應用混合式編碼於醫學動態影像之壓縮

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摘 要

隨著科技的進步及發展，醫療影像數位化已經受到許多專家學 者的重視，藉由資訊的量化、無失真影像壓縮與傳輸的技術、數位 化資料儲存、再配合電腦輔助診斷系統，如此能提供專業醫師在診 斷上能有一快速及正確的診斷參考，藉以避免醫療延遲及資源的浪 費，提高遠距醫療的診斷價值。因此本研究使用離散小波轉換並結 合三角形區塊比對之動態影像壓縮技術來消除或縮減在磁振造影 影像中，任一或多種的重複性，以得到資料壓縮的效果，而達到符 合網路化的需求，以期對影像的傳輸與儲存有更大助益。在研究中 以數位化的左心室磁振動態影像資訊和腦部功能性磁振動態影像 資訊作為壓縮為實例，並以高峰訊號雜訊比(Peak Signal-to-Noise Ratio, PNSR)值和壓縮比率(Compression Ratio, CR)來作績效的評 估，實驗結果發現透過此研究架構來對醫學動態影像壓縮，可得到 一可接受之PSNR 值和CR 值。

關鍵詞 : 無失真動態影像壓縮、磁振造影影像、高峰訊號雜訊比、壓縮比率

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