

Wireless Optic Last Mile Multi-Gbit/s Communication System

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Abstract : Free Space Optics (FSO) is an optical telecommunication system that uses laser beam to transmit data at high bit rates via terrestrial atmosphere. This article describes a method to obtain higher bit rates, under unfavorable weather conditions using multiple optical beams, which carry information with low optical power. Optical link quality assessment is given by the attenuation on different weather conditions. The goal of this paper is to compare two transmission techniques: mono and multi beam, both affected by atmospheric attenuation, using OOK and L-PPM modulation. Link availability is evaluated using eye-diagram that provides information about the overall bit error rate of the system.

Keywords : free space optics, wireless optic, laser communication, spatial diversity

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