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Complement Arithmetic No overflow case; Overflow case; Summary; Exercises; Chapter 8 Two's Complement Arithmetic in Complex Digital Filters; First order complex digital filters; Second order complex digital filters; Summary; Exercises; Chapter 9 Quantization and Two's Complement Arithmetic in Digital Filters; Nonlinear behavioral differences of finite and infinite state machines; Nonlinear behavior of unstable second order digital filters; Nonlinear behaviors of digital filters with arbitrary orders and initial conditions; Summary Exercises Chapter 10 Properties and Applications of Digital Filters with Nonlinearities; Admissibility of symbolic sequences; Statistical property; Computer cryptography via digital filters associated with nonlinearities; Summary; Exercises; Further Reading; Index;

Sommario/riassunto

This book provides an easy to understand overview of nonlinear behavior in digital filters, showing how it can be utilized or avoided when operating nonlinear digital filters. It gives techniques for analyzing discrete-time systems with discontinuous linearity, enabling the analysis of other nonlinear discrete-time systems, such as sigma delta modulators, digital phase lock loops and turbo coders. Features: Uses new methods based on symbolic dynamics, enabling the engineer more easily to operate reliable nonlinear digital filters Gives practical, 'real-world' applications of
