AN OVERSAMPLED FIR FILTER BANK DESIGN WITH UNIFORM AND NONUNIFORM SUBSAMPLE FACTOR FOR 2D IMAGE

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Abstract

In this paper we proposes real-valued, linear phase FIR filter banks with uniform and nonuniform sub sample factors. Here investigation of proper sub sample factor with appropriate frequency bands for filter bank is carried out. Here output image of uniform sub sampled FIR filter bank produces output near input image. This filter bank applied for 2D image and analysis is carried out using peak signal to noise ratio. DCT image compression technique is used for analysis of output image in terms of peak signal to noise ratio [PSNR] and histogram of compressed input and output image. Proposed filter bank consists of seven channels, without overlapping of frequency bands. This filter bank designed for non-integer over sampling ratio.