THE UNIVERSITY  OF HONG KONG

Institute of Mathematical Research

Department of Mathematics

C O L L O Q U I U M

Limitation of a Sampled-data Feedback Control

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Abstract

Feedback, a basic concept in adaptive control, is used primarily for reducing the effects of various uncertainties on the desired performance of dynamical control systems. Thus, a fundamental problem in adaptive control is to understand the maximum capability and limitation of adaptive feedback. In this talk, we will introduce some basic ideas developed in this direction, and present a recent quantitative result for a typical nonlinear uncertain sampled-data feedback control systems, that is, if the sampling rate is larger than the inverse of the "slope" of the uncertain nonlinear function multiplied by a constant, then there exists no sampled-data control which can globally stabilize the prescribed class of uncertain nonlinear systems.

Date:	March 24, 2006 (Friday)
Time:	4:00 – 5:00pm
Place:	Room 517, Meng Wah Complex

Tea will be held in Room 516, Meng Wah Complex at 3:40pm

All are welcome