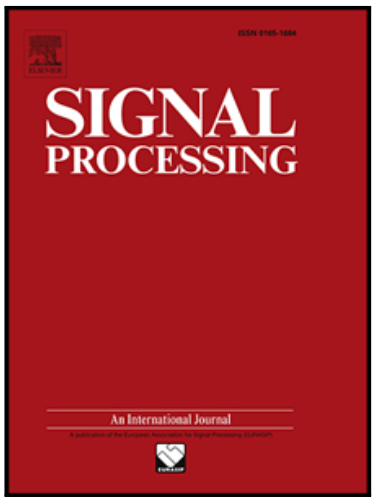

Performance Analysis of Diffusion LMS Algorithm for Cyclostationary Inputs

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Highlights

- This paper analyzes the performance of the diffusion least mean square (DLMS) algorithm over multi-agent network for cyclostationary input signals with either sinusoidal power time variation or pulse power time variation.
- The transient performance analysis of the DLMS algorithm with cyclostationary input is conducted by using a new approximate model of input signals.
- The steady state behavior of DLMS algorithm for cyclostationary input is also investigated.
- The stability analysis of the DLMS algorithm is provided.
- we analyze the robustness of the DLMS algorithm in the H^{∞} sense for cyclostationary inputs over network.
- This paper also provides the bound of convergence time.
- Extensive simulations are carried out to verify the results of analysis presented in this paper.