Safe and robust control of autonomous systems under uncertainties and disturbances

CALL FOR PAPERS

With the rapid advancement of artificial intelligence, robotics, and autonomous control technologies, autonomous systems have been widely deployed in intelligent transportation, unmanned equipment, and multi-agent coordination. However, model uncertainties, external disturbances, and multiple safety constraints in complex and dynamic environments pose serious challenges to the safety, robustness, and reliable operation of autonomous systems. Effectively coping with uncertainties and external disturbances while ensuring safe operation and improving control performance has thus become a key research topic in the field of autonomous system control.

This invited session is intended to expedite the publication of novel and significant research results, technological advancements, and conceptual breakthroughs in the field of safe and robust control for autonomous systems under uncertainties and disturbances. We invite the submission of high-quality papers related to recent advances in these emerging topics, including but not limited to the following:

- ❇ Robust and adaptive control
- ❇ Disturbance observation and rejection
- ❇ Control barrier functions
- ❇ Safety-critical control
- ❇ Robust model predictive control
- ❇ Learning-based control with formal safety guarantees
- ❇ Coordination optimization of safety, robustness, and performance
- ❇ Applications to autonomous vehicles, robots, and networked multi-agent systems

If you would like to know more about the topic, please contact Prof. Jie Lian by email: **jielian@dlut.edu.cn**