Record Nr. UNINA9910367238003321 Autore Liu Hui Titolo Non-intrusive Load Monitoring: Theory, Technologies and Applications //by Hui Liu Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2020 Pubbl/distr/stampa **ISBN** 9789811518607 9811518602 Edizione [1st ed. 2020.] Descrizione fisica 1 online resource (288 pages) Disciplina 621.317 Soggetti **Energy policy** Artificial intelligence Electric power production Energy Policy, Economics and Management Artificial Intelligence **Electrical Power Engineering** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Introduction -- Detection of Transient Events in Time Series --Nota di contenuto Appliance Signature Extraction -- Appliance Identification Based on Template Matching -- Steady State Current Decomposition Based Appliance Identification -- Machine Learning Based Appliance Identification -- Hidden Markov Models Based Appliance Identification -- Deep Learning Based Appliance Identification -- Deterministic Prediction of Electric Load Time Series -- Interval Prediction of Electric Load Time Series. Sommario/riassunto Focusing on non-intrusive load monitoring techniques in the area of smart grids and smart buildings, this book presents a thorough introduction to related basic principles, while also proposing improvements. As the basis of demand-side energy management, the non-intrusive load monitoring techniques are highly promising in terms of their energy-saving and carbon emission reduction potential. The book is structured clearly and written concisely. It introduces each

aspect of these techniques with a number of examples, helping readers to understand and use the corresponding results. It provides latest

strengths on the non-intrusive load monitoring techniques for engineers and managers of relevant departments. It also offers extensive information and a source of inspiration for researchers and students, while outlining future research directions.