BLINK SOLAR

# Base station power management control strategy

## Overview

What is a base station energy storage system?

A single base station energy storage system is configured with a set of 48 V/400 A-h energy storage batteries. The initial charge state of the batteries is assumed to obey a normal distribution, assuming that the base station has a uniform specification and its parameters are shown in Table 2. Table 2. Parameters of the energy storage system.

Why do communication base stations use battery energy storage?

Meanwhile, communication base stations often configure battery energy storage as a backup power source to maintain the normal operation of communication equipment [3, 4]. Given the rapid proliferation of 5G base stations in recent years, the significance of communication energy storage has grown exponentially [5, 6].

How to reduce power-intensive base stations?

To address the issue of power-intensive base stations, proposed a combined approach involving base station sleep and spectrum allocation. This approach aims to discover the most efficient operating state and spectrum allocation for SBS to minimize power consumption and network disturbance.

How do low-load base stations reduce energy consumption?

This strategy flexibly adjusts the user connections of low-load base stations to put inefficient base stations into sleep mode, thereby improving base station utilization and reducing the overall system energy consumption [20, 21].

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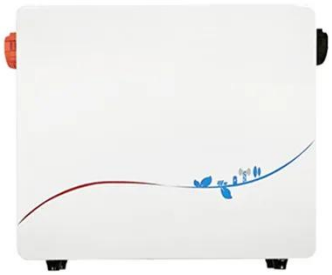


### An Efficient Radio Resource Management Algorithm for ...

In this paper, a new radio resource management algorithm is proposed which aims the reduction of supply power consumption at the base station for multi-user MIMO-OFDM. The proposed ...

### Optimization Control Strategy for Base Stations Based on ...

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, ...


### Strategy of 5G Base Station Energy Storage Participating ...

The energy storage of base station has the potential to promote frequency stability as the construction of the 5G base station accelerates. This paper proposes a control strategy ...

**Hybrid Control Strategy for 5G Base Station Virtual Battery ...**

Furthermore, a multi-objective joint peak shaving model for base stations is established, centrally controlling the energy storage system of the base station through a ...

**An Overview of Energy-efficient Base Station ...**

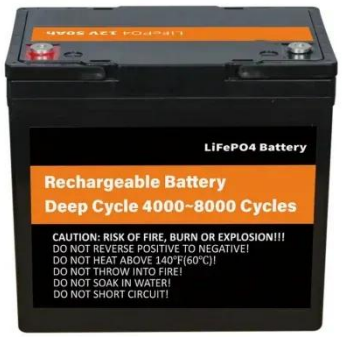
Modern base station power profiles (e.g., [15]) usually include such limitations, and should be used when validating the algorithms performance. When considering faster ...

**(PDF) Hybrid Control Strategy for 5G Base Station Virtual ...**

Aiming at this issue, an interactive hybrid control mode between energy storage and the power system under the base station sleep control strategy is delved into in this paper.

**Base station power control strategy in ultra-dense networks ...**

However, the deployment of numerous small cells results in a linear increase in




energy consumption in wireless communication systems. To enhance system efficiency and ...

**Energy-saving control strategy for ultra-dense network base stations**

A base station control algorithm based on Multi-Agent Proximity Policy Optimization (MAPPO) is designed. In the constructed 5G UDN model, each base station is considered as ...


**Base station power control strategy in ultra-dense networks ...**

This paper proposed a multi-agent reinforcement learning based power control strategy for base stations in UDN. The method initially modeled system energy consumption ...

**Optimization strategy of base station energy consumption ...**

This article focuses on the optimized operation of communication base

stations, especially the effective utilization of energy storage batteries. Currently, base station energy ...

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