Title: Base station site density derivation
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Does base station density affect network capacity?
This means that the network capacity linearly increaseswith the base station density. However,the result can be achieved under a assumption that every cell has saturated traffic. This is unreasonable as the number of base stations increases; some of the small cells do not even have any user to serve.

Are base stations positioned randomly in a cellular network?
Consider a downlink cellular network consisting of base stations (BSs) and mobile users (MUs). Many previous studies on cellular networks assumed that BSs are positioned regu-larly. However,in reality,it is not trueand there are some random characteristics.

How many base stations should be installed to increase network capacity?
An interesting observation is that the success transmission density increases with the base station density,but the increasing rate diminishes. This means that the number of base stations installed should be more than n-timesto increase the network capacity by a factor of n.

Can a base station be modeled as a homogeneous Poisson point process?
In this paper,we use the stochastic geometry approach,where base stations can be modeled as a homogeneous Poisson point process. We also consider the user density,and derive the user outage probability that an arbitrary user is under outage owing to low signal-to-interference-plus-noise ratio or high congestion by multiple users.

In this paper, we investigate if the downlink transmit power can be decreased arbitrarily by increasing the density of base stations for a given target rate and coverage.

After analyzing the effect of the base station power, density and the network load on the performance of network, the optimal deployment density of the base stations are given ...

These mixed LoS and NLoS channels result in the existence of the optimal base station (BS) density to maximize coverage probability. Therefore, this letter investigates the analytical ...

In this paper we use the notion cell site, or shortly site, to refer to the geometrical location of a base station"s radio equipment and its antennas. Further, the notion cell is referred to as the ...

In this paper, with consideration of load issues, we study the optimal base station density that maximizes the

throughput of the network.

A more accurate model of 5G transmission behavior, considering a complex transmission environment with randomly distributed interferences is proposed, and a method of estimating ...

For a given base station layout, we develop a method for estimating the density of base stations that minimizes energy consumption and which is sufficient to serve a given set of ...

Abstract--There have been a bulk of analytic results about the performance of cellular networks where base stations are regularly located on a hexagonal or square lattice. This regular model ...

In this paper, we pro-vide an analytical approach to solving this problem. As a measure of quality, we use the instantaneous outage probability at a target base station, which in turn depends on ...

Thus in this paper, we deduce the closed-form of network energy efficiency as a function of the density of BSs with eICIC technology based on stochastic geometry theory. Then the impacts ...

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