PTS EFFICIENT PAPR REDUCTION OF OFDM SIGNAL USING PTS TECHNIQUE WITH HYBRID PARTITIONING METHOD

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Abstract:

The high peak-to-average power ratio (PAPR) is one of the major problems of orthogonal frequency division multiplexing (OFDM) systems in wireless transmission. Therefore, partial transmit sequence (PTS), a promising scheme that can provide good PAPR reduction performance, has been proposed for OFDM transmission to eliminate distortion. The PTS method divides the input data block into disjoint sub-blocks, computes Inverse Fourier Transform of the sub blocks, rotates the sub-blocks with appropriate phase factors and combines them to form the transmitted signal. This paper presents an enhanced PTS approach that combines two PTS partitioning schemes (adjacent and interleaved) to effectively reduce the PAPR of the OFDM systems. The influence of the proposed approach on performance is investigated by varying the size of the disjoint sub-blocks. The PAPR reduction performance of the proposed PTS method is compared with two well known sub-blocks partitioning schemes, namely, Adjacent Partitioning (AP), Interleaved Partitioning (IP). The various computer simulation results for the various sub-blocks confirmed that the proposed method provides better PAPR reduction performance compared with AP and IP partitioning based PTS scheme. In addition, these PTS schemes largely depend on the chosen size of the partitions.