

عنوان مقاله:

Ultra-High Capacity DWDM System using Different Intensity Modulation Formats

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خلاصه مقاله:

Dense Wavelength Division Multiplexing (DWDM) communication system is an all optical network technology that transmit information by sending light pulse through a single mode fiber. Proposed technology can increase the capacity and bandwidth of optical network. DWDM system consists of different passive and active components such as transponders, fibers, passive optical filters, and an optical amplifier. In this paper an ultra-high capacity 64-channel DWDM system with intensity modulations such as two methods of duo-binary modulation at different bit rates of 10, 20 and 40 Gbps for a coverage distance of 1500 km and more is designed and simulated. Also, the transmission parameters of proposed system is optimized to achieve the Max quality factor. Results shows for proposed system with ultra-high capacity, the first method of duo-binary modulation has good performance than other modulations such as second duo-binary method and conventional modulation formats that used in optical network. The performance of the presented system is evaluated in the final arrangement by means of Bit Error Rate (BER) and Optical Signal-to-Noise Ratio (OSNR) measurements.

کلمات کلیدی:

(Dense wavelength division multiplexing (DWDM), duo-binary modulation, single mode fiber, bit error rate (BER)

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