Simulation Analysis of 32 Channel WDM System using SMF 28 Optical Fiber at Various Power Levels

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 152 - Number 3

Year of Publication: 2016

Authors:
Manpreet Kaur, Atul Mahajan

10.5120/ijca2016911812

Abstract

Optical communication in case of WDM system is processing at an astonishing due to high transmission capacity. In this paper, we developed 32 channels WDM system at 40 Gbps is used to improve the system quality at different power levels and frequency spacing at the length of 50 km using single mode fiber (SMF). EDFA is used for better gain. In this work we enhance the system efficiency and system capacity by using DCF (dispersion compensating fiber). Also, BER an analysis has been shown through simulation at various power levels and frequency levels, the results are shown in terms of BER, Q-factor and Eye height using optisystem 7.0

References

2. Tianjiao Xie, Muhammad Asif, Husan Ali, H.M.Rehan Afzal “Reparation of Chromatic Dispersion Using Dispersion Compensation Bank and bit-Error Rate Analysis at Various Power
Simulation Analysis of 32 Channel WDM System using SMF 28 Optical Fiber at Various Power Levels


8. Mishal Singla, Preeti, Sanjiv Kumar“ Comparative Analysis of EDFA based 32 channels WDM system for bidirectional and counter pumping techniques” Comparative Analysis of EDFA based 32 channels WDM system for bidirectional and counter pumping techniques, 2014.


**Index Terms**

Computer Science

Applied Sciences

**Keywords**

Wavelength division multiplexing (WDM), single mode fiber (SMF), Erbium doped fiber amplifier (EDFA), BER, quality factor (Q-Factor), optisystem 7.0