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| Altri autori (Persone) | MinciardiRiccardo<br>ParodiLuca<br>RobbaMichela |
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| Nota di contenuto | 1. Introduction -- 2. Modelling, Simulation, and Optimization for the Optimal Planning and Management of Electric Vehicles: State of the Art and Challenges -- 3. Optimal Charging in Smart Grids: Discrete Time Optimization Model for Aperiodic Scheduling -- 4. Optimal Charging in Smart Grids: A Discrete Event Approach for Scheduling in Single Socket |

Charging Stations -- 5. Optimal Charging in Smart Grids: A Discrete Event Approach for Scheduling in Multi Socket Charging Stations -- 6. Optimal Charging in Smart Grids: A Discrete Event Approach for Periodic Scheduling -- 7. Planning for Electric Vehicles: Deterministic and Stochastic User Equilibrium Approaches for Joint Traffic Assignment and Energy Demand Assignment -- 8. Planning for Electric Vehicles: A User Equilibrium Approaches for Joint Traffic Assignment, Energy Demand Assignment and Sizing of Charging Stations -- 9. Planning for Electric Vehicles: Optimal Placement of Charging Stations in an Electrical Distribution Grid -- 10. Conclusions.

Sommario/riassunto

This book provides models and methods for the optimal management of electrical vehicles through an interdisciplinary approach that brings together knowledge from the sectors of transportation, manufacturing and smart grids. Optimization of Electric-Vehicle Charging explores several optimization models for the scheduling of electric vehicles in a smart grid. Both discrete-time and discrete-event approaches are considered to minimize tardiness, charging and production costs, on the basis of information like release time, due date, deadline, energy request, and availability of energy generated from renewable sources. Transportation demand is assessed, as well as user-equilibrium-based approaches, for the location of charging stations and for the assignment of users to multiple charging stations. Employing illustrations, tables and examples to elucidate the ideas presented, this book will be of value to researchers and practitioners in the fields of electrical engineering and transportation, as well as to graduate and PhD students.