



GENERALIZED EVENT CAMERAS

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WARF: P240167US01

Inventors: Mohit Gupta, Matthew Dutson, Varun Sundar

The Invention

UW-Madison researchers have created generalized event cameras that use event streams to inherently preserve scene intensity without added hardware complexity. These generalized event cameras use an integrator, which accumulates incident flux, and a change detector, which determines when to transmit events. The integrators can accumulate flux according to motion levels, that span spatial patches, or even coded exposures with large temporal extents. The change detectors can better distinguish motion from noise by modeling information across larger spatiotemporal supports in a noise-aware fashion. The single-photon avalanche diodes (SPADs) that provide digital access to photon-arrival information at extremely high frame rates (~ 100 kHz) allows the system to compose arbitrary software-defined transformations on the SPAD's outputs, providing single-photon implementations of generalized event cameras. Being software-defined, the system is no longer locked to a particular event camera design and can consider a multitude of operating points.

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 mcarey@warf.org or 608-960-9867