

SEMINAR NOTICE

Department of Electrical and Systems Engineering

LECTURE 2

Asymptotic Tracking and Disturbance Rejection

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8:30 - 10:00 a.m.

Bryan Hall, Room 305

Abstract: Fundamental, in this respect, is the notion of steady state response of a nonlinear system. This notion, which utilizes an enhanced version of the concept of limit set, provides a natural tool for the extension to nonlinear systems of a very classical notion in linear feedback design. Forcing a prescribed steady-state response in given nonlinear system is cast as a problem of robust stability of an augmented system in which the exogenous inputs are themselves part of the model.

Outline

1. Limit Sets
2. Steady State Behavior
3. Steady State Response
4. The Generalized Servomechanism Problem
5. Robust and Adaptive Regulation of Linear Systems
6. The Nonlinear Internal Model Principle
7. Nonlinear Observers as Internal Models
8. Robust Output Regulation for Nonlinear Systems
9. 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.