

Can a single base station hybrid positioning algorithm based on Los identification?

Provided by the Springer Nature SharedIt content-sharing initiative In the complex multipath propagation environment, whether there is a line of sight (LOS) path will directly affect the positioning accuracy. Therefore, this paper proposes a single base station hybrid positioning algorithm based on LOS identification.

How can a single-base station position if there is no LOS path?

For the environment where there is no LOS path, we propose a single-base station positioning method that directly uses the NLOS path for positioning. The final position of the MS can be obtained by solving the optimization problem.

How can a single-base station positioning algorithm be used in the NLOS environment?

First, the LOS identification accuracy using different classifiers and different features is obtained through simulation. Then, the performance of the proposed single-base station positioning algorithm in the NLOS environment is verified for positioning points where there is no LOS path.

Is there a high-precision indoor positioning method using BS and 5G signals?

A high-precision indoor positioning method using a single Base-Station (BS) and 5G signals is presented by Liu et al. . Additionally Xie et al. propose a scattering area model with specific spatial layout information for outdoor single-station positioning in an NLOS environment .

What is positioning using a single node or station?

Positioning using a single node or station is an alternative method to determine the user position by relying on angular and distance measurements, making it particularly suitable for environments with limited availability of the Global Navigation Satellite System (GNSS), such as indoors or deep urban canyons.

Can single-node positioning systems improve localization capabilities?

Using Commercial-Off-The-Shelf equipment and advanced signal processing algorithms, our research aims to showcase the feasibility and performance of single-node positioning systems in practical applications, paving the way for enhanced localization capabilities in diverse operational environments.

The outdoor positioning technology based on a single communication base station (BS) is cost-efficient and convenient for users [4]. It only needs to extract the parameter information from ...

More specifically, mmWave MISO systems have been shown to achieve centimeter-level accuracy even for a single base station (BS) [7]. Improved performance can be obtained when ...

In this paper, we explore advancements in single-node positioning using a novel testbed setup based on

Universal Software Radio Peripherals (USRPs) utilizing the SRS in the ...

Positioning based on wireless communication networks has great application potential. In this paper, we propose a positioning method for the 5G-Advanced (5GA) or 6G ...

In this paper, we shed light on the performance gain of integrated sensing and communications (ISAC) from the perspective of channel correlations between radar sensing and ...

First of all, we construct a scatter area model based on the spatial layout of obstacles near the base station and then collect the multipath signals ...

The simulation results show that the positioning algorithm in this paper can be used by a single base station to locate the target in an outdoor non-line-of-sight (NLOS) environment, and the ...

To validate whether the mobile base station prototype can operate as an independent LTE communication system, we have a ping test and data transmission evaluations between the ...

With the growing demand for high accuracy indoor localization, the fifth generation (5G) wireless communication technology based localization attracts increasin

To rapidly restore damaged communication systems, we propose a UAV-based mobile base station equipped with Public Safety LTE (PS-LTE) technology to provide standalone ...

In the single-station positioning system, the base station lacks other base stations to provide cooperative information, so it is di cult to conduct positioning under the condition of the NLOS ...

In the complex multipath propagation environment, whether there is a line of sight (LOS) path will directly affect the positioning accuracy. Therefore, this paper proposes a single ...

Most UWB positioning systems use multiple base stations to achieve 2D or 3D positioning of users. In order to overcome the shortcomings of multiple reference base station ...

With the development of the fifth generation (5G) wireless communication and the growing demand for high-precision indoor localization, the 5G signal based loca

We will talk about both types of fading in this chapter, but with more emphasis on the latter. Large-scale fading is more relevant to issues such as cell-site planning. Small-scale multipath fading ...

Abstract--This paper presents an autonomous, self-organizing and decentralized configuration and management system for a group of base stations in wireless networks. Compared to ...

The CF-TLS method is time saving and provides good location accuracy when two or more resolvable single-bounced multipaths are available. However, the CB-GSA method ...

Finally, a single base station hybrid positioning algorithm based on LOS identification and the corresponding positioning methods. Simulation results show that the ...

In this paper, we shed light on the performance gain of integrated sensing and communications (ISAC) from the perspective of channel correlations between ...

With the growing demand for high accuracy indoor localization, the fifth generation (5G) wireless communication technology based localization attracts increasing attention. ...

With the development of the fifth generation (5G) wireless communication and the growing demand for high-precision indoor localization, the 5G signal based localization technology has ...

To address this, our paper proposes an effective single-station cooperative node localization technique, where the observation station only ...

It is reported that many communication equipment manufacturers have started research and development of small base station products with UCP4008 chip, and more prototypes and ...

These base stations provide the cell with the network coverage which can be used for transmission of voice, data, and other types of content. In radio communications, a ...

The 8318 SIP-DECT Single Base Station by Alcatel-Lucent Enterprise provides an ideal communication solution for small to medium-sized businesses seeking dependable voice ...



Single base station independent communication

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