

Setting distance of 5G communication base station energy storage system

What is the inner goal of a 5G base station?

The inner goal included the sleep mechanism of the base station, and the optimization of the energy storage charging and discharging strategy, for minimizing the daily electricity expenditure of the 5G base station system.

What is a 5G base station energy storage device?

During main power failures, the energy storage device provides emergency power for the communication equipment. A set of 5G base station main communication equipment is generally composed of a baseband BBU unit and multiple RF AAU units. Equation 1 serves as the base station load model:

What is the load of a 5G base station?

The load of a 5G base station primarily consists of communication equipment and auxiliary components. The communication equipment mainly includes Active Antenna Unit (AAU) and Base Band Unit (BBU). AAU is a combination of radio frequency unit and antenna array of 5G base station.

How can a 5G base station save energy?

(1) Incorporation of Communication Caching Technology: The model includes communication caching technology, which fully leverages the delay-tolerant characteristics of communication flows, further enabling energy saving in 5G base stations.

Firstly, the potential ability of energy storage in base station is analyzed from the structure and energy flow. Then, the framework of 5G base station participating in power system frequency ...

Then, the key technologies for 5G base station to participate in demand response was analyzed. Further, the application scenarios to dispatch 5G base stations as demand-side resources ...

Aiming at the shortcomings of existing studies that ignore the time-varying characteristics of base station's energy storage backup, based on the traditional base station energy storage ...

Furthermore, the power and capacity of the energy storage configuration were optimized. The inner goal included the sleep mechanism of the base station, and the optimization of the energy ...

Firstly, in terms of energy equipment, the electrical component characteristics of the 5 G base station's constituent units are modeled, including air conditioning loads, power supply systems, ...

Abstract: The electricity cost of 5G base stations has become a factor hindering the development of the 5G communication technology. This paper revitalized the energy storage ...

The inner goal included the sleep mechanism of the base station, and the optimization of the energy storage charging and discharging strategy, for minimizing the daily electricity expenditure of the 5G ...

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With the rapid development of 5G communication, a large number of base stations with storage units have been built, and the energy storages of base stations have significant potential for ...

With the rapid development of 5G base station construction, significant energy storage is installed to ensure stable communication. However, these storage re...

On the basis of ensuring smooth user communication and normal operation of base stations, it realizes orderly regulation of energy storage for large-scale base stations, participates in ...

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