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Autore	Chawla Sohan L
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Altri autori (Persone)	GuptaRajeshwar K HaddadMary Thomas HampsonSuzanne E BoringRandall L
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Ceramic Materials"; "Chapter 22: Carbon and Graphite"; "Chapter 23: Composites"; "SECTION V: CORROSION CONTROL MEASURES"
 "Chapter 24: Cathodic and Anodic Protection"; "Chapter 25: Corrosion Inhibitors"; "Chapter 26: Protective Coatings"; "Chapter 27: Lining and Cladding"; "Chapter 28: Surface Modification"; "SECTION VI: SELECTION OF MATERIALS"; "Chapter 29: Techno- Economic Selection of Materials"; "Chapter 30: Computer- Assisted Materials Selection"; "Index"

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Titolo	Artificial Intelligence and Heuristics for Smart Energy Efficiency in Smart Cities : Case Study: Tipasa, Algeria // edited by Mustapha Hatti
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Nota di contenuto	Intro -- Contents -- Smart Energy Efficiency -- For a Smarter and More Sustainable City: Tipasa with Its Potentialities -- 1 Introduction -- 2 Methodology -- 3 Results and Discussions -- 4 Conclusion -- References -- Elephant Herding Optimization Metaheuristic to Minimize Electricity Cost in a Smart House -- 1 Introduction -- 2 Related Work -- 3 The Problem Modeling -- 4 The Proposed Solution Modeling -- 5 Simulation and Results -- 6 Conclusion -- References -- Multi-

Objective Optimization of Stand-Alone Hybrid Renewable Energy System for Rural Electrification in Algeria -- 1 Introduction -- 2 Hybrid System Components Modelling -- 2.1 Solar PV -- 2.2 Wind Turbine -- 2.3 Storage Battery -- 2.4 Diesel Generator -- 2.5 DC/AC Converter -- 3 Problem Formulation -- 3.1 Particle Swarm Optimization -- 3.2 Objective Function and Constraints -- 3.3 Constraints -- 4 Results and Discussion -- 4.1 System Data -- 4.2 Analysis -- 5 Conclusion -- References -- Prediction and Characterization of Cooling Load Energy Performance of Residential Building Machine Learning Algorithms -- 1 Introduction -- 2 Methodology -- 3 Simulation Results and Discussion -- 4 Conclusion -- References -- Prediction and Characterization of Heating Load Energy Performance of Residential Building Machine Learning Algorithms -- 1 Introduction -- 2 Methodology -- 3 Simulation Results and Discussion -- 4 Conclusion -- References -- MPPT Based On Grey Wolf Optimization -- 1 Introduction -- 2 PV Module -- 3 Direct Torque Control DTC -- 3.1 The Definition of Primary Voltage Vectors -- 3.2 The Definition of Stator Flux Band Electromagnetic Torque -- 4 MPPT By GWO -- 5 Tuning PI Gains By Grey Wolf Optimization -- 6 Simulation Results -- 7 Conclusion -- References -- Optimal Power Flow Management of the Algerian Electric Transmission System Using Moth Flame Optimizer Algorithm -- 1 Introduction. 2 Formulation of the Optimal Power Flow Problem -- 2.1 Objective Functions -- 2.2 Constraints -- 3 Moth-Flame Optimization Algorithm MFO -- 3.1 Creating the Initial Population of Moths -- 3.2 Updating the Moths' Positions -- 3.3 Termination Criteria -- 4 Analysis of the Algerian Electrical Transport Network -- 4.1 Power Flow Results -- 4.2 Optimization Results -- 5 Conclusion -- References -- Wind Energy Conversion System Controlled by Particle Swarm Optimization Super Twisting Sliding Mode Control Equipped with Doubly Fed Induction Generator -- 1 Introduction -- 2 WECS Modeling -- 2.1 Wind Turbine Model -- 2.2 DFIG Model -- 2.3 Field Oriented Control of DFIG -- 3 Proposed Control Strategy Concept -- 4 Wind Turbine STSMC -- 5 DFIG STSMC -- 5.1 Active Stator Power Control -- 5.2 Reactive Stator Power Control -- 6 Overview of PSO Algorithm -- 7 Optimization Problem Selection -- 8 Simulation Results -- 9 Conclusion -- References -- Optimization of Distributed Mean-Level CFAR Detectors Using GA and PSO Algorithms -- 1 Introduction -- 2 Distributed GO-CFAR and SO-CFAR Detectors -- 3 Evolutionary Algorithms -- 4 Results and Discussions -- 5 Conclusions -- References -- Optimal Sizing Design of stand- Alone Hybrid System Using a Fuzzy PSO -- 1 Introduction -- 2 Pv Wind System Modeling and Sizing -- 2.1 PV Array -- 2.2 Wind Turbine -- 2.3 Battery Bank -- 3 Technico-Economic analysis -- 3.1 Objective Function -- 3.2 Constraints -- 4 Developed Algorithm -- 5 Simulations Results -- 6 Conclusion -- References -- Optimal Location and Size of Shunt Capacitor in Distribution Using Metaheuristic Method -- 1 Introduction -- 2 Mathematic Model -- 2.1 Fitness Function -- 2.2 Equality Constraints -- 2.3 Inequality Constraints -- 2.4 Preserving Results Feasibility -- 3 Antlion Method -- 3.1 Ant-Lion Optimization -- 4 Analyzes Results -- 5 Conclusion -- References. Maximum Power Point Tracking of a Photovoltaic System Under Partial Shading Condition Using Whale Optimization Algorithm -- 1 Introduction -- 2 PV System Model -- 2.1 PV Cell Modeling -- 2.2 The Effects of Partial Shading -- 2.3 DC-DC Boost Converter -- 3 MPPT Techniques -- 3.1 Maximum Power Point Tracking Description -- 3.2 Conventional P&O Method -- 3.3 Particle Swarm Optimization -- 3.4 Constriction Coefficient Particle Swarm Optimization -- 3.5 The

