Yongxia Shi

Curriculum Vitae

https://scholar.google.com/citations?user=5JmZJ9QAAAAJ\&hl=en

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Education

09/2016–present **Beihang University**, Ph.D. in Navigation, Guidance and Control.
Advisor: Prof. Qinglei Hu (Associate Fellow of AIAA)
Areas of study:
- Spacecraft formation flying control
- Event-triggered control

12/2020–11/2021 **Delft University of Technology**, Visiting Ph.D. student.
Advisor: Associate Prof. Manuel Mazo JR.
Areas of study:
- Multi-agent coordination control
- Adaptive dynamic programming

09/2012–06/2016 **Qingdao University**, B.Eng. in Automation.

Research Interests

Research interests include spacecraft formation flying control, distributed control of multi-agent systems, event-triggered control and adaptive dynamic programming, optimal control, etc.

Publications

[1] **Yongxia Shi**, Qinglei Hu, Dongyu Li, and Maolong Lv, "Adaptive optimal tracking control for spacecraft formation flying with event-triggered input," ***IEEE Transactions on Industrial Informatics***, 2022, accepted.

[2] **Yongxia Shi**, Qinglei Hu, Xiaodong Shao, and Yang Shi, "Adaptive neural coordinated control for multiple Euler-Lagrange systems with periodic event-triggered sampling," ***IEEE Transactions on Neural Networks and Learning Systems***, 2022. DOI: 10.1109/TNNLS.2022.3153077

[3] **Yongxia Shi** and Qinglei Hu, "Event-driven connectivity-preserving coordinated control for multiple spacecraft systems with a distance-dependent dynamic graph," ***IEEE Transactions on Cybernetics***, 2021. DOI: 10.1109/TCYB.2021.3072139

[4] **Yongxia Shi** and Qinglei Hu, "Observer-based spacecraft formation coordinated control via a unified event-triggered communication," ***IEEE Transactions on Aerospace and Electronic Systems***, vol. 51, no. 7, pp.3307-3319, 2021.

[5] Qinglei Hu, **Yongxia Shi**, and Chenliang Wang, "Event-based formation coordinated control for multiple spacecraft under communication constraints," ***IEEE Transactions on Systems, Man, and Cybernetics: Systems***, vol. 51, no. 5, pp. 3168 - 3179, 2021.

[6] Qinglei Hu and **Yongxia Shi**, "Event-based coordinated control of spacecraft formation flying under limited communication," ***Nonlinear Dynamics***, vol. 99, no. 3, pp. 2139-2159, 2020.

[7] Qinglei Hu, **Yongxia Shi**, and Xiaodong Shao, "Adaptive fault-tolerant attitude control for satellite reorientation under input saturation," ***Aerospace Science and Technology***, vol. 78, pp. 171-182, 2018.

[8] **Yongxia Shi**, Qinglei Hu, Chenliang Wang and Xiaodong Shao, "Distributed coordinated control of spacecraft formation flying under limited resources," in 12th Asian Control Conference, Fukuoka, Japan, 2019.

[9] **Yongxia Shi** and Qinglei Hu, "Distributed Attitude coordination control for multiple flexible spacecraft with communication delays," in 38th Chinese Control Conference, Guangzhou, China, 2019.

[10] **Yongxia Shi**, Qinglei Hu and Guo Lei, "Attitude maneuver of spacecraft with angular velocity constraint," in 2018 IEEE CSAA Guidance, Navigation and Control Conference, Xiamen, China, 2018.

Research Experience

05/2020–05/2021 Research on spacecraft formation flying event-triggered control under resource constraints

Project director

Founded by Academic Excellence Foundation of BUAA for PhD Students

- Event-triggered communication mechanisms selection
- Coordination control schemes design under uncertainties and disturbances

Since 01/2019 Research on intelligent autonomous relative navigation and control of non-cooperative maneuvering targets in space

Graduate research student

Founded by National Natural Science Foundation of China

- Complex disturbances analysis and motion constraints description
- Attitude-orbit coupling modeling under multi-source disturbances

Honors and Scholarships

2020 **National Scholarship for Postgraduate**, Ministry of Education, P. R. China

2018 **Outstanding Contribution in Reviewing**, ISA Transactions

Outstanding Contribution in Reviewing, Aerospace Science and Technology

2018/2021/2022 **Outstanding Paper Award**, Beihang University

Social Activities

Reviewer IEE Transactions on Intelligent Transportation Systems

IEEE Internet of Things Journal

Aerospace Science and Technology

Acta Astronautica

ISA Transactions

Chinese Journal of Aeronautics, etc.