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Abstract

A New parallel FIR Filter structures is proposed based on fast-finite impulse response algorithms, which are beneficial to symmetric coefficients. Parallel (or block) FIR digital filter can be used either for high speed or low- power (with reduced supply voltage) applications. The New parallel FIR structures exploit the inherent nature of symmetric coefficients reducing half the number of multipliers in sub-filter section at the expense of additional adders in pre-processing and post processing blocks. The overhead from additional adders does not increase along the length of the FIR Filter; moreover adders weigh less than multipliers in terms of silicon area. Overall the new parallel FIR structures can lead to significant hardware savings

for symmetric convolutions from existing FFA parallel FIR filter especially when the length of the filter is large. The new parallel FIR structures consisting of advantageous polyphase decomposition dealing with symmetric convolutions comparatively better than the existing FFA structures.

Refer

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Index Terms

Computer Science

Digital Signal Processing

Keywords

Digital Signal Processing(dsp) fast Finite Impulse Response(fir)algorithm(ffas) Parallel Fir

Symmetric Convolution

very Large Scale Integration(vlsi)