

Introducing D2D communication into cellular networks can reduce the burden on base stations





Overview

Integrating device-to-device (D2D) communication into cellular networks can significantly reduce the transmission burden on base stations (BSs). What are the advantages of D2D communication in cellular networks?

Optimization of Power Levels: since D2D links exist between proximate devices, over a small distance, transmission power is less. This enhances the battery life of the devices. As a result, higher energy efficiency can be achieved with D2D communication in cellular networks. 4.

What is D2D communication in 6G network challenges?

In addition, D2D communication in 6G network challenges and open research areas are introduced. Device-to-device (D2D) communication is one of the most promising technologies in wireless cellular networks that can be employed to improve spectral and energy efficiency, increase data rates, and reduce links latency.

What is the difference between D2D and conventional cellular communication?

Conventional cellular communication is supported by the macro cell tier, while D2D communication is supported by the device tier. These cellular networks thus are similar to the existing networks. The difference lies in the fact that faithful services can be achieved by the devices at the cell edges and those in the congested areas within the cell.

How to maximize resource allocation in D2D communication?

Another technique for resource allocation is provided in Yu et al. (2011), maximizing throughput of the network. The cellular services are given the higher priority over the D2D communication. For evaluating a single-cell scenario, a system with D2D communication underlying cellular communication is considered.



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D2D communication mode selection and resource

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Introduction to D2D Communication

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An overview of device-to-device communication in cellular networks

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