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R&D on CsI-TGEM based photodetector

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R&D on CsI-TGEM based photodetector

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The Very High Momentum PID (VHMPID) detector proposed for the ALICE upgrade is a focusing RICH using C₄F₁₀ gaseous radiator. For the detection of Cherenkov photons, one of the options currently under investigation is to use a CsI coated Triple-Thick-GEM (CsI-TTGEM). Extensive laboratory studies have been carried out to fully characterize this detector, showing a gain larger than 105 in Ne+10%CH₄ and a quantum efficiency of 30% at 170 nm. We will present results from the laboratory studies and also first results of beam tests of a RICH detector consisting of a CaF₂ radiator coupled to CsI-TTGEM equipped with a 10x10cm² pad read-out plane and GASSIPLEX-based front-end electronics. With such a prototype the detection of Cherenkov photons has been achieved for the first time, and simultaneously to MIPs, in a stable operation mode.

Please indicate "poster" or "plenary" session. Final decision will be made by session coordinators.

plenary

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