

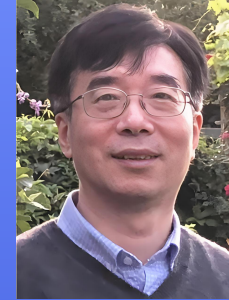
报告题目: Byzantine-Resilient Distributed State Estimation Over Sensor Networks: A Trimmed-Mean-Based Approach

报 告 人: 王子栋 院士, 布鲁内尔大学

报告时间: 2026年8月14日 10:00-11:30

报告地点: 学科3号楼N301会议室

主 持 人: 李涛 院长



报告摘要: This talk is concerned with the distributed set-membership state estimation problem over sensor networks under the Byzantine attack, where adversaries share fake information to disrupt the estimation process. A data processing method, based on the notion of the trimmed mean, is established for local estimators to manage information received from neighbors. It is proven that the designed estimation method consistently limits estimation errors to a relatively low level, regardless of the specific attack signals, thereby achieving the desired Byzantine resilience. Furthermore, state estimator gains are developed to optimize estimation accuracy. Improvements to reduce computational complexity are also proposed to facilitate the practical implementation of the developed method. Finally, numerical simulations are conducted to verify the effectiveness of the proposed approach.

报告人简介:

王子栋, 现任英国伦敦Brunel University讲席教授, 欧洲科学院院士, 欧洲科学与艺术院院士, IEEE Fellow, International Journal of Systems Science主编, Neurocomputing主编。多年来从事控制理论、机器学习、生物信息学等方面研究, 在SCI刊物上发表国际论文七百余篇。现任或曾任十二种国际刊物的主编、副编辑或编委。曾任旅英华人自动化及计算机协会主席、东华大学国家级领军人才、清华大学国家级专家。

