

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.

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.

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.

Can intelligent algorithms solve nonlinear scheduling issues of microgrids?

Thus, intelligent algorithms are now viable options for resolving the nonlinear scheduling issues of microgrids. In this paper, we propose a double-layer optimization strategy based on the multi-point improved gray wolf algorithm (MPIGWO).

Can orderly charging and discharging mode reduce the operating cost of microgrid?

Through simulation and comparison, the dispatching cost results of microgrid are obtained under two dispatching modes of electric vehicle disorder and order. It is concluded that the orderly charging and discharging mode guided by electricity prices can effectively reduce the operating cost and environmental protection cost of microgrid.

What is a day-ahead multi-objective microgrid optimization framework?

To exploit the benefits of microgrid system furthermore, this paper firstly proposes a comprehensive day-ahead multi-objective microgrid optimization framework that combines forecasting technology, demand side management (DSM) with economic and environmental dispatch (EED) together.

This paper is concerned with solving the economic dispatch problem of microgrid via continuous multiagents systems, in which the communication delays and power losses are considered. A ...

However, there are few studies on dispatch optimization of these combined microgrids in current research. On the other hand, from the perspective of microgrid optimization algorithms, the existing research ...

DOI: 10.1109/ISGT-LA56058.2023.10328280 Corpus ID: 265500354; A Comparison Between Genetic Algorithm and Particle Swarm Optimization for Economic Dispatch in a Microgrid ...

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

The optimal economic power dispatching of a microgrid is an important part of the new power system optimization, which is of great significance to reduce energy consumption and environmental pollution. The ...

A review is made on the operation, application, and control system for microgrids. This paper is structured as follows: ... Microgrid dispatch strategies can be classified into two categories, the ...

A comprehensive day-ahead multi-objective microgrid optimization framework that combines forecasting technology, demand side management (DSM) with economic and environmental ...

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