Abstract Submitted
for the DNP11 Meeting of
The American Physical Society

The NIFFTE Data Acquisition System HAI QU, Abilene Christian University, NIFFTE COLLABORATION — The Neutron Induced Fission Fragment Tracking Experiment (NIFFTE) will employ a novel, high granularity, pressurized Time Projection Chamber to measure fission cross-sections of the major actinides to high precision over a wide incident neutron energy range. These results will improve nuclear data accuracy and benefit the fuel cycle in the future. The NIFFTE data acquisition system (DAQ) has been designed and implemented on the prototype TPC. Lessons learned from engineering runs have been incorporated into some design changes that are being implemented before the next run cycle. A fully instrumented sextant of EtherDAQ cards (16 sectors, 496 channels) will be used for the next run cycle. The Maximum Integrated Data Acquisition System (MIDAS) has been chosen and customized to configure and run the experiment. It also meets the requirement for remote control and monitoring of the system. The integration of the MIDAS online database with the persistent PostgreSQL database has been implemented for experiment usage. The detailed design and current status of the DAQ system will be presented.

Hai Qu
Abilene Christian University

Date submitted: 01 Jul 2011 Electronic form version 1.4