

OSCDMA Double Weight Code: A Simplified Formula Code Construction Technique

Abstract:

This paper the construction of the double weight (DV) code family, one the recent codes for spectral amplitude coding (SAC) is studied. The DW code family is constructed using a matrix construction technique and a mapping scheme to increase the number of users. To obtain a single user's codeword the whole matrix must be constructed. In this paper a simplified equation based construction technique for the DW code family is proposed. This new simplified construction scheme depends on the three basic building blocks for the DW code family. General equations for the codeword construction and code length are given.