

Enhancement of coupler-based delay line filters modulation techniques using optical wireless channel and amplifiers at 100 Gbit/s

Authors : Divya Sisodiya, Deepika Sipal

Abstract : Optical wireless communication (OWC) is a relatively new technology in optical communication systems that allows for high-speed wireless optical communication. This research focuses on developing a cost-effective OWC system using a hybrid configuration of optical amplifiers. In addition to using EDFA amplifiers, a comparison study was conducted to determine which modulation technique is more effective for communication. This research examines the performance of an OWC system based on ASK and PSK modulation techniques by varying OWC parameters under various atmospheric conditions such as rain, mist, haze, and snow. Finally, the simulation results are discussed and analyzed.

Keywords : OWC, bit error rate, amplitude shift keying, phase shift keying, attenuation, amplifiers

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