineering
Zhouxing Shen	Naval University. of Engineering
15:50-17:50	SunB11.137

1648 *Trajectory Planning Method of Fixed-Wing Drones for Multi-Phase Cruise Missions*

Guanjun Wang	Sun Yat-sen University
Hongbo Chen	Sun Yat-sen University
Zhenwei Ma	Sun Yat-sen University
15:50-17:50	SunB11.138

1654 *On aero engine component level identification modeling method based on Hammerstein system*

Guoren Zong	Civil Aviation Univ. of China
Kun Yang	Civil Aviation Univ. of China
15:50-17:50	SunB11.139

1655 *Game-based formation control with collision avoidance for on-orbit assembly*

Yuan Chai	Beijing Institue of Control Engineering
Renjian Hao	Beijing Institue of Control Engineering
15:50-17:50	SunB11.140

1656 *Design and Control of the Flame-Retardant Drone Launch Robot*

Weiyi Zheng	Beihang Univ.
Zhenyun Shi	Beihang Univ.
Chenyue Bu	Beihang Univ.
15:50-17:50	SunB11.141

1657 *Using Glyph Lexicon Enhancing BERT Character Representation for Chinese Named Entity Recognition*

Renze Liu	Huazhong Univ. of Science and Technology
Hongtao Zhou	Huazhong Univ. of Science and Technology
Housheng Su	Huazhong Univ. of Science and Technology
15:50-17:50	SunB11.142

1658 *Design of a Carrier-Landing Command Training System with Automatic Instruction Response Capability*

Jihao Zhang	Nanjing University of Aeronautics and Astronautics
Yikun Chen	Nanjing University of Aeronautics and Astronautics
Cheng Chen	AVIC Aviation Simulation System Co.,Ltd.
Songyi Ding	AVIC Aviation Simulation System Co.,Ltd.
Luping Zhang	AVIC Aviation Simulation System Co.,Ltd.
15:50-17:50	SunB11.143

1659 *Longitudinal Transition Analysis and Control of a Tilt-Body VTOL Aircraft*

Jinhao Lou	Beihang Univ.
Longfei Zhao	Beihang Univ.
Ke Li	Beihang Univ.
Xiancheng Zhong	State Grid Qinghai Electric Power Co.,Ltd.
Yaoxing Shang	Beihang Univ.
Zongxia Jiao	Beihang Univ.
15:50-17:50	SunB11.144

1663 *A Robust Solution to Narrow-band Vibration Noise and Magnetic Distortion of DC Motor for Low Cost UAV*

ChenZhenduo Xu	Harbin Institute of Technology
Junxi Tian	Harbin Institute of Technology
Xu Wen	Harbin Institute of Technology
Tao Chao	Harbin Institute of Technology
15:50-17:50	SunB11.145

1664 *Collaborative task allocation of multiple AGVs based on improved discrete pigeon-inspired optimization*

Zhaobo Li	Beihang Univ.
Shuanglei Sun	Beijing Specialized Machinery Institute
15:50-17:50	SunB11.146

1665 *The Method for Selecting Adaptation Zones of Terrain Matching Based on Arctic Seabed Terrain Features*

Qingzhe Wang	CSSC marine technology company
Xun Gong	CSSC marine technology company
Xiaoyong Bai	CSSC marine technology company
Zhihong Deng	Beijing Institute of Technology
Shengwu Zhao	Beijing Institute of Technology
15:50-17:50	SunB11.147

1667 *Exploration and Validation of the Integrated Trajectory Optimization Method for Intelligent Missiles*

Songyu Liu	Northwestern Polytechnical Univ.
Hua Su	Northwestern Polytechnical Univ.
Licong Zhang	Northwestern Polytechnical Univ.
Junmin Zhao	Xi'an Modern Control Technology Research Institute
Chunlin Gong	Northwestern Polytechnical Univ.
15:50-17:50	SunB11.148

1668 *Direction of Arrival Measurement using UWB Antenna Array*

Huanting Ye	South China Univ. of Technology
Hailong Pei	South China Univ. of Technology
15:50-17:50	SunB11.149

