

# Yuan Xiaodong Microgrid





## Overview

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What is the optimal configuration method of energy storage in grid-connected microgrid?

In this paper, a optimal configuration method of energy storage in grid-connected microgrid is proposed. Firstly, the two-layer decision model to allocate the capacity of storage is established. The decision variables in outer programming model are the capacity and power of the storage system.

How to optimize battery energy storage in grid-connected microgrid?

The optimal configuration of battery energy storage system is key to the designing of a microgrid. In this paper, a optimal configuration method of energy storage in grid-connected microgrid is proposed. Firstly, the two-layer decision model to allocate the capacity of storage is established.

How much power fluctuation can be suppressed in grid-connected microgrid?

Finally, the result of the energy storage configuration is 227.4 kW / 240.7kWh under which the power fluctuation of connection line in the grid-connected microgrid can be suppressed within 50 kW. Li, X., Hui, D., & Lai, X. (2013).



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### Commercial and Industrial ESS

Air Cooling / Liquid Cooling

- Budget Friendly Solution
- Renewable Energy Integration
- Modular Design for Flexible Expansion



### Research on optimal configuration strategy of energy storage ...

DOI: 10.1186/s41601-017-0067-8 Corpus ID: 257095286; Research on optimal configuration strategy of energy storage capacity in grid-connected microgrid  
@article{Li2017ResearchOO, ...

### Microgrid line protection method using the cosine similarity of ...

DOI: 10.1016/j.ijepes.2023.109335 Corpus ID: 259523960; Microgrid line protection method using the cosine similarity of the time domain traveling waveform  
@article{Zhao2023MicrogridLP, ...



### Research on optimal configuration strategy of energy storage ...

Microgrids are distributed power grids comprising loads, distributed generations and energy storage systems (ESS), which can not only operate connecting to the conventional ...

### A robust GPS-based control scheme for power sharing and quality

As shown in Fig. 11, the test platform consists of a real-time simulator (OP5700) to simulate the inverters and microgrid networks, two micro-controller units (TMS320F28335) ...



### **(PDF) Economic optimization scheduling of multi-microgrid based ...**

yuan,  $618.25 \times 10^4$  yuan, and  $550.16 \times 10^4$  yuan, respectively. Figure 6 illustrates the power supply configuration of the three microgrids in the absence of wind and ...

### **Optimal EV Charging Control Strategy Based on DC Microgrid**

DC microgrid model 2.1 The structure of DC microgrid A DC microgrid is mainly composed of PV system, EV charging device, battery energy storage system, grid- connected ...



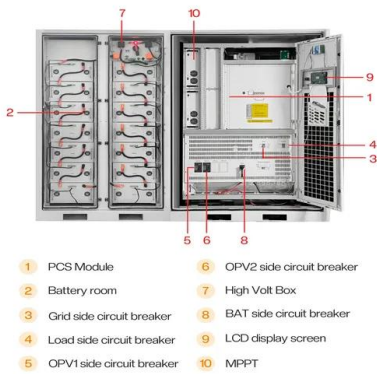
### **Xiaodong Yuan's research works , State Grid Electric Power ...**

Xiaodong Yuan's 22 research works with 274 citations and 2,702 reads, including: An adaptive space-step simulation approach for steam heating network considering condensate loss



### (PDF) Research on Revenue Maximizing Dispatch Strategy for New ...

Liu Dan, Li Qiang, Yuan Xiaodong. Microgrid energy optimal dispatch model considering randomness[J]. Power System Protection and Control, 2014, 42(11): 112-117. ...



### Microgrid economic optimal operation of the combined heat and ...

Xiaodong Yuan was born in Wuxi in China, on Sept 9, 1979. He received the . Microgrids face significant challenges due to the unpredictability of distributed generation (DG) ...

### Real-time pricing for smart grid with multi-energy microgrids and

DOI: 10.1016/j.ijepes.2020.106206 Corpus ID: 224864319; Real-time pricing for smart grid with multi-energy microgrids and uncertain loads: a bilevel programming method ...



[?? ?????? PSPAL Yu Liu ShanghaiTech](#)

[C77] Dazhong Sun, Zhiqiang Duan, Mingxi Zhou and Yu Liu\*, "A Model Predictive Control Based Microgrid Operation Strategy Combining Short-Term and Ultra-Short-Term Forecasts", IEEE ...



