

DOCS2022 Invited Session Proposal

Title: Data-driven Control of Complex Networked Systems and Its Applications

Organizers: Prof. Yuezhu Lv, Beijing Institute of Technology, Email: yzlv@bit.edu.cn

Prof. Jialing Zhou, Nanjing University of Science and Technology, Email: jialingz@njust.edu.cn

Prof. Guanghui Wen, Southeast University, Email: ghwen@seu.edu.cn

Prof. Tingwen Huang, Texas A&M University at Qatar, Email: tingwen.huang@qatar.tamu.edu

Description: As a type of intelligent systems, the complex networked systems has attracted worldwide attention during the past decade. The distributed control and optimization of networked systems have broad application prospects in unmanned vehicles, satellite formation, sensor networks, smart grid, and intelligent transportation, and have received significant attention by the scientific community involving several diverse fields and many application domains. As the development of artificial intelligence, some advanced intelligent control techniques have been developed. Among these methods, the data-driven control is a model-free technique, which can be widely used in the field of engineering. The main focus of this special session will be on novel control approaches and the applications of networked systems. The objective of this invited session is to provide a platform for researchers to exchange new ideas and methods and discuss challenging problems on the following related topics:

- Data-driven control of complex networked systems
- Distributed control of networked systems
- Event-triggering control of complex networked systems
- Robust control of networked systems
- Adaptive control of networked systems
- Security control of networked systems
- Deep learning of networked systems
- Reinforcement learning control of networked systems
- Applications of networked control systems