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Title: Frequency Selective Parametrized Wavelets

Abstract: The class of parametrized wavelets consists of a closed form representation for all wavelets for a given finite number of dilation coefficients without the restriction of higher-order vanishing moments . Among this broad class of wavelets, examples of “frequency selective” wavelets are highlighted that perform comparable to the FBI 9/7 filter as applied to image compression on some particular images. Specific parameters are given that correspond to the Daubechies wavelets as well as parametrized examples that exhibit flatter/steeper frequency responses than the Daubechies wavelets but with fewer vanishing moments. We conclude with an image compression scheme to compare the standard wavelets, the FBI 9/7 biorthogonal wavelets with symmetric boundaries, and some “frequency selective” parametrized wavelets.