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Soggetti	Dynamics Nonlinear theories Automatic control System theory Control theory Dynamical Systems Applied Dynamical Systems Control and Systems Theory Systems Theory, Control
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Nota di contenuto	Introduction -- Recursive Filtering and Boundedness Analysis with ROQ -- Resilient Filtering with Stochastic Uncertainties and Incomplete Measurements -- Event-Triggered Resilient Filtering with Stochastic Uncertainties and SPDs -- Event-triggered Filtering with Missing Measurements -- Fault Estimation Against Randomly Occurring Deception Attacks -- Fault Estimation with Packet Dropouts and ROUs -- Fault Estimation with Randomly Occurring Faults and Sensor Saturations -- State Estimation for Complex Networks with Missing Measurements -- Quantized State Estimation for Complex Networks with Uncertain Inner Coupling -- Event-Based State Estimation for Complex Networks under UOPs -- Event-Based State Estimation for Complex Networks with Fading Observations and UST -- State Estimation for Complex Networks with Uncertain Observations and Coupling Strength -- Conclusions and Future Work.

Sommario/riassunto

This book is concerned with the variance-constrained optimized filtering problems and their potential applications for nonlinear time-varying dynamical systems. The distinguished features of this book are highlighted as follows. (1) A unified framework is provided for handling the variance-constrained filtering problems of nonlinear time-varying dynamical systems with incomplete information. (2) The application potentials of variance-constrained optimized filtering in networked time-varying dynamical systems are outlined. It contains some new concepts, new models and new methodologies with practical significance in control engineering and signal processing. It is a collection of several research results and thereby serves as a useful reference for upper undergraduate, postgraduate and engineers who are interested in studying (i) the variance-constrained filtering, (ii) recent advances affected by incomplete information and (iii) potential applications in practical engineering systems.