

Abstract

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Duobinary Modulation Format and Unequal Channel Spacing Integration to Suppress Four Wave Mixing Crosstalk in WDM Systems

This paper presents a study of the effectiveness of integrating unequal channel spacing and duobinary modulation format as a good alternative of conventional non-return to zero (NRZ) modulation format to further suppress four-wave mixing (FWM) crosstalk in a four 10-Gbps channels wavelength division multiplexing (WDM) system. The study is conducted using VPI Transmission Maker Simulator. The results show that duobinary modulation has a better performance in suppressing FWM than conventional NRZ, and that using unequal spacing with duobinary modulation further improves the suppression of FWM products in WDM systems.