1669 *Adaptive Parameter Updating Method for Electromechanical Actuators Driving motors Based on Back Electromotive Force Estimation*

Cun Shi	Beihang Univ.
Shutong Zhao	Beihang Univ.
Xiying Chen	Beijing Institute of Precision Electromechanical Control
Shaoping Wang	Beihang Univ.
Di Liu	Beihang Univ.
15:50-17:50	SunB11.150

1670 *Safety Assessment for Flight Control System Architecture with Abstract Logical Modelling*

Ruichen He	Beihang Univ.
François Pouzolz	Airbus Defense and Space
Florian Holzapfel	Technical University of Munich
Shuguang Zhang	Beihang Univ.
15:50-17:50	SunB11.151

1672 *The Design and Analysis of a High-Temperature, Low-Speed,High-Touqe Motor*

Wengjing Cui	QinganGroup Co.,Ltd.
Bo Wang	QinganGroup Co.,Ltd.
Feng Liu	QinganGroup Co.,Ltd.
15:50-17:50	SunB11.152

1674 *Research on indoor rescue navigation and positioning system based on combined point and line feature binocular visual SLAM*

Peng Zhuo	Nanjing Univ. of Aeronautics and Astronautics
Qinghua Zeng	Nanjing Univ. of Aeronautics and Astronautics
Ziqi Jin	Nanjing Univ. of Aeronautics and Astronautics
Yineng Li	Nanjing Univ. of Aeronautics and Astronautics
Bowen Li	Nanjing Univ. of Aeronautics and Astronautics
Hanyi Wang	Nanjing Univ. of Aeronautics and Astronautics
15:50-17:50	SunB11.153

1683 *Research On Flight Guidance Technique For Sector Search Based On Auxiliary Waypoint*

Tianyu Huang	AVIC Xi'An Flight Automatic Control Research Institute
Guorong Shi	Naval Equipment Department
Guoda Cheng	AVIC Xi'An Flight Automatic Control Research Institute
Xu Liang	AVIC Xi'An Flight Automatic Control Research Institute
15:50-17:50	SunB11.154

1692 *Improved SLAM Algorithm Based on Point-Line Fusion for Low-Texture Scenes*

Chang Zhang	Beihang Univ.
Jing Yang	Beihang Univ.
15:50-17:50	SunB11.155

1693 *Multidisciplinary Design Optimization T-KMGA a Two-Stage Approach for Collaborative Task Allocation with Air-Sea Heterogeneous Autonomous Unmanned Systems*

Xinyu Chen	Shanghai Univ.
Juntong Qi	Shanghai Univ.
Yan Peng	Shanghai Univ.
Yuan Ping	EFY Intelligent Control (Hainan) Technology Co., Ltd.
Chong Wu	EFY Intelligent Control (Hainan) Technology Co., Ltd.
Mingming Wang	Tianjin Univ.
15:50-17:50	SunB11.156

1697 *Prediction of Advanced Fighter's Spin Characteristics Based on Enhanced Bifurcation Analysis*

Yuhao Wang	Nanchang Hangkong Univ.
Lianghui Tu	Nanchang Hangkong Univ.
Jiaqi Shen	Nanchang Hangkong Univ.
Jian Fu	Nanchang Hangkong Univ.
15:50-17:50	SunB11.157

0516 *Path planning of UAVs based on Multi-strategy improved dung beetle optimization algorithm*

Yong Liang	Naval Aviation Univ.
Shi Yan	Naval Aviation Univ.
Bing Wan	Naval Aviation Univ.
Hu Gezhi	Naval Aviation Univ.

