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## **PDE Measurement for Digital SiPMs: Comparison Between Pulsed and Continuous Light Methods**

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The information extracted from the characterization of Silicon Photomultipliers (SiPM) is a key element to their future technological development. These experimental data allow SiPM manufacturers to refine their devices and make them more efficient. As there are several methods of characterization across the scientific community, it is essential to define measurement standards to obtain reliable and comparable results. One important characteristic that defines SiPMs is the Photon Detection Efficiency (PDE). In the literature, the characterization of PDE is done in three different ways : the photocurrent method [Bonanno 2009], the pulsed-light counting method [Otte 2006] and the continuous-light counting method [Piemonte 2012]. Despite minor differences, each approach is able to determine the absolute PDE with a good degree of reliability and repeatability [Zappalà 2016]. However, for special type of SiPMs some of the aforementioned methods could be more appropriate. For example, digital SiPMs are built most of the time following an application-specific architecture where data is formatted in situ and transferred digitally. We elaborate on the distinctions between each method and compare their applicability to the measurement of absolute PDE for digital SiPM.

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