

Continuous Fourier extension of the discrete cosine transform and its multidimensional generalization

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Abstract

Continuous extension of the discrete $SU(2)$ -cosine transform (CEDCT) will be introduced, and its properties will be explained. Comparison with the continuous extension of the standard discrete Fourier transform (DFT) will be made, and the advantages of the CEDCT will be pointed out. Examples of continuous extension of the multi-dimensional $SU(2) \times \cdots \times SU(2)$ discrete cosine transform will be shown. Pertinence of this approach for image processing and data compression will be discussed.

Joint work with Jiří Patera (CRM, Université de Montréal).