A NOVEL MULTIRATE ADAPTIVE FIR FILTERING ALGORITHM AND STRUCTURE

Abstract:
A new class of FIR filtering algorithms and VLSI architectures based on the multirate approach were recently proposed. They not only reduce the computational complexity in FIR filtering, but also retain attractive implementation related properties such as regularity and multiply-and-accumulate (MAC) structure. In addition, the multirate feature can be applied to low-power/high-speed VLSI implementation. These properties make the multirate FIR filtering very attractive in many DSP and communication applications. In this paper, we propose a novel adaptive filter based on this new class of multi rate FIR filtering structures. The proposed adaptive filter inherits the advantages of the multirate structures such as low computational complexity and low power/high-speed applications. Moreover, the multi-rate feature helps to improve the convergence property of the adaptive filters.

Screen shot results

Multiplier Output waveform

Further Details Contact: A Vinay, Ph- 9030333433, 08772261612
Email: takeoffstudentprojects@gmail.com | www.takeoffprojects.com
fir3tap output waveform
fir2tap output waveform