

Abstract Submitted
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Gas Electron Multiplier Detector Characterization with KPiX Readout System Using Particle Beams SAFAT KHALED, University of Texas at Arlington — Gas Electron Multiplier (GEM) detectors are a type of gaseous ionization detector created in 1997 by the Gas Detector Development Group in CERN. The High Energy Physics Group at the University of Texas at Arlington has been developing and testing double-layer GEM detectors for the digital hadron calorimeters for experiments at future accelerators, such as the International Linear Collider. The group performed a beam test experiment using four 30cmx30cm GEM prototype detectors of which one was read out using the 13bit KPiX chip currently developed by the Stanford Linear Accelerator Center team. In this talk, we present the results of beam test data analysis to understand characteristics and performance of the prototype GEM. More specifically, we present the measured response, efficiency and gain of the prototype detectors.

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