

Abstract

Ahmed Abd Elaziz

Performance Analysis of FSO Communication System: Effects of Fog, Rain and Humidity

Free Space Optics (FSO) is one of the most promising new access technologies. FSO provides the transmission of data with unlimited bandwidth. The atmospheric attenuation is caused by two main factors absorption and scattering. This paper investigates a performance study of free space optics channel for variable wavelengths 850 nm, 950 nm and 1550 nm at distance range of 1 km. The simulation reports minimum BER for NRZ-OOK modulation technique at different receiver diameters in presence of fog, rain and humidity attenuation. The obtained results reflect the system improvement achieving minimum BER and maximum received power that can be detected at distance 1 km.