

應用於 CDMA 無線系統之陣列天線最佳輻射場型之研究

陳杭楷、李金椿

E-mail: 9511441@mail.dyu.edu.tw

摘要

本文在於研究線性陣列天線應用於提昇CDMA系統效能的最佳輻射場型，其中我們考慮了頻率取樣法的視窗法(Windowing method)中漢明(Hamming)與泊來客門(Blackman)兩種加權方法，探討其輻射場型對於CDMA系統效能改善的能力，並與基本的相位加權法比較。效能改善能力採用位元能量對干擾功率密度比(ρ)的改善增益作為評估指標。關於細胞內干擾降低因子，我們發現相位與泊來客門加權法在天線元子增加時，干擾降低因子會隨著下降，而漢明加權法則在天線元子大於17時達到飽和。關於細胞間的干擾增加因子，相位加權法會隨著天線元子增加而增加，但漢明與泊來客門兩種加權法則維持不變。在CDMA整體效能提昇上，漢明與泊來客門兩種加權法會有較好的表現，由於泊來客門加權法雖然會隨著天線元子數增加而提昇效能但效能還是沒有比已飽和的漢明加權法來的好，所以漢明加權法在效能提昇上會有更好的表現。

關鍵詞：CDMA；泊來客門加權法；漢明加權法；相位加權法

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