15:50-17:50 SunB11.158

1330 *The relative positioning algorithm for aerial refueling based on contour matching*

Hongwei Wei	Chinese Flight Test Establishment
Yunxia Li	Chengdu Aircraft Design and Research Institute, AVIC

15:50-17:50 SunB11.159

1702 *Research on the multi-aircraft cooperative autonomous maneuver decision method for confrontation with a powerful enemy*

Fu Zhu	Northwestern Polytechnic Univ.
Jiayin Hou	Northwestern Polytechnic Univ.
Chong Sun	Northwestern Polytechnic Univ.
Zhanxia Zhu	Northwestern Polytechnic Univ.
Dali Ding	Air Force Engineering Univ.
Wenya Wan	Xi'an Univ. of Technology

15:50-17:50 SunB11.160

1703 *A Fine-Grained Management and Scheduling System for Artificial Intelligence Computing Resources*

Chao Wang	Inspur Group Co., Ltd.
Xi Chen	Inspur Group Co., Ltd.
Qingshan Chen	Ieit Systems Co., Ltd.
Shaohua Wu	Ieit Systems Co., Ltd.

15:50-17:50 SunB11.161

1704 *Secure Cooperative Guidance with Impact Angle Coordination and Obstacle Avoidance*

Pengfei Shi	Beihang Univ.
Piaoyi Su	Beihang Univ.
Zhexin Shi	Beihang Univ.
Jianglong Yu	Beihang Univ.
Xiwang Dong	Beihang Univ.
Zhang Ren	Beihang Univ.
Qingke Tan	China Academy of Launch Vehicle Technology
Rui Lv	China Academy of Launch Vehicle Technology
Zhuo Liang	China Academy of Launch Vehicle Technology

15:50-17:50 SunB11.162

1709 *A Non-contact Attitude and Position Measurement System Developed for Wind Tunnel Free Flight Test*

Litao Fan	China Aerodynamics Research and Development Center
Nie Bowen	China Aerodynamics Research and Development Center
Tianhao Guo	China Aerodynamics Research and Development Center
Zhonghua Liu	China Aerodynamics Research and Development Center
Yu He	China Aerodynamics Research and Development Center

15:50-17:50 SunB11.163

1714 *Research on tracking and recognition of dim target in Complicated Sea State*

Liu Tianyi	Dalian Naval Academy
Liu Yang	Dalian Naval Academy
Chen Wenjin	Dalian Naval Academy
Huang Qian	Dalian Naval Academy

15:50-17:50 SunB11.164

1715 *Development trends and Key Tecnologies of Next Genaretion Flight Management System*

Leibin Yang	AVIC Xi'an Flight Automatic Control Research Institute
Mingdong Qi	AVIC Xi'an Flight Automatic Control Research Institute
Ze Zhang	AVIC Xi'an Flight Automatic Control Research Institute

15:50-17:50 SunB11.165

1718 *A Raft Consensus Algorithm Modiffcation for Adapting Frequent Leader Switch in Multi-Agent Swarm Robotics Applications*

Yingao Zhang	The Information Science Academy of China Electronics Technology Group Corporation
Gen Cui	The Information Science Academy of China Electronics Technology Group Corporation
Weishun Sui	The Information Science Academy of China Electronics Technology Group Corporation

15:50-17:50 SunB11.166

1719 *PSO-based System Identification on Cement Vertical Mill System Using Real-world Data*

Yanxin Xu	Nanjing Univ. of Aeronautics and Astronautics
Yang Xu	Nanjing Univ. of Aeronautics and Astronautics
Cheng Min	Nanjing Univ. of Aeronautics and Astronautics
Jing Zhu	Nanjing Univ. of Aeronautics and Astronautics

15:50-17:50 SunB11.167

1726 *UAV Decision-making in Air Combat Based on SD3 Algorithm and Trajectory Prediction*

Wenxiao Jin	Nanjing Univ. of Aeronautics and Astronautics
Tongle Zhou	Nanjing Univ. of Aeronautics and Astronautics
Mou Chen	Nanjing Univ. of Aeronautics and Astronautics
Haojie Zhu	Nanjing Univ. of Aeronautics and Astronautics

15:50-17:50 SunB11.168

1728 *Comparison of Kernel Functions in Generalized Mestimation using Fixed-Point Iteration*

Shoupeng Li	Nankai Univ.

