
The outputs of this program are mainly the values of the multiple cost-functions that have been optimized and most importantly, the size of each power plant facility.

This study introduces a novel multi-objective optimization framework for microgrids, integrating hybrid renewable energy sources (PV, WT, FC, MT, DG) and ESS to minimize costs, ...

ABSTRACT This paper proposes a novel grid-friendly multi-objective approach to optimize energy management in an integrated source-grid-load-storage microgrid (MG).

This study designs a multi-objective planning optimization problem to determine the optimal sizes of a multi-energy microgrid comprising PV, wind, battery storage, thermal storage, ...

To achieve this, an Improved Hybrid Aquila Optimizer and African Vultures Optimization (IHAOAVO) algorithm is introduced to optimize microgrid scheduling. This approach integrates the ...

In contrast, IMOPSO ensures coordinated control and effectively balances economic efficiency, environmental sustainability, and operational ...

In this paper, we establish a stochastic multi-objective sizing optimization (SMOS) model for microgrid planning, which fully captures the battery degradation characteristics and the total carbon emissions.

This paper introduces a multi-stage constraint-handling multi-objective optimization method tailored for resilient microgrid energy ...

This paper proposes a scenario-based multi-objective optimization model for grid-connected microgrid considering the cost and carbon emissions to realize the optimization of economy-environmental ...

These results demonstrate how the optimization framework balances multiple objectives, ensuring an efficient

and cost-effective energy ...

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