The Performance Analysis of the Adaptive Two-Stage DFB Narrowband Interference Suppression Filter in DSSS Receiver

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References:
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Abstract:
In this paper the performance of the direct sequence spread spectrum (DSSS) receiver containing the adaptive two-stage decision feedback (DFB) filter in the presence of the narrowband autoregressive interference is analyzed. The receiver performance is expressed in regard to the Signal/(interference+noise) ratio and the bit error probability. The adaptive version of the proposed receiver based on the Widrow-Hoff LMS algorithm is also analyzed. The results obtained show that the overall good receiver performance is not degraded by the variation of the filter coefficients caused by the adaptation process in the presence of the nonstationary electromagnetic environment.

Keywords:
DSSS, DFB, Interference