Robust Control for Nonlinear Time Delay Systems: A Comprehensive Guide



Robust Control for Nonlinear Time-Delay Systems

★★★★★ 5 out of 5

Language : English

File size : 28045 KB

Text-to-Speech : Enabled

Screen Reader : Supported

Enhanced typesetting : Enabled

Word Wise : Enabled

Print length : 312 pages



Nonlinear time-delay systems are a class of systems that are characterized by the presence of both nonlinearity and time delays. These systems are ubiquitous in many real-world applications, and include systems such as electrical circuits, mechanical systems, biological systems, and chemical processes. The control of nonlinear time-delay systems is a challenging task, due to the presence of both nonlinearity and time delays, which can lead to stability issues, performance degradation, and even instability.

Robust control is a well-established approach to the control of uncertain systems, and can be used to design controllers that are insensitive to uncertainties in the system model. Robust control has been successfully applied to a wide range of systems, including nonlinear time-delay systems. This book provides a comprehensive guide to the robust control of nonlinear time-delay systems.

The book begins with a review of the basic concepts of robust control, including stability analysis, performance assessment, and controller design. The book then introduces the concept of time delays in linear systems, and discusses the different types of time delays that can occur in nonlinear systems. The book then develops a number of robust control techniques for nonlinear time-delay systems.

The book is written in a clear and concise style, and includes a number of examples and exercises to illustrate the concepts presented in the book. The book is an essential resource for researchers, engineers, and graduate students working in the field of robust control.

Key Features

- Provides a comprehensive overview of the theory and applications of robust control for nonlinear time-delay systems.
- Develops a number of novel robust control techniques for nonlinear time-delay systems.
- Includes a number of examples and exercises to illustrate the concepts presented in the book.
- Written in a clear and concise style, making it easy to understand even for beginners.

Audience

This book is intended for researchers, engineers, and graduate students working in the field of robust control. The book is also suitable for use as a textbook for a graduate course on robust control.

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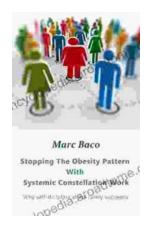
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