### Connecting MAY 21-25, 2023 Research to Practice

Yuan-Kang Wu Session Chair and Email: Yuan-Kang Wu (allenwu@ccu.tw) Paper ID Author Author Contact In Person/Virtual Presentation Title 1:00-1:30pm. 2023-ICPSD-0014 Wu, Yuan ...



### Performance Analysis of the Combined Operation of ...

From the Internet of Energy point of view, adjacent building combined cooling, heating and power with microgrids (BCCHP microgrids) should be interconnected, which will ...

### A robust GPS-based control scheme for power sharing and quality

Also, to allow microgrid using GPS-based control to work in tandem with the bulk power system or another frequency droop microgrid, an extra synchronization algorithm is ...



### (PDF) Analysis of "Source-Network-Load-Storage" Integrated ...

A park microgrid refers to the supply and management of energy within a park through distributed power generation sources, microgrid network architecture, load ...



### A control approach with seamless transition capability for a single

DOI: 10.1016/J.IJEPES.2019.04.012 Corpus ID: 150283575; A control approach with seamless transition capability for a single-phase inverter operating in a microgrid ...

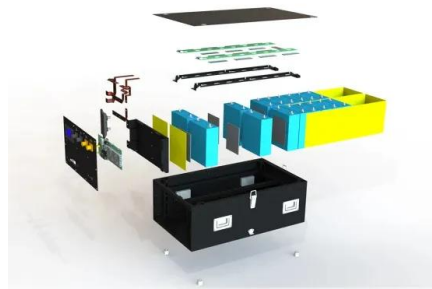


### Enabling Online Scheduling for Multi-Microgrid Systems: An ...

Numerical simulations show that proposed ETOS is economically beneficial, computationally efficient, and is promising to facilitate the online scheduling of a practical real ...

### Yuan, Xiaodong\_Yuan, Xiaodong??\_Yuan, Xiaodong??-??

Yuan, Xiaodong,????????????,????????????????????????????????????  
,??H??19,??????155?,??????????1094?,????????????????  
?? ...



### Improved PSO algorithm for microgrid energy optimization ...

DOI: 10.1109/APPEEC.2013.6837179 Corpus ID: 21901428; Improved PSO algorithm for microgrid energy optimization dispatch @article{Lin2013ImprovedPA, title={Improved PSO ...



[?? ?????? PSPAL Yu Liu ShanghaiTech](#)

27. Dazhong Sun, Zhiqiang Duan, Mingxi Zhou and Yu Liu\*, "A Model Predictive Control Based Microgrid Operation Strategy Combining Short-Term and Ultra-Short-Term Forecasts", IEEE ...

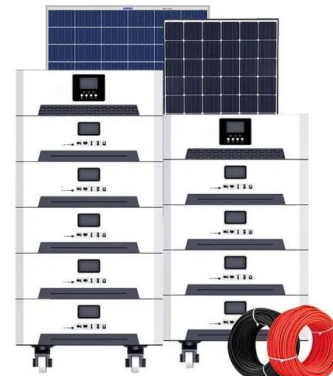


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### Research on the Optimal Economic Power Dispatching of a Multi-Microgrid ...

The economic power-dispatching model of a multi-microgrid is comprehensively established in this paper, considering many factors, such as generation cost, discharge cost, ...



### [Microgrid Control: Concepts and Fundamentals](#)

The control system must regulate the system outputs, e.g. frequency and voltage, distribute the load among Microgrid (MG) units, and optimize operating costs while ensuring smooth ...



### A robust GPS-based control scheme for power sharing and quality

Author links open overlay panel Haiya Qian a, Qingshan Xu a, Jun Zhao b, Xiaodong Yuan c. Show more. Add to Mendeley. Share. Also, to allow microgrid using GPS ...



48V 100Ah



### Economic optimization scheduling of multi-microgrid based on ...

Microgrids are small-scale source-network-load-storage systems that combine distributed energy resources, load management, and energy storage devices. These ...

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DOU Xiaobo, XIAO Yu, YUAN Xiaodong, et al. Energy Management Strategy Based on Improved Model Predictive Control for Microgrid[J]. Automation of Electric Power Systems, 2017, ...



### A generalized descriptor-system robust H? control of ...

Semantic Scholar extracted view of "A generalized descriptor-system robust H? control of autonomous microgrids to improve small and large signal stability considering ...





## Yuan Xiaodong's research works , China Electric Power Research

Yuan Xiaodong's 11 research works with 34 citations and 706 reads, including: Multi-objective Optimal Strategy for the Coordination Control between Distributed Energy



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