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Nota di contenuto	FILTERING, CONTROL AND FAULT DETECTION WITH RANDOMLY OCCURRING INCOMPLETE INFORMATION; Contents; Preface; Acknowledgments; List of Abbreviations; List of Notations; 1 Introduction; 1.1 Background, Motivations, and Research Problems; 1.1.1 Randomly Occurring Incomplete Information; 1.1.2 The Analysis and Synthesis of Nonlinear Stochastic Systems; 1.1.3 Distributed Filtering over Sensor Networks; 1.2 Outline; 2 Variance-Constrained Finite-Horizon Filtering and Control with Saturations; 2.1 Problem Formulation for Finite-Horizon Filter Design; 2.2 Analysis of H and Covariance Performances 2.2.1 H Performance2.2.2 Variance Analysis; 2.3 Robust Finite-Horizon Filter Design; 2.4 Robust H Finite-Horizon Control with Sensor and Actuator Saturations; 2.4.1 Problem Formulation; 2.4.2 Main Results; 2.5 Illustrative Examples; 2.5.1 Example 1; 2.5.2 Example 2; 2.6 Summary; 3 Filtering and Control with Stochastic Delays and Missing Measurements; 3.1 Problem Formulation for Robust Filter Design; 3.2 Robust H Filtering Performance Analysis; 3.3 Robust H Filter Design;

3.4 Robust H Fuzzy Control; 3.4.1 Problem Formulation; 3.4.2 Performance Analysis; 3.4.3 Controller Design  
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9.1.1 Deficient Statistics of Markovian Modes Transitions

## Sommario/riassunto

In the context of systems and control, incomplete information refers to a dynamical system in which knowledge about the system states is limited due to the difficulties in modelling complexity in a quantitative way. The well-known types of incomplete information include parameter uncertainties and norm-bounded nonlinearities. Recently, in response to the development of network technologies, the phenomenon of randomly occurring incomplete information has become more and more prevalent. Filtering, Control and Fault Detection with Randomly Occurring Incomplete Information reflects