

Mobile cluster communication green base station settings





Overview

Does Mappo reduce power consumption in 5G ultra-dense networks?

In this paper, we thoroughly study the base station control problem in 5G ultra-dense networks and propose an innovative MAPPO algorithm. The algorithm significantly reduces the overall power consumption of the system by optimizing inter-base station collaboration and interference management while guaranteeing user QoS.

What are base station sleep strategies in 5G UDN?

In 5G UDN environments, the use of base station sleep techniques is one of the most widely used methods to reduce power consumption. In this paper, two types of base station sleep strategies are distinguished: threshold-based base station sleep strategies and adaptive base station sleep strategies. 2.1. Threshold-based base station sleep strategy.

What is threshold-based base station sleep strategy?

Threshold-based base station sleep strategy is a common base station management method in wireless communication networks, which adjusts the operating state of the base station to save energy and improve resource utilization by dynamically setting appropriate thresholds.

How does distributed execution affect base station control?

In the distributed execution phase, each actor network makes decisions independently based only on its own network and observations, and although each actor executes independently, the whole system is able to obtain a better base station control strategy because their strategies are based on the results of global optimization. Fig. 2.



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Optimization of Communication Base Station ...

Dec 7, 2023 · In the communication power supply field, base station interruptions may occur due to sudden natural disasters or unstable ...

Multi Base Stations to Multi Mobile Units: Green Communication ...

Request PDF , On Apr 15, 2021, Hen-Geul Yeh and others published Multi Base Stations to Multi Mobile Units: Green Communication Systems via A Wavefront Multiplexing Technique , Find, ...

Mobile Networks on the Move: Optimizing Moving Base ...

Jun 10, 2024 · An alternative paradigm is the moving base stations (MBSs) approach, by which part of base stations are installed on vehicles. However, to the best of our knowledge, it is still ...

Multi-objective cooperative optimization of ...

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 ...

Communication Base Station Site Planning Based on ...

May 28, 2023 · With the sharp development of mobile communication technology, the coverage area of existing base stations cannot meet the increasing demand of users, so it is significant ...

Energy-saving control strategy for ultra-dense network base stations

Aug 1, 2025 · Aiming at the problem of mobile data traffic surge in 5G networks, this paper proposes an effective solution combining massive multiple-input multiple-output techniques ...

Energy-Efficient Base Stations Sleep Mode Techniques in ...

May 4, 2020 · In this survey, we first present facts and figures that highlight the importance of green mobile networking, and then review existing green cellular networking research with ...

Base Station ON-OFF Switching in 5G Wireless Networks: ...

Jan 22, 2023 · Finally, we present open research problems and conclude the paper. Index terms-- 5G Wireless; Green communications and networking; Cloud RAN; Energy efficiency ...

Mobile Communication Network Base Station Deployment ...

Apr 13, 2025 · This paper discusses the site optimization technology of mobile communication network, especially in the aspects of enhancing coverage and optimizing base station layout. ...

Clustering methods for base station cooperation

Apr 4, 2012 · When the joint processing technique is applied in the coordinated multipoint



(CoMP) transmission downlink, the user data for each mobile station (MS) needs to be distributed ...

gsm base station

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Basestation

A base station (BS) is defined as a fixed communication facility that manages radio resources for one or more base transceiver stations (BTSs), facilitating radio channel setup, frequency ...

Cluster Analysis of mobile communication network station ...

Jan 27, 2023 · Nowadays mobile communication technology develops rapidly, the demand for mobile communication network is getting higher and higher. In recent years, China's ...

Joint Load Control and Energy Sharing Method for 5G Green Base Station

Oct 20, 2022 · With the explosive growth of mobile data, the operators are facing severe energy consumption and economic problems, and the major challenge of sustainable development ...

China Mobile - Renewable energy and green base station ...

Aug 7, 2025 · China Mobile added 467,000 5G base stations while achieving a 2% reduction in overall base station energy consumption in 2024.

Energy-Efficient Clustering for Wireless Sensor Networks ...

May 29, 2017 · considered by using a mobile base station, and an Energy-Efficient Clustering algorithm named as ECMBS is proposed. After clustering the nodes and selecting the cluster ...

Flexible Base Station Sleeping and Resource Allocation for Green ...

Sep 8, 2025 · The fully-decoupled radio access network (FD-RAN) is an innovative architecture designed for next-generation mobile communication networks, featuring decoupled control and ...

Research on mobile communication network site optimization setting

Oct 27, 2023 · The coverage area of base stations has shrunk due to the rapid growth of 5G technology in China, but the quantity of base stations needed to cover the same region has ...

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