
In these studies, intelligent algorithms are used to optimize the control parameters of multiple VSGs in standalone microgrids. However, these algorithms often exhibit significant variability ...

This study explores economic dispatch (ED) and optimal power flow (OPF) optimization for microgrid systems, focusing on single-bus islanded and three-bus grid-tied configurations.

Therefore, it is necessary to develop scheduling strategy to optimise hybrid PV-wind-controllable distributed generator based Microgrids in grid-connected and stand-alone modes of operation.

Its improved convergence characteristics and robustness reduce the likelihood of premature convergence and result in more accurate and reliable solutions under dynamic operating ...

Microgrid design and optimization represent a transformative approach to energy management by integrating local power generation, energy storage, and advanced control systems.

Meta-heuristic optimization algorithms (MHOAs) are frequently better suited than other optimization techniques for addressing complex and dynamic optimization problems, as they can ...

Under the dual carbon goals, microgrids face significant challenges in managing multi-energy flow coupling and maintaining operational robustness with high renewable energy ...

Most existing approaches address either MPPT or battery control in isolation, often under idealized assumptions, without considering the coupled challenges of shading, storage, and load ...

The different optimization techniques used in energy management problems, particularly focusing on forecasting, demand management, economic dispatch, and unit commitment, are ...

To address the intricate nonlinear optimization challenge at hand, we employ an evolutionary algorithm

named the "Dandelion Algorithm" (DA). A rigorous comparative study is ...

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