



MODERNIZATION SOLAR

# Analysis of the communication process between ue and base station





## Overview

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What is the difference between UE and BS antenna height?

We assume that the UE antenna height is still 1.5 m, but the BS antenna height changes to 5 m, 10 m and 20 m, respectively. Accordingly, L takes the values of 3.5 m, 8.5 m and 18.5 m, respectively. Our key conclusions are summarized in the following: The larger the L, the severer the ASE Crash.

How does distributed execution affect base station control?

In the distributed execution phase, each actor network makes decisions independently based only on its own network and observations, and although each actor executes independently, the whole system is able to obtain a better base station control strategy because their strategies are based on the results of global optimization. Fig. 2.

What is UL data transmission?

UL data transmission — This is an in-band packet. The UE node transmits the UL data over the physical uplink shared channel (PUSCH) when it receives the scheduling grant. This figure illustrates the DL transmission. The DL transmission consists of these packets. CSI reference signal (RS) — The gNB node sends CSI-RSs to the UE node.

How does a UE node transmit a BSR?

The UE node transmits a BSR with a predefined periodicity as an out-of-band packet. You can use the `connectUE` object function of the `nrGNB` object to set the periodicity of the BSR report. Scheduling grant — Upon receiving the BSR from the UE node, the base station provides grants (an out-of-band packet) to the UE node for the UL transmission.



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### Communication method, base station and user equipment (UE)

The invention provides a communication method, a base station and UE. The method comprises that a first base station determines measurement configuration information which indicates the ...



## 5g nr physical channels

Nov 21, 2023 · 5G New Radio (NR) defines a set of physical channels that facilitate communication between the user equipment (UE) and the base ...



### Communication Between gNB and UE Nodes

Communication Between gNB and UE Nodes  
Packet communication is central to the 5G new radio (NR) interface. This topic presents the communication flow between the 5G base station  
...

## 5g nr physical channels

Nov 21, 2023 · 5G New Radio (NR) defines a set of physical channels that facilitate communication between the user equipment (UE) and the base station (gNB, or Next ...



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### [Communication Between gNB and UE Nodes](#)

Communication Between gNB and UE Nodes  
Packet communication is central to the 5G new radio (NR) interface. This topic presents the ...



## Performance Impact of Base Station Antenna Heights in ...

Jan 22, 2023 · Abstract--In this paper, we present a new and significant theoretical discovery. If the absolute height difference between base station (BS) antenna and user equipment (UE) ...



## **Energy-saving control strategy for ultra-dense network base stations**

Aug 1, 2025 · A base station control algorithm based on Multi-Agent Proximity Policy Optimization (MAPPO) is designed. In the constructed 5G UDN model, each base station is considered as ...

## LTE Physical Layer: eNodeB and UE

Explore the LTE physical layer, focusing on the transmitter modules in both the eNodeB (base station) and UE (user equipment) as per the LTE standard.



## **Simplified model for analysis. LB1: Link between the base station ...**

The HSF and the distance between the UE and the base station were utilized as input data to Self Organizing Map (SOM), an unsupervised machine learning algorithm, to form clusters of the UE.



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Explore the LTE physical layer, focusing on the transmitter modules in both the eNodeB (base station) and UE (user equipment) as per the LTE

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## Joint Power Optimization of BS and UE in Wireless Networks

Oct 13, 2023 · The optimization of power control for base station (BS) and user equipment (UE) is crucial to enhance network performance in the dynamic landscape of wireless communication.

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