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Nota di contenuto	Contents ; Table Of Figures ; Preface ; Chapter 1 Entropy, Control, Chaos; 1.1 Introduction: ; 1.2 Global Entropy ; 1.2.1 Review Of Entropy Concepts ; 1.2.2 Entropy And Thermodynamics ; 1.2.3 Entropy And Information Theory ; 1.2.4 e-Entropy; 1.2.5 Jaynes' Principle Of Maximum Entropy 1.2.6 The Principle Of Increasing Precision Decreasing Intelligence 1.2.7 Entropy And The Environment ; 1.3 Uncertainty And The Control Problem ; 1.4 The Human Interaction ; 1.5 Automatic Control Systems ; 1.6 Entropy Formulation Of Control ; 1.7 Conclusions ; 1.8 References Chapter 2 Stochastic Optimal Estimation And Control 2.1 Introduction ; 2.2 The Deterministic Optimal Control ; 2.3 The Stochastic Optimal Control Problem ; 2.4 The Stochastic Suboptimal Control Problem ; 2.5 Discrete-Time Formulation Of The Stochastic Optimal Control Problem 2.6 Maximum Entropy Formulation Of State Estimation: Continuous-Time 2.7 Maximum

Entropy Formulation Of State Estimation: Discrete-Time
; 2.8 The Cost Of Active Feedback (Dual) Control Problem
; 2.9 Stochastic Optimal (Dual) Estimation And Control
2.10 Stochastic Suboptimal Control Revisited
2.11 Stochastic Optimal Adaptive Control
; 2.11.1 Example: The Dual-Optimal And Adaptive Control
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Chapter 3 Review Of Intelligent Control Systems

Sommario/riassunto

This book attempts to couple control engineering with modern developments in science, through the concept of entropy. Such disciplines as intelligent machines, economics, manufacturing, environmental systems, waste etc. can be favorably affected and their performance can be improved or their catastrophic effects minimized. Entropy is used as the unifying measure of the various, seemingly disjoint, disciplines to represent the cost of producing work that improves the standard of living, both in engineering and in science. Modeling is done through probabilistic methods, thus establishing the ir