Abstract Submitted
for the TS4CF08 Meeting of
The American Physical Society

GEANT4 Simulation of the TPC REMINGTON THORNTON, Abilene Christian University, NEUTRON INDUCED FISSION FRAGMENT EXPERIMENT COLLABORATION — The Neutron Induced Fission Fragment Tracking Experiment (NIFFTE) collaboration's Time Projection Chamber (TPC) is designed to measure better fission cross-section measurements that can be used in designs for future generations of more advance nuclear power plants. One important requirement of the TPC project is to have an accurate simulation of the physical volume and realistic data flow. GEANT4 is a multi-purpose 3-D Monte Carlo simulation package that has been chosen for this effort. The sensitive volume of the TPC has been created in GEANT4 along with simulations of the detector response, which includes: 3-D ion diffusion, pedestal fluctuations, charge sharing and digital latching noise. In this talk, results from the initial simulation will be described in detail.

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Date submitted: 11 Sep 2008 Electronic form version 1.4