TRACKING ANALYSIS OF VARIABLE XE−NLMF ALGORITHM IN THE PRESENCE OF BOTH RANDOM AND CYCLIC NONSTATIONARITIES (WedAmPO1)

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Abstract :

In this work, tracking analysis of variable normalized least mean fourth (XE−NLMF) algorithm is carried out in the presence of two sources of nonstationarites: 1) carrier frequency offset between transmitter and receiver and 2) random variations in the environment. A novel approach to this analysis is carried out here using the concept of energy conservation. Close agreement between analytical analysis and simulation results is obtained. The results show that, unlike in the stationary case, the steady−state excess mean square error (MSE) is not a monotonically increasing function of the step size.

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