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Communication sharing 5G base station



Overview

What is a distributed collaborative optimization approach for 5G base stations?

In this paper, a distributed collaborative optimization approach is proposed for power distribution and communication networks with 5G base stations. Firstly, the model of 5G base stations considering communication load demand migration and energy storage dynamic backup is established.

What is a 5G base station?

At the same time, a large number of 5G base stations (BSs) are connected to distribution networks, which usually involve high power consumption and are equipped with backup energy storage, giving it significant demand response potential.

What is a collaborative optimal operation model of 5G base stations?

Afterward, a collaborative optimal operation model of power distribution and communication networks is designed to fully explore the operation flexibility of 5G base stations, and then an improved distributed algorithm based on the ADMM is developed to achieve the collaborative optimization equilibrium.

What is the architecture and coordination optimization model of 5G base station?

The architecture and coordination optimization model composed of a 5G communication network and distribution network is proposed in Section 3. Afterward, a distributed coordination algorithm is designed in Section 4 with simulation results presented in Section 5. Finally, Section 6 concludes the paper.

2. Model of 5G base station

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A large-scale 5G macro base station network energy management model considering the coordination and optimization of communication and supporting equipment ...

Optimizing energy consumption and aggregating energy storage capacity can alleviate 5G base station (BS) operation cost, ensure power supply reliability, and provide ...

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Kyocera's innovation allows multiple telecommunications operators to share a single base station (CU/DU or O-RU) to process communication data. This functionality ...

This paper discusses the site optimization technology of mobile communication network, especially in the aspects of enhancing coverage and optimizing base station layout. ...

Abstract With the cost of 5G network construction surges, Base Station (BS) sharing is becoming more and more popular among operators nowadays. A typical scenario of ...

Indirect Network Sharing is specified in 3GPP TS 22.261, TS 23.501 and TS 23.502, allowing the communication between the shared ...

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With the maturity and large-scale deployment of 5G technology, the proportion of energy consumption of base stations in the smart grid is increasing, and there is an urgent ...

Index Terms--base station antenna, 5G antenna, shared-aperture, dual-band antenna. I. INTRODUCTION The development of the 5G era poses enormous challenges to ...

This paper develops a method to consider the multi-objective cooperative optimization operation of 5G communication base stations and Active Distribution Network (ADN) and constructs a ...

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