Particle Swarm Microgrid Optimization

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 ...

In this study, we propose a multi-objective particle swarm algorithm-based optimal scheduling method for household microgrids. A household microgrid optimization model is ...

These findings highlight the significant advantages of the proposed optimization framework in enhancing both economic and environmental performance, making it a highly effective ...

Simulation results demonstrate that this model can effectively reduce electricity costs for users and environmental pollution, promoting the optimized operation of microgrids and verifying the superior ...

Safety, stability and efficiency, flexible energy flow, and both economic and environmental benefits are the basis for the low-carbon economic operation of the microgrid. However, with the multi-type ...

Abstract The control over microgrid energy transaction committing demand flexibility has been designed in this article by a new reward based generalized stochastic Petri nets (RGSPNs) ...

To assess the effectiveness of the hybrid particle swarm optimization genetic algorithm, a simulation environment and analysis were carried out using a 14, 39, and 118 bus DC microgrid with solar ...

To offer an optimal solution for managing microgrids with hybrid renewable energy sources (HRESs) while taking microgrid reserve margins into account, the particle swarm ...

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