

New code structure for spectral amplitude coding OCDMA system

Abstract

A new code structure for spectral amplitude coding in optical code division multiple access (OCDMA) systems called Smart Direct Detection (SDD) code is proposed. SDD code is constructed using code segment and data segment. One of the important properties of this code is that the cross correlation at data segment is always zero, which means that Phase Intensity Induced Noise (PIIN) is reduced. The simulation results show that the performance of the proposed new code using direct detection technique perform significantly better than other codes employing same spectral amplitude coding technique and, hence, improve the overall system performance.

Author Keywords

BER; OCDMA; SNR and MFH