

Microgrids are small, self-sufficient power systems that can operate independently or connected to the main electrical grid. They serve localized areas such as islands, remote communities, industrial sites, ...

With 800 million people living without electricity worldwide and many more facing energy insecurity due to climate change, smart microgrids are a powerful technology to revolutionize the way we produce, ...

The concept of microgrids (MGs) as compact power systems, incorporating distributed energy resources, generating units, storage systems, and loads, is widely acknowledged in the ...

This study presents a novel multi-objective energy management approach for smart microgrids that jointly optimizes active and reactive power flows, while explicitly accounting for line ...

This paper presents an innovative application of deep learning optimization techniques, combined with the Artificial Bee Colony (ABC) algorithm, to enhance voltage control and regulation in ...

The goal is to optimize multi-objective scheduling for a microgrid with wind turbines, micro-turbines, fuel cells, solar photovoltaic systems, and batteries to balance power and store excess...

The proposed management system performs an operational and an optimal exchange of the microgrid active and reactive power flows by maximizing profits (minimizing costs), meeting the ...

The main objective of this work is to establish optimal active and reactive power flow management for a hybrid microgrid (HMG)-AC/DC.

The aim is to consolidate the latest developments in smart microgrid management, focusing on energy storage technologies, AI-driven control strategies, and secure communication ...

The critical review of microgrid management systems like power management, energy management, load management, battery management, demand-side management, and demand response ...

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