



Systems, Methods, And Media For Asynchronous Single Photon Depth Imaging With Improved Precision In Ambient Light

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The Invention

In accordance with some embodiments, systems, methods, and media for asynchronous single photon depth imaging with improved precision in ambient light conditions are provided. In some embodiments, the system comprises: a light source; a detector configured to detect arrival of individual photons, and enter a dead time after a detection; a processor programmed to: cause the light source to emit pulses toward a scene point at the beginning of light source cycles each corresponding to B time bins; cause the detector to enter an acquisition window at a first time bin position; cause the detector to enter another acquisition window at a shifted time bin position; record photon arrival times; associate each photon arrival time with a time bin; and estimate a depth of the scene point based on a number of photon detection events at each time bin, and a denominator corresponding to each time bin.

Additional Information

For More Information About the Inventors

- [Mohit Gupta](#)

Tech Fields

- [Information Technology: Image processing](#)

For current licensing status, please contact Michael Carey at mccarey@warf.org or 608-960-9867