1. Record Nr. UNINA9910726294403321

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Titolo	Enhancement of Grid-Connected Photovoltaic Systems Using Artificial Intelligence / / by Amal M. Abd El- Hameid, Adel A. Elbaset, Mohamed Ebeed, Montaser Abdelsattar
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2023
ISBN	3-031-29692-3
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (243 pages)
Disciplina	621.31244
Soggetti	Photovoltaic power generation Renewable energy sources Electric power distribution Power electronics Electric power-plants Photovoltaics Renewable Energy Energy Grids and Networks Power Electronics Power Stations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Power Quality Issues -- Stochastic Optimal Planning of Distribution System Considering Integrated Photovoltaic-Based DG and D-STATCOM -- Optimal Allocation of Distributed Energy Resources Using Modern Optimization Techniques -- Results and Discussion -- Conclusions and Future Work.
Sommario/riassunto	Enhancement of Grid-Connected Photovoltaic Systems Using Artificial Intelligence presents methods for monitoring transmission systems and enhancing distribution system performance using modern optimization techniques considering different multi-objective functions such as voltage loss sensitivity indexes, reducing total annual cost, and voltage deviation. The authors offer a comprehensive survey of distributed energy resources (DERs), explain the backward/forward sweep (BFS)

power flow algorithm, and present simulation results on the optimal integration of photovoltaic-based distributed generators (PV-DG) and distribution static synchronous compensators (DSTATCOM) in different transmission and distribution systems. This book will be a valuable academic and industry resource for electrical engineers, students, and researchers working on optimization techniques, photovoltaic systems, energy engineering, and artificial intelligence. Covers developmentsto enhance the integration of renewable energy sources; Presents simulation results, including standard IEEE bus test systems; Includes MATLAB M-file codes.