

What is a multi-objective interval optimization dispatch model for microgrids?

First, a multi-objective interval optimization dispatch (MIOD) model for microgrids is constructed, in which the uncertain power output of wind and photovoltaic (PV) is represented by interval variables. The economic cost, network loss, and branch stability index for microgrids are also optimized.

What is optimal dispatching of a microgrid?

As a core technology of microgrid, optimal dispatching of the microgrid is an important support to deal with the uncertainty of renewable energy and load and ensure the economic and reliable operation of the microgrid [5, 6]. Regarding the optimal dispatch of microgrids, a large number of references have been studied.

How can a microgrid adaptive robust optimal dispatch model be improved?

By increasing the lower bound of the loop, the upper and lower bounds of the Benders algorithm can reach the same value faster, and the final optimization result can be obtained faster. This paper proposes a microgrid adaptive robust optimal dispatch model with different robust adjustment parameters.

What is the optimization dispatch method of microgrid?

According to the optimization method, the optimization dispatch method of microgrid can be divided into deterministic method and uncertainty method. The deterministic method takes the predicted value of renewable distributed power as an accurate known quantity and then optimizes the dispatch of the microgrid.

Can deep reinforcement learning solve the optimal dispatch of microgrids under uncertainties?

This paper presents an improved deep reinforcement learning (DRL) algorithm for solving the optimal dispatch of microgrids under uncertainties. First, a multi-objective interval optimization dispatch (MIOD) model for microgrids is constructed, in which the uncertain power output of wind and photovoltaic (PV) is represented by interval variables.

How to optimize a microgrid?

The economic cost, network loss, and branch stability index for microgrids are also optimized. The interval optimization is modeled as a Markov decision process (MDP). Then, an improved DRL algorithm called triplet-critics comprehensive experience replay soft actor-critic (TCSAC) is proposed to solve it.

Regarding the optimal dispatch of microgrids, a large number of references have been studied. According to the optimization goals, the optimal dispatch of microgrids can be divided into microgrid-level optimization, ...

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This research constructs a microgrid cluster system model consisting of three single microgrids to solve the economic optimization dispatch problem. The information exchange center facilitates information sharing between single ...

This paper proposes a microgrid adaptive robust optimal dispatch model with different robust adjustment parameters. The robust equivalent characterization method is used to convert uncertain parameters ...

To solve this constrained optimization problem, an annealing mutation particle swarm optimization algorithm is proposed. Through simulation and comparison, the dispatching cost results of ...

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A typical microgrid example in Europe is used to verify its reliable results, and it can achieve better results in the process of implementation e multiobjective optimization model ...

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Research status of microgrid optimization dispatch

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