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Nota di contenuto	Introduction -- Novel Mathematical Modeling and Stability Analysis of Linear Uncertain Systems Subject to Actuator Saturations -- Commuting Matrices, Equilibrium Points for Control Systems with Single Saturated Input -- Stability and Closed Trajectory for 2nd Order Control Systems with Single Saturated Input -- Equilibrium Points Analysis of 2nd Order Differential Systems with Single Saturated Input -- Stability Analysis for Lurie Nonlinear Systems with Time-varying Plant and Actuator under Time-varying Delay Feedback -- Several Stability Criteria on Differential Inclusions with Nonlinear Integral Delays -- Generalization of Integral Inequalities and (c1,c1) stability of Neutral Delay Differential Equations -- Several Integral Inequalities and Their Applications in Nonlinear Differential Systems -- Fuzzy Observer,

Fuzzy Controller Design and Common Hurwitz Matrices Analysis for a class of Uncertain Nonlinear System -- The Three-stage Chaotic Communication System Based on The Unified Chaotic System -- Nonlinear Dynamic Model of 2K-H Planetary Gear Transmission System And Its Chaotic Characteristics.

Sommario/riassunto

This book presents special systems derived from industrial models, including the complex saturation nonlinear functions and the delay nonlinear functions. It also presents typical methods, such as the classical Liapunov and Integral Inequalities methods. Providing constructive qualitative and stability conditions for linear systems with saturated inputs in both global and local contexts, it offers practitioners more concise model systems for modern saturation nonlinear techniques, which have the potential for future applications. This book is a valuable guide for researchers and graduate students in the fields of mathematics, control, and engineering.