Abstract

In the recent years, Passive Optical Network (PON) has gained engrossed attention of research engineers and network service providers due to tremendous economic benefits and optical detection. In this research work, RSOA and AWG wave guided array based bi-directional PON system is demonstrated. The combination of two devices is designed for obtaining high data rates and wide bandwidth in WDM-PON. In this research work, three types of PON are designed the first passive optical network system is designed on channel RSOA without using AWG in the channel, the second system using RSOA with AWG and finally the system using bidirectional reflective filters with AWG. The simulation results and comparison of proposed three PONs shows the new system uses array waveguide grating to increase the capacity and make multiplexing to the entering signal then routing it to the users. The proposed work is having large lock-in range, and its usage will demonstrate its recital in future network planning.
17. P.P. Hema and Prof. A. Sangeetha, "Analysis of four channel CWDM Transceiver Modules based on Extinction Ratio and with the use of EDFA," International Journal of
Optical Power Budgeting in Colorless WDM PON


Index Terms
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WDM PON Network, RSOA, bit error rate (BER), AWG and Network Quality.