

Challenges of Low-Power SWIR DTOF

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Direct time-of-flight (DTOF) sensors operating in the short-wave infrared (SWIR) region can be realized with detectors using compound materials other than Silicon, for example Single Photon Avalanche Diodes (SPAD) with sensitive region based on Germanium. These devices, although able to detect smaller photon energies, they are naturally more prone to higher dark-count rate (DCR) levels: this poses a challenge in the realization of DTOF sensors. In this talk these challenges will be addressed with the aim to achieve high performance range sensing, even in presence of high DCR.