**Combined DCT and Companding for PAPR Reduction in OFDM Signals**

**ABSTRACT**

The high peak-to-average (PAPR) is one of the serious problems in the application of OFDM technology. The companding transform approach is a very attractive technique to reduce PAPR, but large PAPR reduction leads to a high bit error rate (BER) by the available companding transform techniques. In this paper, a joint reduction in PAPR of the OFDM signals based on combining the discrete cosine transform (DCT) with companding is proposed. In the first step of the proposed scheme, the data are transformed by a DCT into new modified data. In the second step, the proposed scheme utilizes the companding technique to further reduce the PAPR of the OFDM signal. The performance of the PAPR is evaluated using a computer simulation. The simulation results indicate that the proposed scheme may obtain about 1 dB PAPR reduction compared with the conventional companding algorithm.

**Keywords**: Companding, DCT Transform, PAPR, OFDM