Abstract

Optical CDMA technique is required to meet the increased demand for high speed, large capacity communications in optical networks. Data access security and ability to support asynchronous burst data transmission are the major driving forces to generate interest in the OCDMA techniques. In this paper, we have presented an OCDMA model to the range of 100 km. The simulation results reveal that the transmission distance is limited mainly by the multi-access interference (MAI) which arises when there are a large number of users in the system because of the fact that one user data becomes noise for all other users in the channel.
2. 50 Gbps Optical CDMA Transmission System


**Index Terms**

Computer Science  
Communications

**Keywords**

Optical Code Division Multiple Access (OCDMA)  
Bit Error Rate (BER)  
Pseudo Orthogonal (PSO) code

Multi-Access Interference (MAI)

Non-Return-to-Zero (NRZ)
2. 50 Gbps Optical CDMA Transmission System

Single Mode Fiber (SMF)