寬頻帶劃碼多重接取功率調控

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摘 要

本文主要針對應用陣列天線於W-CDMA基地台後，探討其功率估測與功率調控的效能，從模擬方式驗證之。首先由理論分析多重速率傳輸下的功率估測，然後再以模擬方式驗證，並探討功率調控的效能與應用天線後之影響。因為接收的位元能量對干擾功率密度比均為對數正常分布，所以 我們以位元能量干擾功率比的標準差來評估系統好壞。 在功率估測方面，我們發現單用戶波束位元能量干擾功率密度估測，其平均值的誤差為0.4~0.6dB，與展頻因數及平均週期無關，而標準差則隨平均週期的增加而下降，並隨展頻因數的增加而增加。當平均週期為1.625ms時，標準差分佈於0.16~0.84dB之間。至於在一波束內有多重用戶的情況，用戶人數對於估測效能無明顯影響。最後結合估測器與調控機制執行系統功率調控模擬，在Rake接收機只有3個tap的狀況下，當展頻因數在8以上時，其位元能量對干擾功率密度的標準差均維持在2dB以內，當展頻因數為4時，則標準差增加至4.5dB。

關鍵詞 : 無

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