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Recent advances with THGEM detectors

Tuesday 2 July 2013 10:30 (25 minutes)

The Thick Gas Electron Multiplier (THGEM) is a simple and robust electrode suitable for large area detectors. The results of extensive comparative studies of the physical properties of different THGEM-based structures will be reviewed. The focus is on newly suggested THGEM-like configurations as well as on recently developed characterization methods. We will report on the properties of THGEM electrodes followed by traditional induction gaps and of other, WELL structures –namely THGEM electrodes directly coupled to an anode plate. In both cases, the readout pads are decoupled through resistive anodes. We will discuss the effects of different resistive configurations on the gas gain, avalanche extension, discharge-rate & magnitude, and rate capabilities over a broad dynamic range –exploiting a method that mimics highly ionizing particles in the lab. In addition, we will report on recent studies of hole-avalanche distribution in THGEM structures using optical avalanche readout.

Presenter: BRESSLER, Shikma (Weizmann Institute of Science (IL))

Session Classification: Tuesday (MPGD morning session)