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Nota di contenuto	Extremal Problems for Infinite Order Parabolic Systems with Time-Varying Lags -- Constraining State Variables in Continuous Time Sliding Mode Control -- Active Power Filter Controller for Harmonics Mitigation of Nonlinear Loads -- Outlier Sensitivity of the Minimum Variance Control Performance Assessment -- Robust Controller Based on Kharitonov Theorem for Bicycle with CMG -- Specification of Agent Based Robotic Systems Using Hierarchical Finite State Automata -- Development of Control Modes Used in Manipulator for Remote USG Examination -- An Algorithm of Pig Segmentation from Top-View Infrared Video Sequences.

This book presents the proceedings of the 20th Polish Control Conference. A triennial event that was first held in 1958, the conference successfully combines its long tradition with a modern approach to shed light on problems in control engineering, automation, robotics and a wide range of applications in these disciplines. The book presents new theoretical results concerning the steering of dynamical systems, as well as industrial case studies and worked solutions to real-world problems in contemporary engineering. It particularly focuses on the modelling, identification, analysis and design of automation systems; however, it also addresses the evaluation of their performance, efficiency and reliability. Other topics include fault-tolerant control in robotics, automated manufacturing, mechatronics and industrial systems. Moreover, it discusses data processing and transfer issues, covering a variety of methodologies, including model predictive, robust and adaptive techniques, as well as algebraic and geometric methods, and fractional order calculus approaches. The book also examines essential application areas, such as transportation and autonomous intelligent vehicle systems, robotic arms, mobile manipulators, cyber-physical systems, electric drives and both surface and underwater marine vessels. Lastly, it explores biological and medical applications of the control-theory-inspired methods.

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