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| Sommario/riassunto | "The increasing penetration of distributed renewable energy sources and the consequent empowerment of consumers to become active players in mitigating the lack of generation flexibility with demand flexibility, are driving the power and energy system towards an historic paradigm shift. The small scale, diversity, and number of new players involved in the power and energy field, potentiate a significant growth of generated data. Moreover, advances in telecommunications and digitalization hugely increased the volume of data that results from power and energy components, installations, and systems operation. This data is becoming more and more important for power and energy systems operation and planning, with relevant impact on all involved entities, from producers, consumers and aggregators, to market and system operators. However, although the power and energy community is fully aware of the intrinsic value of the data, the methods to deal with it still require significant improvements and research. Data mining and intelligent data analysis are thereby playing a crucial role in this domain, by enabling players to improve their decision-making process and gain awareness of the power and energy environment. This book brings together the state-of-the-art advances in intelligent data mining and analysis as drivers for the needed evolution of power and energy systems. Although there are some recent books on data mining in general, there is no significant review/survey material on data mining and intelligent data analysis models and their applications in power and energy systems."-- |