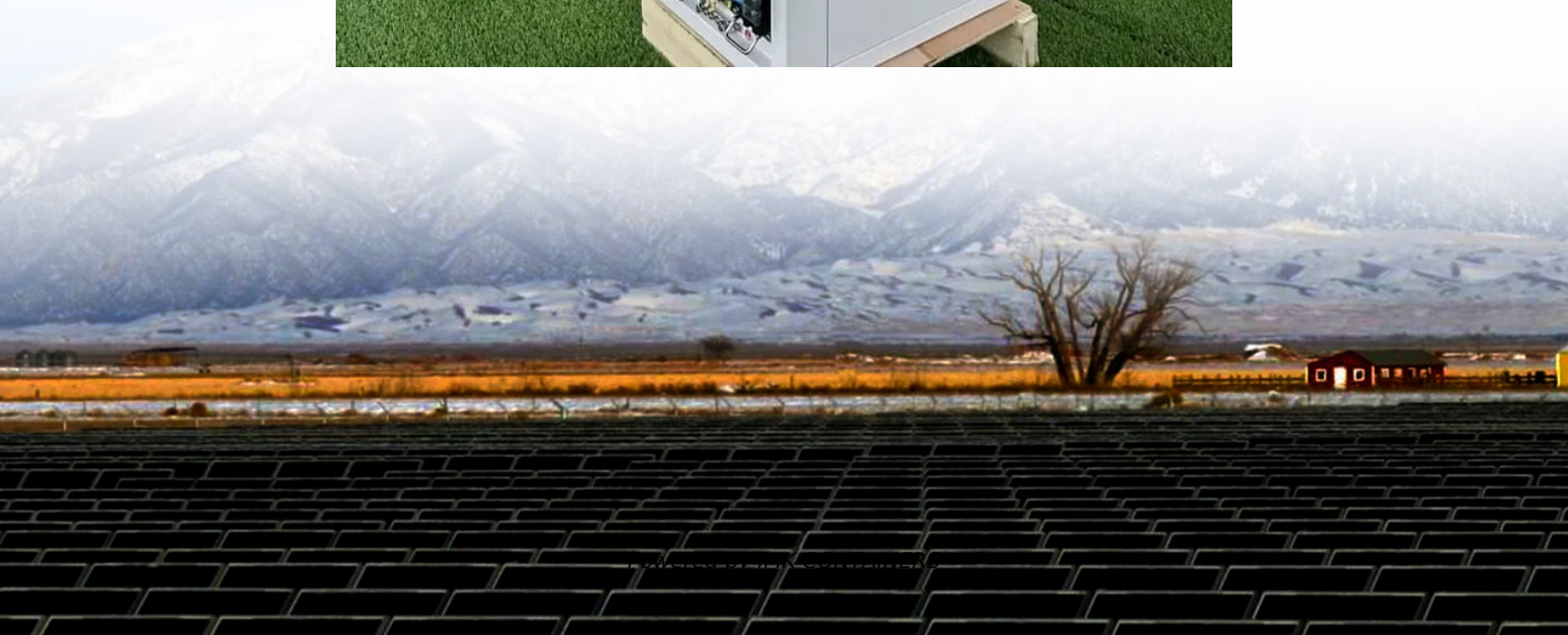


# **Construction of 5G base stations in distribution stations**





## Overview

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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 the load of a 5G base station?

The load of a 5G base station primarily consists of communication equipment and auxiliary components. The communication equipment mainly includes Active Antenna Unit (AAU) and Base Band Unit (BBU). AAU is a combination of radio frequency unit and antenna array of 5G base station.

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:.

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



## Construction of 5G base stations in distribution stations

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### Shanghai to set up nearly 10,000 new 5G-A base stations this ...

Shanghai will establish up to 10,000 new 5G-A base stations this year, routing more than 70 percent of the city's internet traffic through 5G network.

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### Coordinated scheduling of 5G base station energy storage ...

This section primarily analyzes the current mainstream commercial 5G macro base stations. The load of a 5G base station primarily consists of communication equipment ...

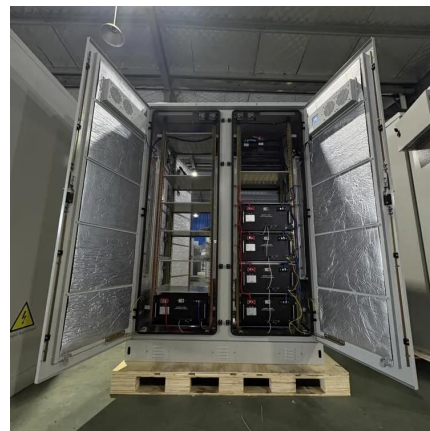
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### Visual distribution map of existing 5G base stations

The problem of insufficient signal coverage of 5G base stations can be solved by building new base stations in areas with weak signal coverage. However, due to construction costs and ...

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### Visual distribution map of existing 5G base ...

The problem of insufficient signal coverage of 5G base stations can be solved by building new base stations in areas with weak signal coverage. However, due to construction costs and other factors

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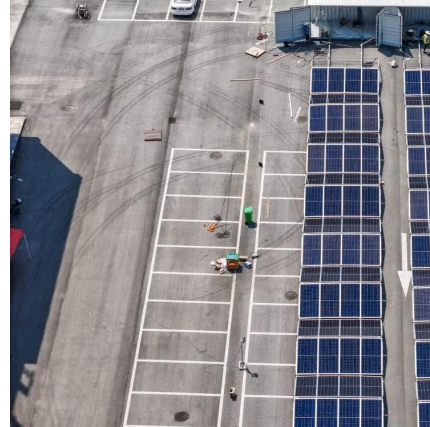
### Collaborative optimization of distribution network and



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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 ...

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## Integration Planning of 5G Base Stations and Distribution ...

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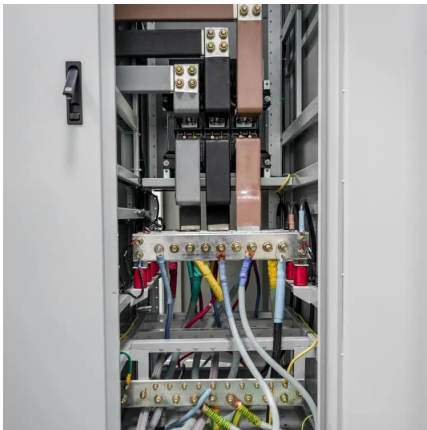


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