

ABSTRACT

The world of telecommunications is now experiencing very rapid progress, especially in the wireless communication. Wireless communication technology is about Optical Wireless Communication (OWC). One application of this technology is Free Space Optics (FSO). The use of FSO technology was developed as an alternative pathway to assist the previous technology is radio frequency.

This research calculations and analyzes about the performance of the FSO system. FSO performance is influenced by weather attenuation, atmosphere and geometry. The attenuation calculated and analyzed is the rain attenuation with using two different wavelength scenarios and different photodetector.

The results in this calculation are point to point free space optical communication between the transmitter and receiver on heavy rain with using PIN for wavelength 1310 nm is get reach 320 m and for 1550 wavelength get reach 380 m after that using APD for wavelength 1310 nm get reach 370 m, wavelength 1500 nm get reach 440 m.

Keyword : FSO, OOK, NRZ, BER, PIN, APD, Rain Attenuation