

A NEW FWM REDUCTION TECHNIQUE
BASED ON DAMPING SELECTIVE
WAVELENGTHS

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S u m m a r y

This paper proposes a new method that can suppress the four-wave mixing using an Optical Drop Multiplexing (ODM) technique. The four-wave mixing (FWM) behavior and the performance of wavelength division multiplexing (WDM) systems are investigated, using the proposed technique. It is found that the FWM power is drastically reduced to -96 dBm, when the ODM technique was used. For a WDM system at the first channel (193 THz), the suggested approach offered the bit error rate (BER) to be 1.47×10^{-27} , in comparison with the absence of the current technique, where BER was 2.53×10^{-17} . Moreover, it is found that the proposed technique caused the FWM power to reduce by 28 dB.