



APPROXIMATE BEST LINEAR UNBIASED CHANNEL ESTIMATION WITH CFAR THRESHOLDING FOR FREQUENCY SELECTIVE SPARSE MULTIPATH CHANNELS WITH LONG DELAY SPREADS (TueAmOR10)



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★ Abstract : We provide a non-iterative channel impulse response (CIR) estimation algorithm for communication systems which utilize a periodically transmitted training sequence within a continuous stream of information symbols. The non-iterative channel estimate is an approximation to the Best Linear Unbiased Estimate (BLUE) of the CIR, achieving almost similar performance, with much lower complexity. We first provide a formulation of the received data and correlation processing with the adjacent symbol correlation taken into account, and we then present the connections of the correlation based CIR estimation scheme to the ordinary least squares CIR estimation, and the approximate BLUE CIR estimation. Simulation results are provided to demonstrate the performance of the novel algorithms for 8-VSB ATSC Digital TV system.

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