

Title: Grid-connected microgrid management

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**Abstract:** Microgrids are characterized by significant uncertainties and unpredictability, posing challenges to effective energy management.

Microgrid solutions help tackle major power disruption events due to inherent islanding of a distribution network from a mainstream grid and automatically reconnect it back once the grid is normalized.

A microgrid is a group of interconnected loads and distributed energy resources that acts as a single controllable entity with respect to the grid. It can connect and disconnect from the grid to ...

**Abstract--**The increasing integration of renewable energy sources (RESs) is transforming traditional power grid networks, which require new approaches for managing decentralized en-ergy production ...

In our study, we are focusing on a hybrid AC/DC MG connected to a main AC grid, and using WTs based on a doubly fed induction generator (DFIG), PV panels, AC and DC loads as well ...

The proposed LEF2NN strategy for energy management in microgrid systems, both grid-connected and standalone demonstrates significant advantages in optimizing operational costs and ...

This study proposes a novel multi-objective optimization framework for grid-connected microgrids using quantum particle swarm optimization (QPSO) to address the dual challenges of ...

An integrated solution was developed by combining advanced control and energy management systems for hybrid microgrids operating in both isolated and grid-connected modes.

The concept of microgrids (MGs) as compact power systems, incorporating distributed energy resources, generating units, storage systems, and loads, is widely acknowledged in the ...

This work presents a novel Regionalized and Integrated Energy Management System (RIEMS) for hybrid



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AC/DC microgrids that combines autonomous zonal control with coordinated inter-zone power ...

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