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Control via Congestion Pricing; Impacts of Investments in Healthcare Delivery; Human Biology and Cancer; Comparison of Problems; Methodology; Summary; An Example; Supporting the Methodology; Conclusions
References Chapter 3 Perspectives on Phenomena; Introduction; Definitions; Historical Perspectives; Steam to Steamboats; Wind to Wings; Electricity to Electric Lights; Macro and Micro Physics; Probability and Utility; Contemporary Perspectives; Four Fundamental Forces; Computational Fluid Dynamics; Integrated Circuit Design; Supply Chain Management; Summary; Taxonomy of Phenomena; Behavioral and Social Systems; Problems versus Phenomena; Visualizing Phenomena; Conclusions; References; Chapter 4 Physical Phenomena; Introduction; Natural Phenomena; Example - Human Biology
Example - Urban Oceanography Designed Phenomena; Example - Vehicle Powertrain; Example - Manufacturing Processes; Detering or Identifying Counterfeit Parts; Conclusions; References; Chapter 5 Human Phenomena; Descriptive Versus Prescriptive Approaches; Models of Human Behavior and Performance; Example - Manual Control; Example - Problem Solving; Example - Multitask Decision Making; Traffic Control Via Congestion Pricing; Mental Models; Team Mental Models; Performing Arts Teams; Fundamental Limits; Conclusions; References; Chapter 6 Economic Phenomena; Introduction; Microeconomics
Theory of the Firm Theory of the Market; Example - Optimal Pricing; Example - Investing in People; Summary; Macroeconomics; Tax Rates, Interest Rates, and Inflation; Macroeconomic Models; Summary; Behavioral Economics; Prospect Theory; Risk Perception; Attribution Errors; Management Decision Making; Human Intuition; Intuition versus Analysis; Summary; Economics of Healthcare Delivery; Conclusions; References; Chapter 7 Social Phenomena; Introduction; Emergent versus Designed Organizational Phenomena; Direct versus Representative Political Phenomena; Modeling Complex Social Systems
Example - Earth as a System

Sommario/riassunto

Explains multi-level models of enterprise systems and covers modeling methodology This book addresses the essential phenomena underlying the overall behaviors of complex systems and enterprises. Understanding these phenomena can enable improving these systems. These phenomena range from physical, behavioral, and organizational, to economic and social, all of which involve significant human components. Specific phenomena of interest and how they are represented depend on the questions of interest and the relevant domains or contexts. Modeling and Visualization of Complex Systems
