

Abstract Submitted
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Development of Digital Hadron Calorimeter Using Gas Electron Multiplier (GEM) Technology¹ SEONGTAE PARK, JACOB SMITH, EDWIN BALDELOMAR, CLAYTON WILLS, MARK SOSEBEE, ANDY WHITE, JAEHOON YU, University of Texas at Arlington, KWANGJUNE PARK, KAERI — High Energy Physics Experiments at future International Linear Collider requires high precision jet energy measurements. For this purpose, the University of Texas at Arlington has been developing gas electron multiplier (GEM) based Digital Hadron Calorimeter (DHCAL) over the past seven years. Several prototype detector with various sizes, including multiple 30x30 cm² GEM detectors have been built. In this talk, the detector construction and its performance test results are presented. Detectors have been tested with Ru106, Fe55 and cosmic ray. Data taking has been done using KPiX ASICS (being developed at SLAC) for front-end readout electronics for SiD detector concept. As a future plan, 1x1 m² large GEM detector construction and testing are described.

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