Contribution ID: **30** Type: **Parallel session talk**

μRTube: a new geometry concept for MPGD technologies

Friday 19 July 2024 11:19 (17 minutes)

A new detector concept optimizes MPGD geometry for low-cost and large-area applications while keeping the same performance. The base element, a μRtube, is a cylindrically shaped μRWELL of 0.9cm radius, which works as an amplification stage and readout. The external sleeve is 18 cm in diameter and accommodates the cathode, completing a radial tubular TPC having a small internal surface used for the readout. This geometry significantly reduces the number of electronic channels per unit area and brings a new technological achievement with an unprecedented curvature radius of MPDG for imaging and particle identification applications. The detection technique of the μRtube is based on the TPC approach where time information is used to reconstruct the ionizing particle path inside the drift volume. A report on the detector concept, a full simulation of the detector, and a validation with a testbeam will be presented.

Alternate track

I read the instructions above

Yes

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