

Quantum LiDAR

Quantum Illumination exploits the quantum correlations of entangled states for enhancement in signal to noise ratio in the problem of object detection and ranging. Quantum illumination is particularly interesting in the optical domain, because the current possibilities to generate the required states is feasible with different techniques and settings and because the possibilities to use direct photon detectors. This opens the possibility to construct prototypes of quantum LiDARs. Potential realistic applications include both, scanner and ranging quantum enhanced prototypes, with many potential applications, from security to biomedical and research applications.