# 應用小波轉換與四分樹切割之影像合成


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**摘 要**

影像合成的目的是為了整合不同來源影像中的互補資訊，以提供更適合人類視覺系統觀察及電腦處理的新影像。本論文提出以四分樹影像分割的概念，搭配小波轉換的合成方法，將影像資料變化大的區域分割成較小的區塊，使細節部分的資訊得以被個別處理；而影像資料變化小的區域，一般即是背景部分，則被切割成較大的區塊。在切割影像的前處理步驟後，影像中明顯的亮度變化及特徵，如：邊界、線段、區域等細節部分，將會有較多的比例成為合成影像的一部份。而其他較無明顯特徵的區域，將再利用小波轉換的方式做進一步的處理。在小波轉換的方式下，適合的影像將會被選取，然後利用反小波轉換，重建新的影像。本論文的優點能夠將來源影像中較明顯的亮度變化及特徵，預先作一篩選，然後在重複的部分才進行轉換及選取。所以，可以在不增加太多的複雜度下，就能大幅提升合成影像的品質，成效將於模擬結果部分展示。



關鍵詞 : 影像合成、四分樹影像分割法、小波轉換


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