Shihui Xu	Nankai Univ.
Xiaoqin Jin	Nankai Univ.
Panlong Tan	Nankai Univ.
15:50-17:50	SunB11.169

1729 *Fault-tolerant Control for 8-wheel Distributed Electric Drive Vehicle*

Jie Jiao	Beijing Specialized Machinery Institute
Lin Yan	Shandong Univ. of Science and Technology
Jinghang Wang	Beijing Specialized Machinery Institute
Sanjun Duan	Beijing Specialized Machinery Institute
Jinsong Zhao	Beijing Univ. of Aeronautics and Astronautics
15:50-17:50	SunB11.170

1731 *Multiple UAVs Collaborative Dense Map Construction and Map Fusion*

Chenqi Gao	Northwestern Polytechnical Univ.
Yifei Lei	Northwestern Polytechnical Univ.
Jinwen Hu	Northwestern Polytechnical Univ.
Zhao Xu	Northwestern Polytechnical Univ.
Junwei Han	Northwestern Polytechnical Univ.
Yanyu Su	Northwestern Polytechnical Univ.
Kexin Pang	Northwestern Polytechnical Univ.
15:50-17:50	SunB11.171

1735 *Review of Gesture Recognition based on Somatosensory Interaction*

Hengjing Liu	Univ. of Jinan
Jin Cheng	Univ. of Jinan
Guoxing Chang	Univ. of Jinan
15:50-17:50	SunB11.172

1736 *Spacecraft attitude determination based on combination of FLAE algorithm and UKF*

Yizhuo Zhu	Henan Univ. of Technology
Hui-Juan Zhang	Beijing Institute of Technology
Miaoxin Ji	Henan University of Technology
Hanguang Mi	Beijing Aerospace Automatic Control Institute
Yuan-Jin Yu	Beijing Institute of Technology
15:50-17:50	SunB11.173

1739 *Control Barrier Function based Model Predictive Control to Safety Obstacle-Avoidance of Autonomous Manned Mobile Robots*

Qingji Gao	Civil Aviation Univ. of China
Junhu Feng	Civil Aviation Univ. of China
Gaowei Zhang	Civil Aviation Univ. of China
Wenbo Cao	Civil Aviation Univ. of China
15:50-17:50	SunB11.174

1751 *Modeling and Analysis of Short-Wing Quadplane UAVs*

Hao Sha	Beihang Univ.
Xinquan Chen	Beihang Univ.
Quan Quan	Beihang Univ.
15:50-17:50	SunB11.175

1753 *Composite Anti-Disturbance Particle Filtering via an IMM-type Disturbance Predictor"*

Qijun Li	92942 Army
Wenshuo Li	Beihang Univ.
Jianwei Xu	China State Shipbuilding Corporation Limited
Wengong Meng	China State Shipbuilding Corporation Limited
15:50-17:50	SunB11.176

1756 *大数据、人工智能与系统健康管理”本科生通识课程教学创新实践探索*

Yujie Cheng	Beihang Univ.
Chen Lu	Beihang Univ.
Jian Ma	Beihang Univ.
Laifa Tao	Beihang Univ.
Hongmei Liu	Beihang Univ.
Yu Ding	Beihang Univ.
Mingliang Suo	Beihang Univ.
15:50-17:50	SunB11.177

1543 *Distributed bearing-constrained formation control of unmanned aerial vehicle swarms via orientation estimation*

Xiangyu Tang	Beihang Univ.
Ruining Liang	Beihang Univ.
Jianglong Yu	Beihang Univ.
Xiangyu Yang	Science and Technology on Complex System Control and Intelligent Agent Cooperation Laboratory
Xiwang Dong	Beihang Univ.
Zhang Ren	Beihang Univ.
15:50-17:50	SunB11.178

1612 *Research on Polar Navigation Problem of North-Seeking Strapdown Inertial Navigation System*

Xinshuo Chen	Beihang Univ.
Zhaonan Jiao	Beihang Univ.
Shengwu Zhao	Beihang Univ.
Zhihong Deng	Beihang Univ.



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