

Comparison of a Discrete Wavelet Transformation and a Nonuniform Polyphase Filterbank Applied to Spectral-Subtraction Speech Enhancement

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ABSTRACT

Spectral subtraction is a popular method for speech enhancement, if the speech signal is corrupted by additive noise. It is based on the manipulation of the magnitude of the noisy-speech spectrum. Previous realizations used uniformly spaced frequency transformations. We propose the application of two filterbanks with barked-scaled frequency bands: a discrete wavelet transformation and a nonuniform polyphase filterbank. Their enhancement results as well as their expenditures are compared to each other and to those obtained from uniform spectral transformations.