The Investigation of Coverage Area in Maintaining Robust Channel Capacity for Two-Tier Femtocell Radio

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ABSTRACT

In this thesis the system performance of a femtocell adopted in MIMO (multiple-input multiple-output, MIMO) is implemented. The BER (bit error rate) performance is proposed for analyzing a wireless communications deployed with two-tier femtocellular scenario which is adopted with MIMO signaling. By applying the random stochastic to obtain a formula of SINR (signal-to-interference-noise-ratio) at the radio system and the BER is determined by an analytical method. The channel correlation is assumed dependent of the femtocell coverage area, then provide with the relationship to the coverage area. It is worth to note that the system performance is definitely degraded by the coverage area of a two-tier femtocell communication system.

Keywords : two-tier femtocell、bit error rate、channel correlation、MIMO

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