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Title: Development trend of cluster base station communication

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How BS-relay station deployment technology is based on joint clustering?

Ratheesh et al. proposed a BS-Relay Station deployment technology based on joint clustering. The algorithm takes into account network throughput and coverage to achieve BS-Relay Station deployment. From the perspective of energy and the environment, the power that a BS consumes is proportional to the maximum region that the BS can serve .

What is a 'cluster' service strategy?

In this context, relying on a uniform service strategy limits the network's ability to adapt and scale to these diverse needs. To overcome these challenges, China Telecom and ZTE introduced the "Cluster" concept. This approach groups base stations with similar service characteristics and requirements into clusters.

What is cluster dynamic radio sharing (cluster DRS)?

By extending the "Cluster" concept to the spatial domain, the cluster dynamic radio sharing (Cluster DRS) solution enables low-altitude, three-dimensional coverage on 5G commercial networks, delivering ultra-stable user experiences and expanding across industries to fully unlock the potential of 5G. The Cluster Concept

What is a ZTE & China Telecom cluster?

To overcome these challenges, China Telecom and ZTE introduced the "Cluster" concept. This approach groups base stations with similar service characteristics and requirements into clusters. Each cluster uses a tailored resource allocation strategy, while different clusters employ differentiated approaches.

Feb 6, 2025&nbsp;&#0183;&nbsp;&nbsp;Signal coverage quality and strength distribution in complex environments pose severe challenges, leading to the inadequacy of traditional two-dimensional base station ...

Feb 26, 2023&nbsp;&#0183;&nbsp;&nbsp;In China, the coverage of 5G network is increasing rapidly, and the cost of base station construction is huge. Therefore, reasonable and efficient site planning is an extremely ...

Rethinking Infrastructure for the 5G-Advanced Era As global mobile data traffic surges 35% annually, communication base stations face unprecedented demands. Can traditional tower ...

Nov 30, 2025&ensp;&#0183;&ensp;This can lead to suboptimal network performance and a poor user experience. To address this challenge, we propose a Clustering-Driven Approach for Base Station Parameter ...

Oct 1, 2025&ensp;&#0183;&ensp;The research focuses on the processes of information and communication interaction between a set of subscribers and a base station in a 5G cluster. We...

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Feb 26, 2023&ensp;&#0183;&ensp;In this paper, to address the site planning and area clustering problems of mobile communication networks, the K-mean clustering algorithm, linear programming, K-mean ...

Aug 1, 2024&ensp;&#0183;&ensp;This paper proposes a double-layer clustering method for 5G base stations and an integrated centralized-decentralized control strategy for their participation in frequency ...

Mar 17, 2025&ensp;&#0183;&ensp;Signal coverage quality and strength distribution in complex environments pose severe challenges, leading to the inadequacy of traditional two-dimensional base station ...

Jan 21, 2025&ensp;&#0183;&ensp;Initially developed to address the demands of low-altitude communication, Cluster DRS provides deterministic communication services for drones by ensuring reliable 5G ...

Feb 28, 2023&ensp;&#0183;&ensp;In order to improve the quality of mobile communication, this paper uses the normal distribution 3-standard deviation method, ...

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