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Test and characterization of SiPMs intended as detector for the MEG high resolution timing counter

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The measurement system and characterization of more than 1000 SiPMs intended to be used in the MEG high resolution timing counter is presented.
After a brief a description of the aim of the MEG project and the motivation of the reasons which led to the choice of the devices, the hardware measurement system is described. SiPMs will be grouped by 12 to form a single pixel of the MEG timing counter. The deiveces used in a pixel must exhibit the most uniform behavior as possible to ensure a proper time resolution. A particular C++ software algorithm has been used to extrapolate the parameters usefull for the systematic characterization of the devices, which must take into account their breakdown voltage, gain and dark count noise, to allow a uniform positioning of each SiPM. This software and its outputs are presented together with the ageing data collected after more than 100 days of a SiPM light illumination. The measurement system is intended for the characterization of more than 6000 devices.

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Classifica Sessioni: Photo Detectors and PID - Poster Session

Classificazione della track: S2 - Photon Detector and PID