Millimeter wave base station communication distance

How can a millimeter-wave base station improve real-time information transmission?
Finally,the proposed metasurfaceshelp the millimeter-wave base station to realize real-time information transmission of multi-users with different directions in a realistic indoor scenario. The experimental results demonstrate that the new beamforming base station system can intelligently enhance or attenuate signals in specific target areas.

How do millimeter-wave mobile communication systems ensure fast initial access and beam tracking?
In general,fast initial access and beam tracking are ensured by allocating a large number of time-frequency resourcesto the user equipment in millimeter-wave mobile communication systems 3.

What is a beam management method for millimeter-wave mobile communications?
In this paper,a beam management method for millimeter-wave mobile communications based on digital twin-enabled scenario cognitionis proposed. By mapping scenario characteristics to beam management,appropriate beam configurations and antenna configurations can be selected by the tradeoff between system performance and system complexity.

What is the maximum coverage range of a millimeter-wave system?
The ideal maximum coverage range of a single base station in the millimeter-wave system can be calculated by equation (6),which is approximately 980 m.Figure 6 shows that the running time of the proposed algorithm increases linearly with the length of movement trajectories under the given simulation environment.

Abstract--With the explosive growth of mobile data demand, the fifth generation (5G) mobile network would exploit the enormous amount of spectrum in the millimeter wave ...

In millimeter-wave small base stations, when using array antenna beamforming technology, the base station is able to focus signals to specific users or directions, improving ...

This work presents an implementation of a meta-heuristic algorithm based on swarm intelligence, to minimize the number of base stations (BSs) and optimize their placements in millimeter ...

Millimeter wave wireless connection is considered to be one of the major strengths of 5G networks that are transformed from copper and fiber optic which deploys mesh-like ...

Network densification is a key technology to meet the rapid growth of 5G traffic. Millimeter wave has rich spectrum resource, short propagation distance and obvious ...

Abstract--We propose a blockage prediction and fast base station (BS) handover (BP-FBSH) scheme based on the ref-erence signal received power (RSRP) of the mobile ...

In this article, a performance analysis of millimeter wave (mmWave) massive multiuser multiple-input and multiple-output (MU-MIMO) channel within an underground mine ...

To address the above problems, we propose a novel beam management method for millimeter-wave mobile communications based on digital twin-enabled scenario cognition.

In this article, we consider a communication system with movable unmanned aerial vehicle-base stations in millimeter-Wave. The movable unmanned aerial vehicle-base stations are ...

Do 5G mmWave signals go inside my house or apartment? 5G mmWave signals don't pass through objects, such as buildings, trees, and windows, as well as those in lower ...

We consider both a single base station and a multi base station scenario and observe the following characteristics based on our ray tracing: 1) The coverage range for a ...

Network slicing is expected to become an integral part of future 5G systems providing a simple mechanism for physical network operators to diversify their business ...

The architecture and requirements of millimeter-wave communication systems are analyzed, and the application cases of novel antennas in millimeter-wave communication ...

The distance and coverage characteristics of millimeter-wave communications between the access UAV and the terminal and the ...

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