WALMER ENERGY

D2D communication can reduce the burden on base stations

Overview

By allowing user equipments (UE s) to communicate directly without routing data through the base station (BS), D2D communication can improve spectral efficiency (SE) and energy efficiency (EE), reduce end-to-end latency, and support new proximity-based services.Can cellular D2D communication improve spectrum efficiency?

Cellular D2D communication can improve spectrum efficiency, increase system capacity, and reduce base station communication burdens by sharing authorized cell resources; however, can also cause serious interference.

What is communication in D2D?

The communication in D2D defines the direct communication technology among two cellular systems without subjecting via the base station. This assists to tune some cellular traffic to the D2D frameworks, improving the capacity of the network, enhancing the efficacy of spectrum, decreasing the latency, and scaling coverage 8.

What are the benefits of D2d multicast communication?

The introduction of D2D multicast communication can also reduce base station transmission loads for matching information; for users located at the edge of a cell, system capacity (i.e., the number of access users) can be greatly improved using the content distribution method.

What is device-to-Device (D2D) communication?

Based on this, Device-to-Device (D2D) communication has received widespread attention for its reusing of cellular frequency band resources, enabling traditional users to transmit data directly between mobile terminals without base station relaying [2].

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Deploying Energy Efficient D2d Communication in ...
Oct 27, 2025 · As a new communication method, Device-to-Device (D2D) communications are proposed in Long-Term Evolution Advanced systems to increase network capacity [2], [3], ...

Research on D2D Communication
Device-to-device(D2D) communication is a new technology that allows mobile terminals to directly communicate with each other by sharing the resources of cells under the control of cellular ...

Power control of D2D communication based on quality of ...
Feb 8, 2020 · In cellular networks, proximity users establish device-to-device(D2D) links directly under the control of base stations (BSs) for data exchange, and no base station forwarding is ...

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Jul 12, 2025 · Fifth generation (5G) networks are desired to offer improved data rates employed for enhancing innovations of device-to-device (D2D) communication, small base stations ...

Energy Efficient D2D Communication Under Downlink
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An overview of device-to-device communication in cellular ...
Dec 1, 2018 · As newer and more demanding applications arise and subscriber base increases exponentially, there is an urgent requirement for more novel techniques to boost data rates ...

Device-to-Device Communication in Cellular Networks:
May 29, 2013 · D2D communication allows communication between two devices, without the

participation of the Base Station (BS), or the evolved NodeB (eNB). Proximate devices can ...

Relay selection in network coding assisted multi-pair D2D

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