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Reduction of four-wave mixing in dwdm system using electro-optic phase modulator (Article)

Alsowaidi, N.[b], Eltaif, T.[b], Mokhtar, M.R.[a], Hamida, B.A.[a]

[a]Department Electrical and Computer Engineering, International Islamic University Malaysia, Malaysia
[b]Faculty of Engineering and Technology, Multimedia University, Bukit Beruang, Melaka, Malaysia

Abstract

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In this paper, electro-optic phase modulator (EOPM) is used to reduce the effect of four-wave mixing (FWM), which is placed after 64 DWDM-channels multiplexer. It was found that the FWM is very sensitive to the phase deviation of the EOPM, and it can be reduced by introducing a phase shift between pulses. The simulation results confirmed the ability of the EOPM in improving the system performanceas indicated by the bit error rates. In term of comparison, the system of 64 channels based intensity modulated/ direct detection (IM/DD) transmission achieved bit error rate of 10^{-26} over 30 km and 70km without and with EOPM, respectively.

Author keywords

DSF DWDM EOPM FWM SMF

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