

***ANALYSIS OF OPTICAL NRZ-DPSK FORMAT MODULATION SYSTEM
FOR HIGH SPEED LIGHTWAVE SYSTEM***

ABSTRACT

Nowadays, copper wire communication system is not the only choice for the wire line communication system that people commonly used. Recently, the progress of the communication technology has been emerged optical communication system as the alternative for the wire line communication, and became the favourite one because of its excess.

Along the technology growth, especially in information field, nowadays the needs for the high bit rate are totally required to support the people demands on fast and reliable data transmission. And even for now, the optical communication system has advanced to reach the 40 gbps bit rate.

However, high bit rate is not the only advanced technology, choosing for the right modulation format also important to get not only fast, but also reliable communication system. The aim of this project are, to analyze a system that has been modeled before, with high bit rate, up to 40 gbps, using the NRZ-DPSK modulation format, BER as the main parameter. This research has found that the system has 10^{-7} BER. Beside doing the analysis, this project also make the optimization for the system for its BER so this system could reach better BER, which are 10^{-9} .

Keyword: BER, NRZ-DPSK, 40 gbps