工作於具直視量衰落通道中多載波展頻系統之研究 = On the MC-SS system operating in a fading channel with LOS

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摘 要

本論文主旨在推演雙分支的最大比率合成(maximal ratio combining, MRC)結合雙變數萊斯(Rician)機率密度函數 (probability density function, pdf)、訊雜比 (signal-to-noise ratio, SNR)的公式，並分析使用在分析使用多載波展頻(multi-carrier spread spectrum, MC-SS)系統的系統效能，本論文主要以多載波直序多重近接(multi-carrier direct-sequence coded-division multiple-acess, MC-DS-CDMA)系統為分析的主體；其中假設具有雙分支最大比率合成(MRC)的分析。透過無窮級數的數學式的描述，為雙分支的最大比率合成接收系統的效能作有用的分析與得到模式表達。最終獲得平均位元錯誤率(bit error rate, BER)的公式分析以及斷話率(outage probability, OP)以作為評估系統之依據。根據這些無窮級數所表達的公式，發現有一些系統參數所產生的效能表現，例如衰落參數，平均訊雜比和Rician分布中之分支相關係數有關等等，將他作為分析各式各樣重要結果的參數分析。這些正確的理論結果，最後並透過數值分析的電腦程式來証實其推導的準確性。

關鍵詞 : 雙分支萊斯分布;最大比率合成;MC-DS-CDMA系統;超寬頻(UWB)系統

目錄

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