

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 are the basic parameters of a base station?

The fundamental parameters of the base stations are listed in Table 1. The energy storage battery for each base station has a rated capacity of 18 kWh, a maximum charge/discharge power of 3 kW, a SOC range from 10% to 90%, and an efficiency of 0.85.

Do 5G communication base stations have multi-objective cooperative optimization?

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 description model for the operational flexibility of 5G communication base stations.

What is the equipment composition of a 5G communication base station?

Figure 1 illustrates the equipment composition of a typical 5G communication base station, which mainly consists of 2 aspects: a communication unit and a power supply unit.

In this context, a cooperative BS assignment and resource allocation (CBARA) strategy is proposed in this paper, aiming at jointly optimizing the communication and sensing (C& S) performance.

Cell-free (CF) networks can reduce cell boundaries by densely deploying base stations (BSs) with additional hardware costs and power sources. Integrating a reconfigurable intelligent ...

Abstract--This paper presents a novel embedded dual-band shared-aperture base station antenna, which can work in Sub-6 GHz and millimeter wave band simultaneously. The Sub-6 GHz ...

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In this paper, we consider a multi-base station ISAC network that enables communication while achieving multi-target sensing. We therefore propose a CBARA strategy to jointly optimize C& S ...

Syensqo's solutions for base stations facilitate lightweighting, radio performance, miniaturization, efficiency and thermal management. We offer materials that fulfill these demands, for ...

To address this problem, this paper proposes an inter-BS synchronization scheme based on the reference path calibration. Specifically, based on the actual distance and velocity of the ...

The communication mutual interference between multiple BSs: When multiple BSs provide communication services to the UEs in the same area, the UEs will receive multiple downlink ...

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Abstract: Driven by the intelligent applications of sixthgeneration (6G) mobile communication systems such as smart city and autonomous driving, which connect the physical and ...

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