



Imaging with Single-photon Detector Array Technologies

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Single-photon detector array technologies have advanced significantly in recent years. Cameras now exist that are not only sensitive to single photons but the individual pixels in the sensor provide photon time-of-arrival information the picosecond regime. Such unprecedented sensitivity and temporal resolution opens up a number of exiting new applications, such as light-in-flight imaging, looking around corners with laser echoes, and seeing through dense scattering media. I will discuss the recent developments of the camera technology and discuss our latest results. I will give details of our latest field trials, where we have been using single-photon detector array sensors to see through fog and smoke, discuss the application to ultra-fast imaging in three dimensions, and give details of quantum imaging of high-dimensional entanglement.