

# Microgrid Improved Particle Swarm Algorithm



## Overview

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Based on establishing the multi-objective mathematical model for optimal dispatching of microgrid, an improved particle swarm optimization algorithm is proposed to solve this multi-objective optimization problem. The experimental results show that the proposed method. Microgrid optimization scheduling, as a crucial part of smart grid optimization, plays a significant role in reducing energy consumption and environmental pollution. The Pareto solution set can be obtained by solving the multi-objective optimization configuration model of micro-grid with the improved particle swarm. This study suggests the optimized dispatching of the micropower grid based on the improved particle swarm optimization algorithm (IPSO) for full playing to the power generation advantage of distributed energy. A multi-objective microgrid model under photovoltaic power generation prediction and load.

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### [Research on multi-objective optimal scheduling of microgrid group ...](#)

To achieve efficient and stable microgrid operation, this paper proposes a microgrid cluster optimal scheduling strategy based on an Improved Particle Swarm Optimization (IPSO) algorithm.

### [Optimization of multi-objective micro-grid based on improved particle ...](#)

The paper presents a multi-objective optimal configuration model for independent micro-grid with the aim of economy and environmental protection. The Pareto solution set can be obtained by solving the ...



### [Optimization of microgrid scheduling based on multi-strategy improved ...](#)

A multi-strategy Improved Multi-Objective Particle Swarm Algorithm (IMOPSO) method for microgrid operation optimization is proposed for the coordinated optimization problem of microgrid ...

### [An Optimal Dispatch of Microgrid Based on Improved Particle ...](#)

This paper optimizes the operation of microgrid under grid-connected operation mode. Based on establishing the multi-objective mathematical model for optimal dispatching of microgrid, an improved ...



[Multi-Objective Optimal Scheduling of Microgrids Based on Improved](#)

To enhance the algorithm's performance in microgrid optimization scheduling, this paper improves the particle velocity transformation in the particle swarm algorithm based on improved ...



[Frontiers , Multi-objective particle swarm optimization for optimal](#)

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



[Optimal Scheduling of Microgrid Based on Improved Particle Swarm](#)

Microgrids have attracted more and more attention due to their low cost, low voltage, and low pollution. The goal of microgrid development is not only to ensure



[Microgrid optimal scheduling based on improved particle swarm](#)

In this paper, particle swarm optimization (PSO) algorithm is improved by nonlinearly decreasing inertia weight and nonlinearly dynamic adjusting learning factors. Compared with PSO, the global search ...



[Optimizing sustainable energy management in grid connected ...](#)

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 ...

[Multi-Objective Optimal Scheduling of Isolated Microgrids Based on](#)

To optimize the economic and environmental performance of island microgrids operating in grid-connected mode, this study proposes an advanced scheduling methodology based on an ...



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