

Title: Microgrid Intelligent Management

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This paper presents an intelligent energy management system (EMS) for microgrids. The intelligent EMS employs load and photovoltaic (PV) generation forecasting.

Microgrid (MG) is a small-scale grid that may unite consumers, conventional power sources, distributed renewable energy sources, and energy storage technologies to form a flexible, ...

Artificial intelligence (AI) has recently demonstrated immense potential for optimizing energy management in microgrids, providing efficient and reliable solutions.

Authors in [113, 114] reported block chain technology for demand side energy management. Using reinforcement learning (RL) in [115, 116], a fully decentralized and intelligent ...

Economic analyses show that while initial investments are high, long-term operational savings and improved resilience justify the adoption of advanced microgrid solutions when supported ...

Abstract: This article focuses on intelligent energy management in microgrid systems, providing a comprehensive control engineering perspective on power electronics-based operation. ...

A smart microgrid represents the evolution of the conventional model by integrating advanced communication systems, automation technologies, and intelligent energy management ...

Aiming at the energy management problems of park microgrids, this paper proposes a methodology and system framework based on the concepts of in-depth wisdom integration and lean ...

Artificial intelligence powered intelligent energy management framework for hydrogen storage and dispatch in smart microgrids Article Open access 18 November 2025

Abstract and Figures This study proposes a smart energy management framework for a university campus



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microgrid aimed at reducing dependence on the main power grid and increasing ...

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