

Department of Systems Engineering and Engineering Management

Seminar Series

Performance Analysis and Optimal Design of Control Systems

Prof. Junlin Xiong

University of Science and Technology of China

Date	24 April 2014 (Thursday)
Time	10:30am (Tea/Coffee service at 10:15am)
Venue	B6605, 6/F, AC1

Abstract

In this talk, we will first introduce the modelling of dynamical control systems, then review some classical results for control systems analysis and design, and finally move on to some current research results. Dynamical systems are general used to model the evolution of practical quantities along time according to some rules. The most common rules are given by differential equations. Apart from the evolution rule, a dynamical control system has a control input and a measurement output. The objective of control systems analysis and design is to design the control input so that the output behaves as desired. A well-designed control system needs to meet the stability requirement and some other performance criteria such as optimality and robustness. In this talk, we will present some classical analysis and design results on optimal control, robust control, and fault-tolerant control of linear dynamical control systems. Finally, some recent research results will be discussed briefly.

About the Speaker

Junlin Xiong received his BEng. and MSci. degrees from Northeastern University, China, and his PhD degree from the University of Hong Kong, Hong Kong, in 2000, 2003 and 2007, respectively. From November 2007 to February 2010, he was a research associate at the University of New South Wales at the Australian Defence Force Academy, Australia. In March 2010, he joined the

University of Science and Technology of China where he is currently a professor in the Department of Automation. His current research interests are in the fields of control theory and its application.

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All are Welcome!

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