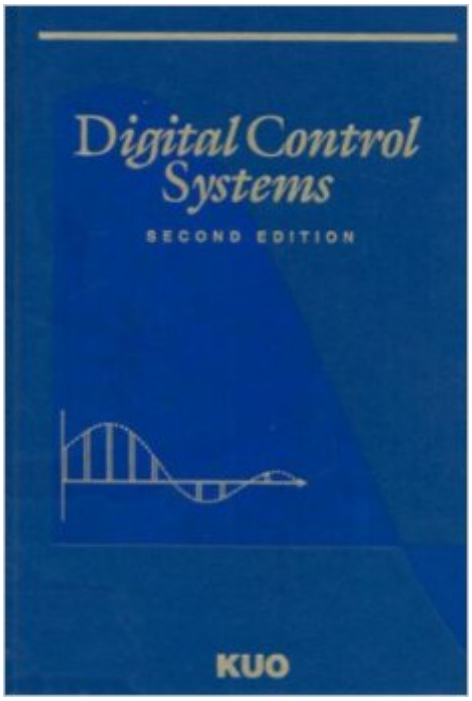
Digital Control Systems (The Oxford Series In Electrical And Computer Engineering)



Synopsis

In recent years significant progress has been made in the analysis and design of discrete-data and digital control systems. These systems have gained popularity and importance in industry due in part to the advances made in digital computers for controls and, more recently, in microprocessors and digital signal processors. An introductory text for a senior or graduate course on digital control systems, this text covers the theory and applications of digital control systems, assuming a knowledge of matrix algebra, differential equations, Laplace transforms and the basic principles of continuous-data control systems. Many subjects are new to the Second Edition, most importantly design topics such as disturbance rejection, sensitivity considerations, and zero-ripple deadbeat-response design. In addition, Kuo includes separate discussions on controllability, observability, and stability, expands the discussions of sampling period selection, emphasizes computer-aided solutions, and provides a new and simpler approach to the Nyquist criterion of stability. Each chapter begins with keywords and topics that provide students with an overview of the key topics to be covered. Illustrative examples, many derived from practical systems, are included throughout the text. Numerous exercise problems end each chapter.

Book Information

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Customer Reviews

I’am primarily a VLSI Design engineer working on a product requiring digital control. I’am using this Book along with Ditial Control by Franklin to understand the subject. This book is very

comprehensive and the author takes pains to go into the details. I highly recommend it as a reference. For a newbie engineer (Yours truly) with limited time, this book has been a tough read. However if you are a student with enthu. to learn and time to burn, this is a Great book.

I used this book for a course on Digital Control System Design and it help me to have a clear understanding on continuous control system design methods applied to discrete time control systems. The book have chapters specialized in time domain and frequency domain analysis, along with alternative methods to design with damping and natural frequency specifications. Also, a chapter dedicated to microprocessors and digital signal processors help you understand the importance of computers in today's control applications. Digital Control Systems by Benjamin C. Kuo is highly readable and it encourages you on self studying. Amazing book!

I have struggled with both editions of this. I am embarrassed to write a negative review about a book, especially one written by someone so prominent in this very important field, but I am disappointed in it, and I am hoping to offset the very enthusiastically favorable reviews that others have written here, in case my apprehensions are valid. We had this as our text in a graduate level digital controls class, and my impression of it was that it was extremely hard to follow. (I had also been warned about this by a student who had had the class before, who himself managed to find what he thought to be an alternative, more helpful text.) When I finally obtained an understanding of a subject through outside study and assistance from a teaching assistant, I tried to review the subject using this text, but found myself becoming confused all over again. You may wish to get a library copy and review it first before committing yourself (or your class) to it. Thank you.

The books is very old fashioned, back in 90s I could give this 4 stars but in 2015 it is definitely not a good choice.

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