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Photodetectors and photon counting

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Photodetectors and photon counting

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The behavior of light has been a long-standing question. Newton advocated that light is composed of particles, while Huygens advocated that light behaves like a wave. In the 20th century, it was found that light is a particle that behaves like a wave, or that light is a quantized wave.

A scintillator produces scintillation light by the energy deposition of radiation. To measure radiation using a scintillator, we detect photons. We study methods to measure the particle “photon.” How many photons are emitted by radiation? What is the energy of each emitted photon? Does it have enough energy to be detected? We learn about photodetectors.

The number of particles fluctuates statistically. We will study how this fluctuation affects radiation measurements.

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