Yu Jinhui Microgrid

What is multi-objective energy management in a microgrid?
Multi-objective energy management in a microgrid incorporating PEVs entails the optimization of multiple competing objectives,including minimizing energy expenses,mitigating greenhouse gas emissions,and guaranteeing a dependable and resilient power provision 29,30,31.

Can a hybrid optimization algorithm address microgrid scheduling issues?
This study proposes a novel hybrid optimization algorithm, DE-HHO, combining differential evolution (DE) and Harris Hawks optimization (HHO) to address microgrid scheduling issues. The proposed method adopts a multi-objective optimization framework that simultaneously minimizes operational costs and environmental impacts.

How can AI improve microgrid energy management?
Advanced data-driven energy management strategies based on deep reinforcement learning enhance MG stability and economy . Recent advances in microgrid energy management have increasingly relied on integrating AI techniques to enhance system reliability,optimize energy distribution,and reduce operational costs.

Are microgrid configurations effective at addressing diverse energy management challenges?
The outcomes unveil optimal configurations adeptat addressing diverse energy management challenges within the microgrid. Through these studies,the iterative refinement of energy management strategies emerges as paramount.

A microgrid joins the P2P energy trading through selling (buying) electricity to (from) other community microgrids only if it has surplus (deficient) energy. The network structure of the SMG ...

Energy optimization scheduling in microgrids involves coordinating the output of distributed energy resources and managing energy exchange between the microgrid and the main ...

This study proposes a novel hybrid optimization algorithm, DE-HHO, combining differential evolution (DE) and Harris Hawks optimization (HHO) to address microgrid scheduling ...

Dive into the research topics of "Multifunctional microgrid integrating membrane distillation driven Si+ based

hydrogen powered system for energy-water-resource nexus".

This paper studies the long-term energy management of a microgrid coordinating hybrid hydrogen-battery energy storage. We develop an approximate semi-...

Energy Storage and Stochastic Optimization in Microgrids--Studies involving energy management, storage solutions, renewable energy integration, and stochastic optimization in multi ...

The goal is to optimize multi-objective scheduling for a microgrid with wind turbines, micro-turbines, fuel cells, solar photovoltaic systems, and batteries to balance power and store excess energy.

Grid-forming converter faults in islanded hybrid AC/DC microgrid clusters could lead to voltage and frequency in-stability risk in the subgrid, thus threatening system operating safety. To solve ...

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The primary objective of this EMS is to reduce costs and enhance the microgrid"s reliability, tackling a significant challenge in microgrid energy management by improving system ...

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