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IMPLEMENTATION OF DIFFERENT FIR LOW PASS FILTERS USING FRACTIONAL KAISER WINDOW

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Abstract

In this paper we have implemented low pass filter with the help of Kaiser window and Fractional Fourier Transform (FRFT). The window shape parameter is tuned for the transition band by considering linear phase FRFT Finite Impulse Response (FIR) filter. Here FRFT of Kaiser Window is taken and convolved with the response function for tuning purposes of the transition band which makes effective transition band. This proposed method includes the change of parameters of Kaiser window by which other windows like Rectangle, Bartlett, Hamming Blackman and Hanning windows are generated by using FRFT. The efficiencies of this method in terms of main lobe and side ripples is better than the above mentioned windows under Fourier transform.

Keywords: Fourier Transform, Fractional Fourier Transform, Kaiser window, Window shape parameter.

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