

Sep 28, 2023 · At the same time, a hierarchical coordinated energy management strategy based on model predictive control (HCEMS-MPC) is presented. Firstly, the mathematical model of ...

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2 days ago · This study proposes an artificial neural network-based hierarchical intelligent control framework for a fully renewable hybrid microgrid powering a residential villa in Jeddah, Saudi ...

Feb 14, 2025 · Cross-regional Hydrogen Energy Storage System (HESS) effectively addresses the uneven spatial and temporal distribution of renewable energy sources by facilitating energy ...

Oct 1, 2023 · In order to better leverage the buffering characteristics of energy storage devices, this paper establishes a simulation model of the SPS, which includes a micro gas turbine ...

Nov 1, 2025 · To address these challenges, this paper proposes a novel hierarchical multi-time-scale energy management system (EMS) to enhance the secure and economical operation of ...

Feb 15, 2025 · In terms of energy storage, various technologies, including batteries [5], heat storage [6], and hybrid systems [7], have been employed to manage energy fluctuations ...

Jan 16, 2025 · Hybrid energy storage system (HESS) in microgrid applications is controlled to balance the power between generation and load sides. However, power loss of converting and ...

Jun 1, 2024 · Discussion on emerging trends in hybrid microgrid's operation and control. Presently, there is huge development in conventional power systems due to the evolution of ...

1 day ago · The increasing penetration of distributed renewable energy highlights the limitations of user-side distributed energy storage (DES), including high costs and low utilization. To ...

Aug 1, 2023 · In view of the complex energy coupling and fluctuation of renewable energy sources in the integrated energy system, this paper proposes an improved multi-timescale coordinated ...

Apr 29, 2025 · Reference [13] proposed an intraday hierarchical model predictive

scheme combining optimization, hierarchy, and iterative control ...

Apr 11, 2024 · Stacking multiple services (multi-use) can increase the utilization of battery storage, whereas coupling different storage technologies with complementary characteristics (hybrid ...

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