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Sommario/riassunto	This book, discusses the latest research on the intelligent control of two important components in smart grids, namely microgrids (MGs) and electric vehicles (EVs). It focuses on developing theoretical frameworks and proposing corresponding algorithms, to optimally schedule virtualized elements under different uncertainties so that the total cost of operating the microgrid or the EV charging system can be minimized and the systems maintain stabilized. With random factors in the problem formulation and corresponding designed algorithms, it provides insights into how to handle uncertainties and develop rational strategies in the operation of smart grid systems. Written by leading experts, it is a valuable resource for researchers, scientists and engineers in the field of intelligent management of future power grids.