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5G base station power saving system

Overview

What is a 5G base station energy consumption prediction model?

According to the energy consumption characteristics of the base station, a 5G base station energy consumption prediction model based on the LSTM network is constructed to provide data support for the subsequent BSES aggregation and collaborative scheduling.

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:.

Can 3GPP reduce base station energy consumption in 5G NR BS?

Aiming at minimizing the base station (BS) energy consumption under low and medium load scenarios, the 3GPP recently completed a Release 18 study on energy saving techniques for 5G NR BSs . A broad range of techniques was evaluated in terms of the obtained network energy saving (NES) gain and their impact to the user-perceived throughput (UPT).

How accurate is 5G base station energy consumption prediction model based on LSTM?

• The 5G base station energy consumption prediction model based on LSTM proposed in this paper takes into account the energy consumption characteristics of 5G base stations. The prediction results have high accuracy and provide data support for the subsequent research on BSES aggregation and optimal scheduling.

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The research and application of energy-saving technology for 5G wireless networks are significant for the emission-reduction work of Communication Operators. The ...

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 ...

The research on 5G base station load forecasting technology can provide base station operators with a reasonable arrangement of energy supply guidance, and realize the ...

The rapid development of 5G technology leads to increasing energy consumption in base stations (BSs). For the vision of green and sustainable communications, we propose a ...

In today's 5G era, the energy efficiency (EE) of cellular base stations is crucial for sustainable communication. Recognizing this, Mobile Network Operators are actively prioritizing EE for ...

Execution Strategy: The integrated energy-saving strategy is sent to the network management system to perform the energy-saving operations on 5G base station, such as ...

To further explore the energy-saving potential of 5 G base stations, this paper proposes an energy-saving operation model for 5 G base stations that incorporates ...

Download Citation , On , Maria Oikonomakou and others published A Power Consumption Model and Energy Saving Techniques for 5G-Advanced Base Stations , Find, ...

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In this paper, our goal is to minimize the total power consumption of the base station by dynamically controlling the switching status of the base station. This article first ...

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