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Title: Energy method of mobile ground communication base station

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What is the energy-saving operation model for 5 G base stations?

This section integrates the characteristics of power components and data flow to construct an energy-saving operation model for the 5 G base station. Through optimization, the optimal energy-saving and carbon-reduction strategies for each time period are obtained, thereby promoting energy conservation and emission reduction in 5 G base stations.

How does the energy consumption of a 5 G base station relate?

References (Israr et al.,2022,Prasad et al.,2017) indicate that the energy consumption of 5G base stations is related to the number of communication users and services within the coverage area of the base station, and they use dynamic energy consumption coefficients to represent this relationship.

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.

What is the objective of a 5 G base station?

The objective function is to maximize the average energy efficiency of the 5 G base station, while ensuring that the traffic demand of the user group is met.

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 communication caching and ...

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 both ...

Abstract With the rapid development of mobile communication, the major operators speed up the pace of network construction, the number of base stations increases significantly, the ...

To achieve low latency, higher throughput, larger capacity, higher reliability, and wider connectivity, 5G base stations (gNodeB) need to be deployed in mmWave. Since mmWave base ...

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Abstract Unmanned aerial vehicles (UAVs) are popularly considered as aerial base stations in a Low-Altitude Platform (LAP) to provide wireless connections to ground users in disaster ...

The consumption of about one hundred base stations for mobile phones were monitored for a total of over one thousand days, in order to study the energy consumption in relation to the ...

Therefore, in response to the impact of communication load rate on the load of 5G base stations, this paper proposes a base station energy storage auxiliary power grid peak shaving ...

The energy consumption of the mobile network is becoming a growing concern for mobile network operators and it is expected to rise further with operational costs and carbon footprints due ...

The energy consumption of the Radio Access Network (RAN) represents almost 80% of the total mobile network energy consumption. RAN mainly consists of a large number of distributed ...

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