

One of the major challenges in modeling renewable-based DGs, battery storage, and loads in microgrids is the uncertainty of modeling their stochastic nature, as the accuracy of these models is ...

Addressing this limitation, this study investigates the simultaneous correlation between source and load power in a microgrid and weather features, conducting research on the joint ultra ...

Integration of DERs and loads is one of the main challenges of microgrids. Modes of operation of the microgrid, transitions between modes, steady-state, and dynamic characteristics of the microgrid, ...

Accurate load forecasting is essential for optimizing microgrid and smart grid operations, thereby supporting Energy Management Systems (EMSs). Load forecasting also plays a key role in ...

Recent studies have explored a variety of optimization strategies for microgrid operations, especially under uncertainty due to renewable energy variability, price fluctuations and load ...

Microgrid assets were sized to minimize annualized project costs under a range of load shifting scenarios, with load shifting varying by amount (up to 25% of total load) and duration (up to 3 h).

In this paper, we propose a novel resilience-oriented energy and load management framework for island microgrids, integrating a multi-objective optimization function that explicitly ...

Abstract- Load control and management is a key component of a microgrid. It is essential at all times to maintain the balance of generation vs. load. The microgrid control system needs to continuously ...

The objective of this paper is two-fold: to provide a comprehensive assessment of the trends in microgrid design over a wide range of locations and load shapes, and to propose a heuristic ...

An energy optimization management method is developed for microgrid operating in island mode, which considers load energy supply priority and dynamic time intervals.

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