Abstract

Modified double weight (MDW) code is presented here to support Fiber-To-The-Home (FTTH) access network in point-to-point (P2P) and point-to-multipoint (P2MP) application. The Bit Error Rate (BER) performance is evaluated based on Modified Double Weight “MDW” code. Optical Code Division Multiple Access (OCDMA) system is considered a promising technique for
Fiber-To-The-Home (FTTH) access networks. The performance of RZ against NRZ is compared through simulation by using opt system software version 7. We used two networks designed as follows, one used RZ pulse generator and the second used NRZ pulse generator, and both systems are tested with and without Erbium Doped Fiber Amplifier (EDFA). It is found that NRZ pulse generator in this system is better than RZ pulse generator for all simulation results. The conversion used a Mach-Zehnder interferometer (MZI) wavelength converter. Also, we are proposing a detection scheme known as complementary subtraction detection technique implemented with fiber Bragg Grating (FBG) acts as encoder and decoder. The performances are characterized through BER and bit rate (BR), also, the received power at a variety of bit rate.

Reference

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Index Terms

Computer Science

Optical Networks
Key words

SAC-OCDMA detection scheme
complementary subtraction technique
NRZ&RZ pulse generator