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# Design and Implementation of 2D-DCT by Using Arai Algorithm for Image Compression

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## Abstract

Discrete Cosine Transform (DCT) exploits cosine functions; it transforms a signal from spatial representation into frequency domain. It is one of the most widely used techniques for the compression of the image. The main goal of image compression using DCT is the reduction or elimination of redundancy in data representation in order to achieve reduction in storage and communication cost. In this work, we proposed the low complexity architecture for the computation of an algebraic integer (AI) based 8-point DCT. The proposed approach is fast and provides low complexity.

**Keyword:** Algebraic Integer, Discrete Cosine Transform (DCT), Arai DCT algorithm, Image compression