

The detection of scintillation light produced by ionizing particles in different materials is certainly one of the oldest and still most widely adopted techniques in nuclear and high energy physics. A wide range of photodetectors has been developed for the readout of visible and UV light, both from scintillation and Cherenkov phenomena.

This lecture will review the different scintillation mechanisms, for organic and inorganic materials, and will give an overview on state of the art photodetectors, from the classical photomultipliers up to the new developed Geiger-mode avalanche photodiodes, also known as silicon photomultipliers (SiPM).