

Abstract

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Employing multiple wavelengths for an input packet to achieve uniform SOA gain for high speed optical applications

In this paper, we propose using an input packet with multiple wavelengths to achieve semiconductor optical amplifier (SOA) gain uniformity for high speed optical applications. Rapid SOA gain recovery is a key factor to minimise the output gain standard deviation which results in reducing the system penalties. The SOA is modelled using a segmentation scheme and its theoretical analysis is presented. The output gain standard deviation of an input packet of Gaussian pulses using single wavelength is compared.