



# 南京信息工程大学

NANJING UNIVERSITY OF INFORMATION SCIENCE & TECHNOLOGY



## 自动化·智慧讲堂

### 2024年 第 11 期

#### NETWORKED STATE ESTIMATION UNDER RELAYING MECHANISMS: CHALLENGES AND PROGRESS

报告人 王子栋 教授

主持人 郑柏超 教授

## 王子栋

现任英国伦敦BRUNEL UNIVERSITY讲席欧洲  
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。

#### ABSTRACT:

IN THIS PRESENTATION, WE  
TALK ABOUT THE STATE ESTIMATION  
PROBLEM FOR NETWORKED STOCHASTIC  
SYSTEMS. SOME BACKGROUND KNOWLEDGE  
IS FIRST INTRODUCED ON COMMUNICATION  
RELAYS FROM THE PERSPECTIVES OF CONCEPTS,  
APPLICATIONS AND CHALLENGES. THEN, SOME DETAILED  
DISCUSSIONS ARE GIVEN ON THE RELAY-BASED STATE  
ESTIMATION ISSUES WITH NETWORK CONSTRAINTS, SYSTEM  
CONSTRAINTS AND PROTOCOL CONSTRAINTS, AND A FEW  
METHODOLOGIES FOR HANDLING THESE CONSTRAINTS ARE DISCUSSED.  
THE IMPACTS FROM SOME COMMONLY DEPLOYED RELAY MECHANISMS  
(E.G. AMPLIFY-AND-FORWARD, DECODE-AND-FORWARD, FILTERING-AND-  
FORWARD) ON THE ESTIMATION PERFORMANCE ARE THOROUGHLY  
INVESTIGATED, AND SOME RECENT RESULTS ARE PRESENTED. FINALLY,  
WE CONCLUDE OUR MAIN CONTRIBUTIONS AND SOME FUTURE  
DIRECTIONS.

时间: 2024年7月8日 (周一) AM 9:00

地点: 南京信息工程大学 图书馆724报告厅