CDMA 系統中針對D2BPSK之雙重差分偵測

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摘 要

眾所皆知，針對MPSK 信號而言，傳統式差分偵測(在資訊端做一階相位差分編碼)在非頻率變化的環境裡是非常簡單和強健的，但是當通道出現一個隨機頻率偏移，例如：一台移動中的車子所產生，特別是在資料速率所產生些微頻率偏移，將會使得傳統差分偵測性能變得很差，在如此的條件下，我們必須訴諸高階差分相位編碼之差分偵測方式(針對常數頻率偏移使用二階)，這一篇論文主要是針對一階和二階做比較。 本論文的工作，主要是在直序展頻(DS-SS)通訊系統下，針對高速資料速率模型，用差分數位基頻RAKE 接收機來實現，而其性能以模擬的方式做估測，比較傳統差分和雙重差分編碼/解碼在AWGN 通道、頻率選擇RAYLEIGH 衰減通道和單純頻率偏移通道性能的不同。驗證出雙重差分編碼/解碼適用於高都卜勒頻率的單純頻率偏移通道，而不適用於AWGN 通道和頻率選擇RAYLEIGH 衰減通道。 通訊系統中，最令人感興趣的性能測量方式，是觀察針對SNR(SIGNAL TO NOISE RATIO)的BER(BIT ERROR RATE)曲線，而此BER 曲線可藉由MONTE CARLO 模擬方式得出。

關鍵詞 : 無

目錄

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