hv photonics

an Open Access Journal by MDPI

IMPACT FACTOR 2.1

CITESCORE 2.6

Applications of Single-Photon Detector

Guest Editors:

Dr. Yi-Shan Lee
Institute of Photonics Technologies, Department of Electrical Engineering, National Tsing Hua University, Hsinchu, Taiwan

Dr. Jau-Yang Wu
Department of Electrical Engineering Program C, Yuan-Ze University, Taoyuan City, Taiwan

Deadline for manuscript submissions:
20 September 2024

Message from the Guest Editors

A single-photon detector with ultimate sensitivity is capable of registering photons, emerging with an indispensable role for extensive applications, including optical quantum information and communication, laser ranging, astrophysics, and high-energy physics. The extension of single-photon detection to mid-infrared further facilitates the applications in astronomy, LIDAR, dark matter searches, and the fundamental study of fast molecular dynamics and chemistry.

This Special Issue invites manuscripts that introduce the recent advances in “Single-Photon Detectors and Their Applications”, covering the wavelength from visible to mid-infrared. All theoretical, numerical, and experimental papers are accepted. Topics include, but are not limited to, the following:

- Solid-state-based single-photon detector: physics, measurement, and applications;
- Superconductor-based single-photon detector: physics, measurement, and applications;
- Spatial multiplexing single-photon detector;
- Hybrid detection system;
- Mid-infrared single-photon detector;
- Single-photon detection in existing and new categories of applications;
- Photon number resolving.

mdpi.com/si/177038

Special Issue