

In addition, the MG optimization problem with the robust approach with the information gap decision theory (IGDT) with risk-averse strategy is implemented to achieve the maximum radius ...

Simulation studies are conducted on a modified 33-bus distribution system segmented into three independent microgrids. The algorithm is evaluated under single-objective scenarios (cost ...

This study evaluates the performance of the improved IMOPSO algorithm in comparison with three traditional multi-objective optimization methods, namely multi-objective gray wolf ...

This paper proposes the concept of Multiple Design Options (MDO) for single-objective optimization and the MDO-PSO optimization technique to enrich the design options of microgrid ...

In this paper, single and multi-objective robust optimization of a microgrid (MG) including photovoltaic (PV) and wind turbine (WT) sources with battery storage has been performed in a...

While planning studies establish the groundwork for microgrid deployment, operation-focused research addresses real-time energy management challenges. A common approach in ...

Microgrids (MG) are low voltage, small scale electricity grids that comprises a wide variety of distributed energy resources (DER) that can operate in a controlled and coordinated manner to ...

This approach helps to practical microgrid decision making and optimization of dynamic energy systems. The energy management process were also able to maximize photovoltaic production where ...

These results demonstrate how the optimization framework balances multiple objectives, ensuring an efficient and cost-effective energy management strategy within the microgrid.

The novelty of this research lies in the fact that MOBAS-EPB is applied to an integrated multi-objective optimization problem in isolated microgrids to simultaneously address frequency ...

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