Abstract Submitted
for the TSF07 Meeting of
The American Physical Society

Gas Electron Multiplier Prototype Test Beam Studies for International Linear Collider JACOB SMITH, H. BROWN, C. MEDINA, J. LI, University of Texas at Arlington, K.P. HONG, S.N. KIM, C. HAN, S. PARK, Changwon National University, A. WHITE, J. YU, University of Texas at Arlington, CALICE COLLABORATION — A sampling digital hadron calorimeter (DHCAL) in combination with the Particle Flow Algorithms could provide the high jet energy resolution demanded by the physics goals of the International Linear Collider. UTA's High Energy Physics group has been developing a DHCAL using Gas Electron Multiplier (GEM) technology. GEM consists of multiple layers of copper-clad thin plastic foil each containing micron sized holes. With a high voltage applied across each layer this system amplifies the signal from energy deposits of traversing charged particles from a hadronic shower. In addition, due to the small pitch between the holes, GEM can resolve individual particles in the shower down to the micrometer level. This talk will focus on the development and performance of UTA's double GEM detectors. Results from beam tests at Fermilab's Meson Test Beam Facility will also be presented.

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Date submitted: 10 Oct 2007 Electronic form version 1.4