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Nota di contenuto	Introduction -- RQH sampling strategy analysis with DF method -- Characterization of limit cycle oscillations induced by Fixed Threshold Samplers -- Analysis of SSOD and RQH systems with Tsytkin method -- Sampled SSOD analysis with DF method -- Tuning Procedure for PI controllers under RQH sampling -- Tuning of PID controllers under SSOD sampling based on Tsytkin method -- Implementation and experimental evaluation of SSOD and RQH sampling strategies for EBC.
Sommario/riassunto	This book offers a detailed examination of event-based control systems, exploring their design, implementation, and robustness. It addresses various sampling strategies such as Symmetric-Send-On-Delta (SSOD) and Regular Quantization with Hysteresis (RQH), providing insights into their application in networked control systems. Key topics include: the theoretical foundations of Event-Based Control under the above-mentioned sampling schemes, robustness analysis against limit cycle oscillations, and tuning methodologies for PID controllers considering continuous and discrete implementations. This book also evaluates classical tuning rules for event-based control from the point of view of the robustness, which are assessed through new robustness

measures. Further, the implementation of Event-Based PID Controllers is demonstrated in physical systems using the standard IEC 61499. All in all, this outstanding PhD thesis provides readers with new schemes and techniques for designing robust Event-Based Controllers that can be better adapted to various industrial settings considering their specific needs.

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