Proposed Whale Optimization MPPT -- 4 Simulation Results and Discussion -- 5 Conclusion -- References -- A Powerful Bio-Inspired Fire Fly Algorithm Based MPPT Controller for PV Systems Under Partial Shading Conditions -- 1 Introduction -- 2 Photovoltaic System Characteristics Under Uniform and PS Conditions -- 3 Fire Fly Algorithm: Basic Concepts and Applications -- 3.1 Basic Concepts -- 3.2 Application of the Fire Fly Algorithm for the MPPT Control -- 4 Simulation Results and Discussion -- 4.1 Design Methodology of the Proposed FFAMPPT Controller -- 5 Simulation of the Proposed FFAMPPT Controller -- 6 Conclusion -- References -- An Efficient Salp Swarm Algorithm for a PV Global Maximum Power Point Tracking Under Partial Shading -- 1 Introduction -- 2 Photovoltaic Array Modelling -- 2.1 PV Array Characteristics Under Partial Shading -- 3 Salp Swarm Algorithm -- 4 Simulation Results and Discussions -- 4.1 Case of PSO and DPSO -- 4.2 Case PF the Salp Swarm Algorithm -- 5 Conclusion -- References -- Maximum Power Point Tracking Under Fast Changing Irradiance Using Hybrid Fuzzy-PO Algorithm -- 1 Introduction -- 2 Effect of Temperature and Irradiance -- 3 PV Cell Modelling -- 4 Maximum Power Point Algorithms -- 4.1 Perturb and Observe (PO) MPPT -- 4.2 Incremental Conductance (INC) MPPT -- 4.3 Fuzzy Logic Control (FLC) MPPT -- 5 System Description -- 6 Hybrid Fuzzy Logic Controller-PO Algorithm. 7 Simulation and Discussion -- 8 Conclusion -- References -- Assessment of Global Solar Energy Under All-Sky Condition Using Artificial Neural Network -- 1 Introduction -- 2 Material and Models -- 2.1 Study Areas and Data Collection -- 2.2 Artificial Neural Network (ANN) Models -- 3 Results and Discussion -- 4 Conclusion -- References -- Optimal Wind Turbine Site for Voltage Stability Improvement Using Genetic Algorithm Technique -- 1 Introduction -- 2 Mathematic Model -- 2.1 Fitness Function -- 3 Antlion Method -- 4 Analyzes Results -- 5 Conclusion -- References -- An Improved Energy Management System for Fuel Cell/ Ultra-capacitor Electric Vehicle Based Fuzzy Logic Control -- 1 Introduction -- 2 FCHEV Configuration and Calculations -- 2.1 Hybrid Power System -- 2.2 Fuel Cell Modeling -- 2.3 Supercapacitor Modeling -- 3 Energy Management Strategy Modelling and Simulation -- 4 Simulation Results and Discussion -- 5 Conclusion -- References -- Photovoltaic Energy Systems and Grid Connected -- PVsyst Sizing of a PV System for a Water Supply of an Agricultural Farm in an Isolated Area Using Pivot Technique -- 1 Introduction -- 2 Modeling and Simulation -- 3 Conclusion -- References -- The Effect of the Photovoltaic Sources Integration on the Dynamic Restructuration of the Algerian Electric Distribution Network -- 1 Introduction -- 2 Problem Formulation -- 2.1 Fitness Function -- 2.2 System Constraints -- 2.3 Preserving Results Feasibility -- 3 Antlion Method -- 4 Analyzes Results -- 5 Conclusion -- References -- Improving of Life Cycles of Renewable Energy Production Systems -- 1 Introduction -- 2 Life Cycles and CO2 Emissions for Wind Farm -- 3 Life Cycle Energy Analysis of an Algerian Wind Farm -- 4 The Technical Identification of the Study Site -- 4.1 For Emissions Related to Manufacturing and Foundations -- 4.2 Transport Phase and Installation. 4.3 Maintenance Phase and Operations -- 4.4 End Life and Disposal -- 5 Results and Discussions -- 6 Conclusion -- References -- The Primary Frequency Control Techniques For Grid Connected PV Systems: A Review -- 1 Introduction -- 2 Impacts of PV on Power Grids and Frequency Control Phases -- 2.1 Impacts of PV on Power Grids -- 2.2 Frequency Control Phases -- 3 Techniques of Primary Frequency Control -- 3.1 Techniques Based on Energy Storage (with ESS) -- 3.2

