

SEMINAR NOTICE

Department of Electrical and Systems Engineering

LECTURE 1

Robust Stabilization via Measured State Feedback

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9:30 - 11:00 a.m.

Rebstock Hall 322

Abstract: Geometric methods are instrumental in understanding the internal structure of a system: fundamental, in this respect, are certain special (normal) forms in which the model of a nonlinear system can be expressed. The main feature of these normal forms is that they allow recursive feedback design to the purpose of achieving either global stability, or stability with a guaranteed region of attraction.

Outline

1. Normal Forms and Zero Dynamics
2. Global Stabilization via State Feedback
3. Semiglobal and Practical Stabilization via State Feedback
4. Uniform Observability
5. Observer Design
6. A Non-robust Separation Principle
7. A Robust Separation Principle
8. Roadblocks and Open Problems

The Annual Zaborszky Lecture Series was created in 1990 to honor the founder and first chairman of the Department of Systems Science and Mathematics Professor John Zaborszky. Each year a distinguished scholar is invited to present a series of three lectures in his field of expertise.