

This paper proposes a novel prediction-free two-stage coordinated dispatch framework for the real-time dispatch of grid-connected microgrid with generalized energy storages (GES).

Main focus is given on the control techniques in microgrids, different supporting measures such as electric vehicles (EVs), energy storage systems (ESSs), and the monitoring ...

To address the issues of instability and high economic costs associated with traditional grid dispatch strategies, this paper proposes an improved Sparrow Search

As the energy transition accelerates toward low-carbon development, smart microgrids, serving as the core infrastructure for efficient distributed energy integration, face dual challenges of ...

In order to maximize the utilization of renewable energy, enhance its utilization efficiency, and reduce the carbon emission of power supply, this paper first proposes a real-time collaborative ...

Under the dual carbon goals, microgrids face significant challenges in managing multi-energy flow coupling and maintaining operational robustness with high renewable energy ...

Based on the aforementioned research, this paper constructs a microgrid power dispatch model that includes wind energy, solar energy, gas, diesel generation, and energy storage units.

An optimal power dispatch architecture for microgrids with high penetration of renewable sources and storage devices was designed and developed as part of a multi-module Energy ...

This letter presents a model for coordinated allocation of wind, solar, and storage in microgrids with the Gurobi solver. It's developed for dispatch optimization in four modes and ensures ...

In this paper, we develop a novel scenario generation method that accounts for the uncertain effects of (i) climate change on variable renewable energy availability, (ii) extreme heat ...

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