



NON-PARAMETRIC ML CHANNEL ESTIMATOR AND DETECTOR FOR OFDM (MonPmPO1)

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★ Abstract :

A maximum-likelihood channel estimator for the orthogonal frequency division multiplexing (OFDM) communication environments, in presence of interference is discussed here. We study a training based scenario, where the channel is estimated based on pilots that precede the transmission of the information. To reduce the number of estimation parameters, we estimate the channel iteratively in time-domain. Since interference from other users provides no useful information we do not estimate parameters of the interference and neither we neglect the effect of the interference instead interference along with Gaussian noise is perceived as non-Gaussian noise. The algorithm assumes no apriori knowledge about the interfering channel and signal at the receiver, further no-assumption on the statistical properties of the interferer is assumed which makes this algorithm robust. The estimated channel information along with the estimated distribution are then utilized to equalize the subsequent data blocks.