Microgrid dual-layer multi-objective optimization

To mitigate operational instability risks induced by uncoordinated large-scale EV charging integration in microgrids in urban and built-up areas, ...

In summary, this paper proposes a multiobjective optimization strategy for double-layer wind-solar absorption in microgrids based on improved HPSOFA.

This paper presents a three-layer and tri-objective optimization mechanism that simultaneously considers the economic, environmental, reliability, and power quality indexes of the ...

Microgrid is a reliable power system with high renewable energy penetration and efficient coordination of multiple distributed energy sources. The rational conf

Aiming at the problems of low energy efficiency and unstable operation in the optimal allocation of optical storage capacity in rural new energy microgrids, this paper proposes an ...

In this study, a novel method for the reliability evaluation of a multi-energy supply is proposed, and an operation-planning double-layer optimization design method ...

This paper presents a novel multi-objective stochastic optimization model for the optimal operation of a coalition of interconnected smart microgrids, integrating renewable energy resources...

A dual-profit multi-objective optimization scheduling model is established to minimize the peak-to-valley difference for microgrid operators while minimizing user charging costs and maximizing charging ...

To address this problem, a novel two-layer rolling optimization framework for microgrids based on adaptive stochastic model predictive control ...

The results illustrate that the proposed model can fully use demand-side controllable resources to improve system energy utilization, effectively reduce carbon emissions, and further ...

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