



Systems, Methods, And Media For 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 single photon depth imaging with improved precision in ambient light conditions are provided. In some embodiments, the system comprises: a light source; a single photon detector; an attenuation element configured to provide a variable intensity attenuation factor; and a processor programmed to: (a)-determine an ambient light intensity associated with a scene point; (b)-select an attenuation factor based on the ambient light intensity; (c)-estimate a depth of the scene point based on a multiplicity of photon arrival times determined using the detector during a period of time during which light incident on the detector is attenuated by the selected attenuation factor and during which the light source is configured to periodically emit a pulse of light toward the scene point; (d)-repeat (a)-(c) for each of a multiplicity of scene points.

Additional Information

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Tech Fields

- [Information Technology: Computing methods, software & machine learning](#)
- [Information Technology: Image processing](#)

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