

CHANNEL ESTIMATION TECHNIQUES FOR MIMO-OFDM AND SISO-OFDM SYSTEMS

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ABSTRACT

In this paper, the block-type pilot channel estimation for orthogonal frequency division multiplexing (OFDM) and Multiple Input Multiple Output (MIMO) OFDM systems is investigated. The estimation is based on the minimum mean square error (MMSE) estimator and the least square (LS) estimator. The MMSE and LS estimators are elaborated and their performances are compared. Our results show that the performance of MMSE estimator is better but its complexity is high, contrary to the LS estimator that has low complexity but poor performance. We evaluate estimator's performance on the basis of mean square error and bit error rate.

KEYWORDS: Block Type, Channel Estimation, Least Square (LS), MIMO-OFDM, Minimum Mean Square Error (MMSE)