

In this paper, an improved multi-objective optimization strategy for PV power prediction has been proposed based on the improved GA-BP neural network, which is suitable for the distribution ...

This study significantly assessed the technical and economic viability of distributed PV-based hybrid systems for the high-load Makkah Railway Station using the HOMER software.

Most existing studies focus on DG or energy storage planning but lack co-optimization and power tracking analysis. To address this problem, a multi-objective genetic algorithm-based ...

Abstract: This paper analyzes the technical and economic possibilities of integrating distributed energy resources (DERs) and energy-storage systems (ESSs) into a virtual power plant (VPP)...

Solar Forecasting and Optimization: Athena's PowerTrack application provides advanced solar forecasting capabilities to predict solar energy production accurately, enhancing overall energy ...

This study develops an energy management platform for battery-based energy storage (BES) and solar photovoltaic (PV) generation connected at the low-voltage distribution ...

The SFS is designed to examine the potential impact of energy storage technology advancement on the deployment of utility-scale storage and the adoption of distributed storage, as well as the implications ...

A two-layer co-optimization model for a distributed PV energy storage system is established based on source-load power balance, storage climbing, and power constraints in an ...

We develop an evolutionary game model involving three key participants: Distributed Photovoltaic Generation Operators (DPVG), Flexible Energy Storage Providers (FESP), and ...

Proposed scenarios are analyzed in which the storage occurs in a distributed way, with an ESS connected to each PV-DG, or in a concentrated way, with a single ESS connected to the ...

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