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Abstract

Dispersion has been a main limiting factor in optical communication transmission system. An optical communication system consisting of 16 channels, each operating at 10 Gbps based on EDFA-RAMAN hybrid amplifier and fiber Bragg grating is presented in this paper with single mode fiber as main channel of transmission. The use of FBG along with hybrid amplifier as dispersion compensator shows improved transmission performance in DWDM system. This paper simulates the optical communication system to investigate the effect of Raman pump power and RFA length on Q factor at different transmission distances and also measured other performance parameters such as BER, OSNR and eye diagram.

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Index Terms

Computer Science

Power Electronics

Keywords

Dwdm Raman-edfa Osnr Rfa Ber Wdm Q Factor