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Title: Millimeter wave base station communication distance

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How can a millimeter-wave base station improve real-time information transmission?

Finally, the proposed metasurfaces help 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.

Can mmWave base stations improve beam selection and blockage prediction?

Therefore, we investigate the potential gains of employing cameras at the mmWave base stations and leveraging their visual data to help overcome the beam selection and blockage prediction challenges.

How mmWave carrier spectrum is used in cell planning?

The use of the mmWave carrier spectrum in the cell planning process will significantly improve the data rates of the networks while increasing the number of UMi to be deployed. The intermediate frequency band for 5G and mmWave frequencies band will be suitable for 5G UMi dense networks in urban hotspots where additional capacity is vital.

Can mmWave carrier frequency be used to measure 5G outage rate?

Furthermore, we use Monte Carlo simulation to measure the outage rate given the placement of the base stations determined in the planning phase. The deployment of dense heterogeneous networks with the use of mmWave carrier frequency is desired to be studied in the planning process of the upcoming 5G networks.

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 directivity. ...

Abstract--This paper investigates a novel research direction that leverages vision to help overcome the critical wireless communication challenges. In particular, this paper considers ...

In this study, we evaluated the outage probability and throughput in millimeter-wave UAV wireless communication by varying UAV density and altitude using computer simulations.

Here, we propose a large-scale 2-bit millimeter-wave programmable metasurface to build an integrated smart

base station framework for 6G communications. The meta-array is composed of ...

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 transmission rates ...

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 ...

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 mobile ...

Millimeter wave (mmWave) communication is a key technology to provide ultra-fast data rates and massive connectivity in wireless networks. This paper introduces a computational and cost ...

Impact of base station density and altitude on transmission performance in millimeter-wave UAV communications Shota Muroki¹, Shuhei Saito^{A1}, Hirofumi Suganuma^{A1}, and Fumiaki Maehara^{A1}, 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 models. New Radio (NR) ...

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