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Sommario/riassunto	"This book details the interdisciplinary nature of mathematical modeling and numerical algorithms. It combines a variety of applications from diverse fields to illustrate how the methods can be used to model physical processes, design new products, find solutions to challenging problems, and increase competitiveness in international markets. Including case studies, worked examples, and exercises, it cover topics such as partial differential equations, fractional calculus, inverse problems by ODEs, semigroups, decision theory, risk analysis, Bayesian estimation, nonlinear PDEs in financial engineering, perturbation analysis, dynamic system modeling, and much more"--