

This article provides an in-depth exploration of the design and optimization of micro solar grids for off-grid rural communities, focusing on their role as a sustainable energy solution.

This research considers Standalone Microgrid (SMG), also known as Autonomous Microgrid which only operates in off-grid mode and cannot be connected to wider electrical power ...

In this research, the authors used and compared the optimization methods of the equilibrium optimizer (EQ), the black-hole-based optimization (BHB), and the bat optimization (BAT).

This paper explores the strategies and control methods for off-grid operation in microgrids.

This paper proposes an Energy Management System (EMS) of an off-grid residential microgrid comprised of a solar photovoltaic array, wind turbine, and a battery-based energy storage system for ...

The research studies improving the sustainability of power generation infrastructure in remote communities by implementing stand-alone decentralized microgrids with an optimized energy ...

Off-grid microgrids, characterized by significant dynamics and distinct constraints, pose challenges to scheduling practices. This paper advances a research approach to optimize the ...

Meeting the growing global electricity demand in remote and off-grid regions requires cost-effective and reliable power solutions that overcome the intermittency of renewable energy sources.

In this paper, optimal design and sizing of energy resources in a microgrid based on economic and technical objective function is proposed. The proposed optimal design is implemented ...

In this paper, we address the lifelong control problem of an isolated microgrid. We categorize the set of changes that may occur over its life span in progressive and abrupt changes. ...

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