

What is microgrid optimal dispatch with demand response (mod-Dr)?

It is, therefore, the object of the study to develop microgrid optimal dispatch with demand response (MOD-DR), which fills in the gap by simultaneously exploiting both the demand and supply sides in a renewable-integrated, storage-augmented, DR-enabled MG to achieve economically viable and system-wide resilient operational solutions.

Is there a day-ahead scheduling model for grid-connected microgrids?

For the day-ahead scheduling, we propose a data-based distributionally robust chance-constrained (DRCC) energy dispatch model for grid-connected microgrids, to trade off the economic efficiency and operational risk.

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.

What is the research on microgrids?

At present, the research on microgrids mainly focuses on several aspects, including the modeling of microgrids, the processing of uncertain factors, as well as the scheduling strategy, and specific algorithm solution. A number of scholars adopt various strategies to optimize the established microgrid model [6, 7, 8].

What are microgrids and how do they work?

The division of the grid into productive sub-systems - so-called microgrids (MGs), which integrate DG and storage for local demand - has been proposed to increase manageability and reduce transportation losses [7], [8], [9].

What is day-ahead dispatch?

Day-ahead dispatch. Like with electricity market bidding, upon receiving predictions of spot prices and solar irradiation, as well as buildings' projected demands and DR signals from the grid on Day 0, MG-C performs (P0) to prepare a day-ahead dispatch plan and sends it to the generation facility and buildings for review.

As the further development of integrated multi-energy microgrid (IMEM), the distributed management of it increasingly attracts more attention and researches because of different ...

Aiming at the problem that the existing alternating direction method of multipliers (ADMM) cannot realize totally distributed computation, a totally distributed improved ADMM algorithm that combines logarithmic barrier ...

This paper establishes mathematical model of microgrid, aiming at the comprehensive optimization of

economics and environmental protection for grid-connected microgrids" day ...

Consequently, this paper presents a day-ahead dispatch strategy for a set of Micro-Grids, solvable by centralized and ADMM distributed approaches, and with the inclusion of battery ...

We take a modern farm park in Tsingtao city to validate the superiority of the constrained distributionally robust dispatch of the RIES. The day-ahead dispatch is performed ...

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

and the dispatch of renewable generators may affect the microgrid's exposure to uncertainty. To address these challenges, this paper proposes a two-stage robust microgrid dispatch model ...

To deal with uncertainties of renewable energy, demand and price signals in real-time microgrid operation, this paper proposes a model predictive control strategy for microgrid economic dispatch, where hourly ...

The microgrid in the industrial park is dominated by industrial loads, which have the characteristics of large load demand and higher requirement of power supply reliability (Yu ...

targeted at enhancing power dispatch efficiency with a particular focus on grid-connected microgrids. In addition to highlighting the importance of optimization strategies in attaining ...

The volatility of the renewable energy output and the complexity of the coupling among multiple energy sources pose challenges to the optimal dispatch of integrated energy ...

This article proposes the concept of shared ESS (Shared-ESS) for microgrid owner/operator and applies it to the economic optimal dispatch of a microgrid cluster. In addition to the energy storage, the microgrids can achieve ...

