

Investigation of the optical communication channel throughput of an information receiver in the form of a silicon photomultiplier tube under conditions of background illumination

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In this work, the throughput of an optical communication channel with an information receiver in the form of a silicon photomultiplier tube (Si-PMT) under conditions of background illumination has been studied. The dependences of the optical communication channel throughput on the level of background illumination are presented, and the background illumination levels necessary for "blinding" the photodetector from overvoltage are determined. It is shown that the use of the 470 nm wavelength light filter, corresponding to the maximum spectral sensitivity of the Si-PMT, makes it possible to restore the information signal after its "blinding". The results obtained can be used in the development of optical communication systems.

Keywords: silicon photomultiplier tube, bandwidth, optical communication channel, Li-Fi technology.

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