Abstract:

Recent results indicate that the optimum performance of uncoded OFDM (Orthogonal Frequency Division Multiplexing) in the presence of strong nonlinear distortion effects can be better than with linear transmitters. However, the uncoded OFDM performance is not very useful since typically OFDM schemes are combined with channel coding (also denoted coded OFDM), with substantially different uncoded and coded OFDM performances. In this paper we consider the optimum performance of coded OFDM schemes in the presence of strong nonlinear distortion effects. It is shown that nonlinear distortion effects not only do not lead to performance degradation, but they also might lead to substantial performance gains relatively to coded OFDM with linear transmitters.

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