Abstract

Orthogonal Frequency Division Multiplexing (OFDM) is a widespread adopted technique for wireless and wired communication systems because of its inherent feature of the spectral efficiency and robustness to channel impairments. The throughput deterioration of the OFDM system due to pilots can be reduced by minimizing the density of pilots. A Modified Minimum Mean Square Error (M-MMSE) estimator with low computational complexity based on Low overhead Pilot Insertion (LPI) scheme is also proposed. The pilot overhead in the LPI scheme is reduced compared to block-type channel estimation. The comparative analysis of the M-MMSE estimator for the LPI scheme with MMSE estimator for block-type pilot arrangement shows significant performance improvement of the proposed channel estimation algorithm.

References

Throughput Enhancement in OFDM System using Low Overhead Pilot Insertion Scheme over Slow Fading Rayleigh Channel


Index Terms

Computer Science Communications
Keywords

OFDM, MMSE Estimator, Block-type Channel estimation, ICI, Equalization