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Titolo	Estimation and Control for Networked Systems with Packet Losses without Acknowledgement // by Hong Lin, Hongye Su, Peng Shi, Zhan Shu, Zheng-Guang Wu
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Descrizione fisica	1 online resource (XIII, 188 p. 39 illus., 27 illus. in color.)
Collana	Studies in Systems, Decision and Control, , 2198-4182 ; ; 77
Disciplina	004.6
Soggetti	Control engineering System theory Signal processing Image processing Speech processing systems Calculus of variations Control and Systems Theory Systems Theory, Control Signal, Image and Speech Processing Calculus of Variations and Optimal Control; Optimization
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introduction -- Optimal Estimation and Control for UDP-Like Systems -- An Auxiliary Estimator Method -- Stability and Convergence of optimal Estimator for UDP-Like Systems -- Auxiliary-Estimator-Based Suboptimal Estimators for UDP-Like Systems.
Sommario/riassunto	This book discusses recent advances in the estimation and control of networked systems with unacknowledged packet losses: systems usually known as user-datagram-protocol-like. It presents both the optimal and sub-optimal solutions in the form of algorithms, which are designed to be implemented easily by computer routines. It also provides MATLAB® routines for the key algorithms. It shows how these methods and algorithms can solve estimation and control problems

effectively, and identifies potential research directions and ideas to help readers grasp the field more easily. The novel auxiliary estimator method, which is able to deal with estimators that consist of exponentially increasing terms, is developed to analyze the stability and convergence of the optimal estimator. The book also explores the structure and solvability of the optimal control, i.e. linear quadratic Gaussian control. It develops various sub-optimal but efficient solutions for estimation and control for industrial and practical applications, and analyzes their stability and performance. This is a valuable resource for researchers studying networked control systems, especially those related to non-TCP-like networks. The practicality of the ideas included makes it useful for engineers working with networked control. .

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