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(57) Abstract :
Multi-input multi-output (MIMO) frameworks in blend with orthogonal frequency division multiplexing (OFDM) have drawn huge consideration for the next generation broadband multimedia applications because of their capability of giving high information rate, robustness to fading channels and reliable communication. There are many advantages of using OFDM like robustness and high spectral efficiency against ISI yet at the same time there are a few inconveniences. The fundamental issue that emerges in OFDM frameworks is high PAPR. There are numerous methods accessible for lessening of PAPR like tone reservation (TR), clipping and filtering, partial transmit sequence (PTS), active constellation scheme, interleaving and selected mapping. The main aim of this article is to reduce the PAPR in the MIMO-OFDM systems by solving the issues that currently exists. In this paper, a novel approach is introduced by hybrid approach, i.e., gaussian pulse-based TR with PTS (GPTR-PTS), which is developed by combining the PTS and Gaussian pulse-based TR techniques to reduce the PAPR. The basic idea of the GPTR-PTS technique is to calculate the additive time-domain signal, which reduces the PAPR of the actual transmit signal but increases the average power and hence lowering the power efficiency of the OFDM system. Hence, the approach utilizes a firework based genetic optimization (FWGO) algorithm procedure to reduce the average power. Further, the FWGO-GPTR-PTS scheme is employed to the obtained signal to reduce the PAPR. The FWGO-GPTR-PTS approach further reduces the PAPR by selecting the finest combination of phase sequence. The proposed methodology is implemented in MATLAB and the results obtained are compared with the existing techniques.

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