

Abstract

Moustafa Hussein Aly

Indoor Wireless Optical Communication: Effect of Ambient Noise

Many techniques using polarizers, differential detectors, and electrical filters are used to overcome the penalty induced by artificial light interference and are analyzed. These techniques are used to reduce noise current remove it by using an electrical filter a polarizer both of them together. We are going to display the effect of noise voltage, flicker voltage of a tungsten lamp, and signal-to-noise ratio (SNR) of the systems by changing each parameter to reach the best solution for reducing the effect of noise on free space optics. This paper will show that the best SNR is obtained with the differential detector with a two orthogonal polarizer system and that the worst one is with the system of a single photodetector.