

The Fast DCT and IDCT Algorithm by Subband Decomposition of signal

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Abstract

DCT (Discrete Cosine Transforms) and IDCT (Inverse Discrete Cosine Transforms) are widely used for digital signal and image processing. Computational efficiency of DCT and IDCT dominate the performance of processing. How to improve computational efficiency is still an interesting topic for many researchers. In this study, the multiple-level resolution DCT in which the subband decomposition of a signal is carried out is proposed to find the DCT coefficients of a signal in an efficient way. The number of multiplications of the proposed algorithm is less than those of study reported so far, the computational efficiency is then improved by the proposed algorithm.

Keyword : discrete cosine transforms (DCT), IDCT (Inverse Discrete Cosine Transforms), subband decomposition