

Detection of single photons with hybrid ThickGEM-based counters

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Architectures based on multiple layers of Thick-Gas Electron Multipliers (THGEM) represent a possible answer to the quest for novel gaseous counters with single photon detection capability able to overcome all the limitations of the present generation of gaseous photon detectors.

A systematic R&D programme has been performed to achieve a deep understanding of the THGEM characteristics and to optimise their parameters in view of the photon detection application. Recently a new hybrid approach has been considered: an architecture where the last multiplication stage is obtained by using a Micromegas stage.

The R&D studies are summarised and some preliminary results obtained with the hybrid architecture prototypes are reported.

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