

Equation-based construction technique for the OSCDMA zero cross correlation code for the basic matrix

In this paper the Double Weight code (DW) family which is used as a proposed code in optical spectral code division multiple access system (OSCDMA) has been studied using the Modified Double Weight code (MDW) which has across correlation value equals to one. By eliminating the intersection columns of this code we can reduce the cross correlation value from one to zero. This code is named Zero Cross-correlation Code (ZCC) [1]. Therefore, the Multiple Access Interference (MAI) can be reduced. Also, a general equation is used to generate the basic matrix of the code with the cross correlation equal zero instead of that in the existing construction technique. In this paper, we also show the advantages of this equation. All of these studies concentrate on the basic matrix of modified double weight code with zero cross correlation value.