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Nota di contenuto	Contents -- Ensemble Learning Method for Forecasting HVAC System Demand -- 1 Introduction -- 2 Literature Review -- 3 Methodology -- 3.1 Ensemble Learning Methods [2] -- 3.2 Case Study and Data Set Information -- 4 Results and Discussion -- 5 Conclusion -- References -- RBDO Approach for Site-to-Wind Turbine Generator Pairing -- 1 Introduction -- 2 Literature Review -- 3 Methodology

Review -- 3.1 RBDO Approach -- 4 Problem Formulation -- 4.1 Wind Turbine Performance -- 4.2 Cost Function of the Wind Power Generation -- 5 Conclusion and Future Work -- References -- Investigation Performance of Shell-and-Tube Heat Exchangers in an Energy Storage System: Thermo-Mechanic Load -- 1 Introduction -- 2 Method and Material -- 3 Result and Discussion -- 4 Conclusion -- References -- Numerical Thermal Analysis of Shell-and-Tube Thermal Energy Storage Under the Constraint of High Cycle Temperatures -- 1 Introduction -- 2 Numerical Model -- 3 Result and Discussion

Sommario/riassunto

This book presents selected peer-reviewed proceedings from the International Conference on Advanced Materials, Sustainable Energy, and Engineering (ICAMSEE2023), held at Ecole Normale Supérieure, University Moulay Ismail Meknes, Morocco, from November 27 to 29, 2023. The conference served as an exceptional platform for international and national scientists, professors, students, and industry professionals to convene and exchange knowledge in the fields of materials science, microscopy, engineering, technology, and energy. The book features contributions from researchers and experts, including keynote speakers, special sessions, posters, and tutorials, showcasing the latest advancements and developments in these areas of research. The topics covered in this book span a wide array of subjects within the realm of advanced materials, sustainable energy, and engineering. The forefront of materials science is explored, including nanomaterials, carbon nanotubes, graphene, materials for various applications, environmental protection, advanced optical materials, thermoelectric and magnetic materials, and additive manufacturing. Addressing the energy demands of today, the focus extends to novel materials for solar cells, energy storage, electronic devices, solar and wind energy, advanced thermal management materials, and materials for advanced water treatment and desalination. Sustainable energy and engineering topics encompass energy policy, clean energy production technologies, carbon capture and utilization, biomass energy, building energy efficiency, smart systems for climate change, and energy efficiency in mineral processing. Additionally, the book covers modeling and numerical simulations in material science, encompassing model development, computational techniques, and simulations in both material science and energy fields.
