



Modern Anti-Windup Synthesis (Hardback)

By Luca Zaccarian, Andrew R. Teel

Princeton University Press, United States, 2011. Hardback. Book Condition: New. 236 x 154 mm. Language: English . Brand New Book. This book provides a wide variety of state-space--based numerical algorithms for the synthesis of feedback algorithms for linear systems with input saturation. Specifically, it addresses and solves the anti-windup problem, presenting the objectives and terminology of the problem, the mathematical tools behind anti-windup algorithms, and more than twenty algorithms for anti-windup synthesis, illustrated with examples. Luca Zaccarian and Andrew Teel s modern method--combining a state-space approach with algorithms generated by solving linear matrix inequalities--treats MIMO and SISO systems with equal ease. The book, aimed at control engineers as well as graduate students, ranges from very simple anti-windup construction to sophisticated anti-windup algorithms for nonlinear systems. * Describes the fundamental objectives and principles behind anti-windup synthesis for control systems with actuator saturation * Takes a modern, state-space approach to synthesis that applies to both SISO and MIMO systems * Presents algorithms as linear matrix inequalities that can be readily solved with widely available software * Explains mathematical concepts that motivate synthesis algorithms * Uses nonlinear performance curves to quantify performance relative to disturbances of varying magnitudes * Includes anti-windup algorithms for...



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