多重調變係數cpfsk之相差解調

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摘 要

在連續相位調變(CPM)的研究中，一種利用時變的調變指數去改善功率與頻寬的效能的特殊方法，稱之為多重調變係數相位碼調變(MHPM)。過去針對在AWGN背景下，一般大都考慮以MLSD解碼器(maximum likelihood sequence detector) ;即VA (Viterbi Algorithm)去解調multi-h CPFSK。然而基於實際行動通訊環境下接收機的複雜度的考量，因此在本論文中，乃採用非同調解調中之相差解調技術為架構，針對多調變係數CPFSK調變系統進行解調設計。在本研究中，對於此系統以解析方法推導出了誤碼率的理論值，並經過系統模擬後驗證了此方法的準確性，研究發現對multi-h 以one-bit相差解調的可行性，並且得到不錯的BER性能表現;另外發現對於multi-h code在傳統方法中有較佳表現的編碼組合(即歐氏距離大者)，在相差解調系統中，其性能不必然優於歐氏距離較小的組合。

關鍵詞 : 連續相位調變 ; 多重調變係數相位編碼 ; 維特比演算法 ; 相差解調 ; 同調解調

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