

Indeed, this paper aims to develop a sophisticated model predictive control strategy for a grid-connected wind and solar microgrid, which includes a hydrogen-ESS, a battery-ESS, and the ...

To address the collaborative optimization challenge in multi-microgrid systems with significant renewable energy integration, this study presents a dual-layer optimization model ...

This study aims to develop a comprehensive simulation model of a hybrid microgrid consisting of solar photovoltaic (PV) panels, wind turbines, and lithium-ion battery storage using MATLAB/Simulink.

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 ...

In this paper, mathematical models of photovoltaic cells and wind power systems are established, simulation models are constructed, and their respective characteristics are simulated ...

This review presents a study on the recent development of microgrids incorporating solar and wind energy. It shows various configurations of HRES in microgrid systems.

This study employs sophisticated mathematical modeling techniques to analyze the interactions between solar, wind, battery, and supercapacitor components.

This paper aims to model a PV-Wind hybrid microgrid that incorporates a Battery Energy Storage System (BESS) and design a Genetic Algorithm-Adaptive Neuro-Fuzzy Inference System ...

This study presents a hybrid energy system combining photovoltaic (PV), wind, and fuel cell sources. These three distributed generation (DG) systems are synchronized with the main grid, ensuring ...

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