

Plonka, Gerlind; Tasche, Manfred

Invertible integer DCT algorithms. (English) Zbl 1030.65144
Appl. Comput. Harmon. Anal. 15, No. 1, 70-88 (2003).

The paper presents two new algorithms for the integer DCT-II (discrete cosine transform) and integer DCT-IV of radix-2 length. Then it estimates the worst case error between the resulting vectors of the exact DCT and the corresponding integer DCT. Some numerical experiments for the integer DCT-II of length 8 and for the 2-dimensional integer DCT-II of size 8×8 are also presented.

Reviewer: [Nicholas Karampetakis \(Thessaloniki\)](#)

MSC:

[65T50](#) Numerical methods for discrete and fast Fourier transforms
[94A08](#) Image processing (compression, reconstruction, etc.) in information and communication theory
[65G50](#) Roundoff error

Cited in **2** Documents

Keywords:

[discrete cosine transform](#); [loseless coding](#); [data compression](#); [factorization of cosine matrix](#); [lifting matrix](#); [rounding-off](#); [integer DCT](#); [invertible integer DCT](#); [worst case error](#); [error estimate](#); [numerical experiments](#)

Software:

[binDCT](#)

Full Text: [DOI](#)

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