

论文与报告

关于子带编码中的最优正交小波

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摘要

用小波变换进行子带编码是信号与图象压缩的一个新方法, 小波可以有几个自由度的选择灵活性, 这是它优于离散余弦变换的特点之一. 提出了最优小波问题, 讨论了最优正交小波, 最优的性能指标为编码增益GSBC达到极大, 对于平稳随机信号, 最优小波完全由信号的谱密度决定, 并给出了对几种典型谱密度分布所对应的最优正交小波.

关键词 [最优小波](#) [正交小波](#) [子带编码](#)

分类号

On Optimal Orthonormal Wavelet in Subband Coding

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Abstract

As a new technique of image or signal compression, wavelet transform have recently been introduced in subband coding. The technique has the flexibility of a few freedoms in wavelet basis selection. This is one of its advantages over classical technique as the discrete cosine transform. It also poses a problem of the optimal wavelet which is adapted to given signal. The problem of the optimal orthonormal wavelet is investigated in the paper. The optimal objective measure is the coding gain G_{sbc}. For a stationary random signal the optimal wavelet only depend on the power spectral density (PSD) of the signal. The calculated results corresponding to three typical PSD are given.

Key words [Optimal wavelet](#) [orthonormal wavelet](#) [subband coding](#)

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