LIFTING SCHEME USING IIR RECURSIVE FILTERS AND ITS APPLICATION TO IMAGE COMPRESSION

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Abstract

In this paper a generic technique for the design of biorthogonal wavelet transforms that are based on recursive filters is presented. This technique is based on the usage of discrete interpolatory splines for the design of recursive IIR filters for the predict and update operations in lifting scheme of the wavelet transform. By combining different filters for predict and update a number of wavelets are devised. These new filters and the biorthogonal 9/7 filters are incorporated into SPHIT in order to compare their performance. The experimental results show that Spline based recursive filters outperform the 9/7 filters.