Abstract

The combination of the orthogonal frequency-division multiplexing (OFDM) technique and the multiple-input multiple-output (MIMO) architecture has emerged as a promising candidate for future wireless communications. The Space-time block coding (STBC) technique permits to fully take advantage of MIMO-OFDM systems and to effectively improve the channel capacity and the spatial diversity. The Golden Code (GC) is a full-rate and full-diversity, space-time code for $2 \times 2$ MIMO systems. Thanks to its algebraic construction, the GC achieves Diversity-Multiplexing gain trade-off and preserves the mutual information. However, it is well known that STBC-MIMO-OFDM systems are sensitive to the high Peak-to-Average-Power Ratio (PAPR) of the transmitted signals. The purpose of this paper is to analyze the PAPR of golden coded MIMO-OFDM systems. We investigate the effect of the roll-off factor on the PAPR characteristics and analyze the system performances.

References


**Index Terms**

Computer Science  
Wireless Communications

**Keywords**

MIMO  
OFDM  
PAPR  
Golden Code