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Automatic Control Systems

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Abstract

This book presents general problems of Automatic Control Theory as a base of aircraft control systems research and design. It consists of two parts: Continuous Control Systems and Digital Control Systems.

Problems of mathematical modeling, stability, accuracy, synthesis, etc. both for continuous and digital control systems are included. For this purpose the time- and frequency-domain approaches are utilized. Some design and compensation methods of the dynamic systems are presented. In spite of the wide known issues related to these problems there are few complete works concerned with computer application for analyses and design of the control systems, for example, [1, 2].

The peculiarity of this book is that it contains not only theoretical material but also an abundant number of examples and solutions. For this purpose the high-performance and complex program MATLAB is applied in the majority of sections of the book. A specific feature of the book is that the technology of computer application is considered in each illustration in detail. Thus, the principle "do as I do" is used. Owing to this approach one can solve similar control problems easily.

The book is of value for students and researchers in any field of engineering where the dynamic systems are studied.

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