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Analysis of free space optics link availability with real data measurement in tropical weather (Conference Paper)

Zabidi, S.A., Islam, M.R., Al-Khateeb, W.F.

Electrical and Computer Engineering Department, International Islamic University Malaysia, Kuala Lumpur, Malaysia

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Abstract

Free Space Optical communications (FSO) has attracted a lot of attention for a variety of applications in telecommunications field. The unlicensed, higher speed, broader and unlimited bandwidth, low cost solutions, and shortest deployment period are some of the drives to deploy FSO. However, **weather** attenuation has a big impact on the transmission line of FSO. In temperate region a thorough studies are available on the **link availability** due to **weather** effect. In **tropical** region however most of FSO **links** install especially in Malaysia are as a backup system. There is no **analysis** on the FSO **link availability** under **tropical weather** condition. Therefore, the objective of this paper is to provide an **analysis** on the FSO **link availability** with **real data** measured in **tropical weather** condition. Based on one year **measurement** of rain attenuation and rain intensity, **link availability** of 99.99% can be achieved for a **link** distance of 1.25km and fade margin of 25dB. The outcome of this research is expected to give a foundation for the design and development of a long range FSO **link** under **tropical weather** condition. © 2014 IEEE.

Author keywords

Availability; Fade margin; **Free Space Optics**; FSO; **Link availability**; Optical Wireless; **Real** time **data**

Indexed keywords

Engineering controlled terms: Availability; Digital storage; Electric lines; Meteorology; Rain; **Space optics**; Tropics

Fade margin; **Free space optics**; FSO; **Link availability**; Optical wireless; **Real**-time **data**

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