Effect on Q Factor of Fixed Bit Pattern and Encoding Techniques in Intensity Modulated Optical Networks

Abstract

In this paper, Investigation of Q-Factor & Eye diagram in different transmitter and receiver module are shown. For this, 10Gbps optical communication system with fixed bit pattern of 16 bit sequence for iterations are used. For the analysis purpose return to zero (RZ) and non return to zero (NRZ) coding are taken. Here Q-Factor is improved by changing encoding techniques at two different wavelengths of 1310nm & 1550nm.

References

- Wolfgang Freude , René Schmogrow , Bernd Nebendah, Marcus Winter, Arne Josten ,David Hillerkuss , Swen Koenig, Joachim Meyer, Michael Dreschmann,Michael Huebner,
Effect on Q Factor of Fixed Bit Pattern and Encoding Techniques in Intensity Modulated Optical Networks

Christian Koos, Juergen Becker, Juerg Leuthold, &quot; Quality Metrics for Optical Signals: Eye Diagram, Q-factor, OSNR, EVM and BER&quot;

- Stamatos V. Kartalopoulos, &quot; factors affecting the signal quality in optical data transmission and estimation method for ber and snr&quot;


- Hayee & Wilner, &quot;NRZ versus RZ in 10-40 Gbps dispersion managed WDM transmission systems&quot;


- Oleg V. Sinkin, Vladimir S. Grigoryan, and Curtis R. Menyuk, &quot;Accurate Probabilistic Treatment of Bit-Pattern-Dependent Nonlinear Distortions in BER Calculations for WDM RZ Systems&quot;


- B. Akca, &quot;Electro-optic and electro-absorption characterization of In As quantum dot waveguides&quot;, 2008, 3439, PP 16


- Optisystem design, Optiwave Corporation 7 Capella Court Ottawa, Ontario, Canada.

Index Terms

Computer Science

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Keywords

Quality factor   Eye diagram   NRZ   RZ   MZM   EAM   PIN   APD.