研究使維持強健通道容量於雙層毫微微蜂巢通訊之涵蓋區域

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摘 要

本論文研究於雙層毫微微蜂巢(two-tier femtocell)系統之涵蓋區域(coverage area)的通訊環境，基於室內通訊通道之設定，透過分析與推導femtocell之通訊位元錯誤率(bit error rate， BER)效能解析式地數值結果得到研究成果。本文係透過傳輸環境之涵蓋所導致路徑分量相關性(correlation)高低的關係，藉以得出機率密度函數(probability density function， pdf)於系統中，再經隨機過程(random stochastic)的原理，藉以求得系統之BER，獲得數值分析結果，並且加以呈現。值得一提的是，本文另外以多輸入多輸出(multiple-input multiple-output，MIMO)之訊號機制結合femtocell，進行其效能之研究，並得到通訊之涵蓋區域的論述，相信本文之成果值得相關系統業者與通訊用戶之參考依據。

關鍵詞 : 雙層毫微微蜂巢、位元錯誤率、相關性、多輸入多輸出

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