Adaptive Step-Size Sign Least Mean Squares

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Summary

In this paper, we propose a novel structure for adaptive sign least mean squares (ASLMS). A powerful adaptation scheme is used to adapt the step-size of the sign function inside the recursion of the sign algorithm. It is shown how the algorithm can be implemented with no real multiplication. Simulation results show that the performance of the proposed algorithm can be made arbitrarily close to that of the original least means squares algorithm.

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