Deloading Technique (without ESS) -- 4 Primary Frequency Control Using Artificial Intelligence (AI) Techniques -- 5 Conclusion -- References -- Modal Analysis of a Two Axis Photovoltaic Solar Tracker -- 1 Introduction -- 2 PV Solar Tracker Structure Description -- 3 Numerical Simulation -- 4 Resultants and Discussions -- 5 Conclusion -- References -- Multivariable Extremum Seeking MPPT Control for Photovoltaic Farm Connected to Utility Grid -- 1 Introduction -- 2 System Description -- 2.1 PV Farm -- 2.2 DC/DC Converter -- 2.3 DC/AC Converter -- 2.4 Load and AC Grid -- 3 Multivariable Extremum Seeking MPPT Control -- 3.1 The Sinusoidal Extremum Seeking Control -- 3.2 MPPT Based on Sinusoidal Extremum Seeking Control -- 4 Simulation Results -- 4.1 Performance of Generator Side -- 4.2 Performance in DC-Link -- 4.3 Performance of Grid Side -- 5 Conclusion -- References -- DPC-SVM Controlled Strategy for a Three-Level Shunt Active Power Filter Grid Connected Photovoltaic System Optimized by Super Twisting Sliding Mode Technique -- 1 Introduction -- 2 Systems Configurations -- 3 (DPC-SVM) Strategy -- 3.1 Active and Reactive Powers Calculation -- 3.2 DC Bus Control -- 3.3 ST-SMC MPPT -- 4 Simulation Result and Discussion -- 5 Conclusion -- References -- A New Modified Incremental Conductance Algorithm Used for PV System -- 1 Introduction -- 2 System Modeling -- 2.1 PV Modeling.

2.2 Buck-Boost Converter.

Sommario/riassunto

This book emphasizes the role of micro-grid systems and connected networks for the strategic storage of energy through the use of information and communication techniques, big data, the cloud, and meta-heuristics to support the greed for artificial intelligence techniques in data and the implementation of global strategies to meet the challenges of the city in the broad sense. The intelligent management of renewable energy in the context of the energy transition requires the use of techniques and tools based on artificial intelligence (AI) to overcome the challenges of the intermittence of resources and the cost of energy. The advent of the smart city makes an increased call for the integration of artificial intelligence and heuristics to meet the challenge of the increasing migration of populations to the city, in order to ensure food, energy, and environmental security of the citizen of the city and his well-being. This book is intended for policymakers, academics, practitioners, and students. Several real cases are exposed throughout the book to illustrate the concepts and methods of the networks and systems presented. This book proposes the development of new technological innovations—mainly ICT—the concept of “Smart City” appears as a means of achieving more efficient and sustainable cities. The overall goal of the book is to develop a comprehensive framework to help public and private stakeholders make informed decisions on smart city investment strategies and develop skills for assessment and prioritization, including resolution of difficulties with deployment and reproducibility.
