

<<控制论的数学问题>>

图书基本信息

书名：<<控制论的数学问题>>

13位ISBN编号：9789810246945

10位ISBN编号：9810246943

出版时间：2001-12

出版商：World Scientific Pub Co Inc

作者：Leonov, Gennady A.

页数：172

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

<<控制论的数学问题>>

内容概要

This book shows clearly how the study of concrete control systems has motivated the development of the mathematical tools needed for solving such problems. In many cases, by using this apparatus, far-reaching generalizations have been made, and its further development will have an important effect on many fields of mathematics. In the book a way is demonstrated in which the study of the Watt flyball governor has given rise to the theory of stability of motion. The criteria of controllability, observability, and stabilization are stated. Analysis is made of dynamical systems, which describe an autopilot, spacecraft orientation system, controllers of a synchronous electric machine, and phase-locked loops. The Aizerman and Brockett problems are discussed and an introduction to the theory of discrete control systems is given.

<<控制论的数学问题>>

书籍目录

Preface Chapter 1 The Watt governor and the mathematical theory of stability of motion 1.1 The Watt flyball governor and its modifications 1.2 The Hermite--Mikhailov criterion 1.3 Theorem on stability by the linear approximation 1.4 The Watt governor transient processes Chapter 2 Linear electric circuits. Transfer functions and frequency responses of linear blocks 2.1 Description of linear blocks 2.2 Transfer functions and frequency responses of linear blocks Chapter 3 Controllability, observability, stabilization 3.1 Controllability 3.2 Observability 3.3 A special form of the systems with controllable pair (A, b) 3.4 Stabilization. The Nyquist criterion . 3.5 The time-varying stabilization. The Brockett problem Chapter 4 Two-dimensional control systems. Phase portraits 4.1 An autopilot and spacecraft orientation system 4.2 A synchronous electric machine control and phase locked loops 4.3 The mathematical theory of populations Chapter 5 Discrete systems Chapter 6 The Aizerman conjecture. The Popov method Bibliography Index

<<控制论的数学问题>>

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>