Grid-connected photovoltaic microgrid optimization

Simulations were performed on a grid-connected microgrid comprising 46 home participants, five of whom possessed integrated energy systems, including batteries, wind turbines, ...

The utilization of photovoltaic systems for generating clean electrical energy has witnessed a significant surge. Nevertheless, owing to their comparatively low.

To address these limitations, this article investigates the application of the sparrow search algorithm as an optimization technique for tuning PI controllers in grid-connected PV systems.

This study proposes a novel multi-objective optimization framework for grid-connected microgrids using quantum particle swarm optimization (QPSO) to address the dual challenges of minimizing ...

The EMS for the grid-connected PV and BESS employs both LP and PSO to optimize the operation of the microgrid. These optimization techniques focus on minimizing the total variable ...

This study proposes a method for managing energy storage and controlling battery charge and discharge operations based on load requirements in a microgrid connected to a solar system.

To maximize photovoltaic (PV) energy extraction, this study proposes a novel hybrid maximum power point tracking (MPPT) method that combines artificial neural networks (ANNs) with ...

This study proposes an improved multi-objective particle swarm optimization (IMOPSO) algorithm for coordinated control and optimizing photovoltaic microgrid dispatch under grid ...

This paper proposes a new method to determine the optimal size of a photovoltaic (PV) and battery energy storage system (BESS) in a grid-connected microgrid (MG).

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