A STOP & GO PRE−WHITENED SIGN ALGORITHM (MonAmOR1)

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Abstract :

This paper deals with performance improvement of the sign algorithm, which is known to be suffering from slow rate of convergence, especially when the input signal is highly correlated. To overcome this drawback, decorrelated input signal is used to pilot the adaptive filter. In this paper, we show that using this technique, a punctual degradation can occur when the pre−whitened input direction is the opposite of the right one. To prevent this problem, we introduce the concept of ``Stop and Go" to govern the algorithm. It consists on freezing the adaptation when we detect this effect. Experimental results conducted on highly correlated input and long system impulse response indicate clearly the effectiveness of the proposed algorithm.

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