Abstract

High Peak to Average Power Ratio (PAPR) for MIMO-OFDM system is still a demanding area and difficult issue. The radio transmitter stations for covering and getting enough transmitted power in their desired area has to use High Power Amplifier (HPA). On the other hand, in order the HPA to have the most output power efficiency must be designed to work close to the saturation region, therefore due to the high PAPR of input signals, a factor which is called memory-less nonlinear distortion will affect the communication channels. We know the MIMO-OFDM receiver's efficiency is sensitive to the HPA. If the high power amplifier doesn't work in linear region, it can cause the out-of-band power to be kept under the specified limits. This condition can cause inefficient amplification and expensive transmitters, thus it is necessary to investigate PAPR reduction techniques for MIMO-OFDM system. By now, for reducing PAPR, numerous techniques have been recommended. In this paper the performance and the efficiency of two types of them will be discussed and simulated and then we will propose our suggested method for a conventional OFDM system.
References

- S. H. Muller and J. B. Huber, "Comparison of peak power reduction schemes for OFDM", in Proceedings of the IEEE Global Communications Conference (GLOBECOM), pp. 1–5, November 1997.
Performance Improvement of MIMO-OFDM Wireless Systems using PAPR Reduction Techniques

- Yong Soo Cho, Jaekwon Kim, Won Young Yang and Chung G. Kang, "MIMO-OFDM Wireless Communications with MATLAB," John Wiley & Sons (Asia) Pte Ltd., 2010

Index Terms

Computer Science Wireless Communications

Keywords

Orthogonal Frequency Division Multiplexing (OFDM) Peak-to-Average Power Ratio
(PAPR) High Power Amplifier
(HPA) selective
mapping (SLM) Transmit sequence (PTS)
Probability Distribution Function (PDF)