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| Autore | Shen Bo |
| Titolo | Nonlinear stochastic systems with incomplete information : filtering and control / / Bo Shen, Zidong Wang, Huisheng Shu |
| Pubbl/distr/stampa | London, : Springer, 2013 |
| ISBN | 1-299-19715-9<br>1-4471-4914-9 |
| Edizione | [1st ed. 2013.] |
| Descrizione fisica | 1 online resource (xvi, 248 pages) : illustrations (some color) |
| Collana | Gale eBooks |
| Altri autori (Persone) | WangZidong<br>ShuHuisheng |
| Disciplina | 519<br>519.2<br>519.22<br>530.1/5 |
| Soggetti | Stochastic systems<br>Nonlinear theories |
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| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | From the Contents: Quantized H-infinity Control for Nonlinear Stochastic Time-delay Systems with Missing Measurements -- Nonlinear H-infinity Filtering for Discrete-Time Stochastic Systems with Missing Measurements and Randomly Varying Sensor Delays -- Robust H-infinity Filtering with Randomly Occurring Nonlinearities, Quantization Effects and Successive Packet Dropouts -- H-infinity Filtering with Randomly Occurring Sensor Saturations and Missing Measurements -- Distributed H-infinity Consensus Filtering in Sensor Networks with Multiple Missing Measurements: The Finite-Horizon Case. |
| Sommario/riassunto | Nonlinear Stochastic Processes addresses the frequently-encountered problem of incomplete information. The causes of this problem considered here include: missing measurements; sensor delays and saturation; quantization effects; and signal sampling. Divided into three parts, the text begins with a focus on H filtering and control problems associated with general classes of nonlinear stochastic discrete-time systems. Filtering problems are considered in the second |

part, and in the third the theory and techniques previously developed are applied to the solution of issues arising in complex networks with the design of sampled-data-based controllers and filters. Among its highlights, the text provides: · a unified framework for handling filtering and control problems in complex communication networks with limited bandwidth; · new concepts such as random sensor and signal saturations for more realistic modeling; and · demonstration of the use of techniques such as the Hamilton–Jacobi–Isaacs, difference linear matrix, and parameter-dependent matrix inequalities and sums of squares to handle the computational challenges inherent in these systems. The collection of recent research results presented in Nonlinear Stochastic Processes will be of interest to academic researchers in control and signal processing. Graduate students working with communication networks with lossy information and control of stochastic systems will also benefit from reading the book.