NIFFTE software and simulations: results from the first mock data challenge JENNIFER KLAY, California Polytechnic State University San Luis Obispo, NIFFTE COLLABORATION — The Neutron Induced Fission Fragment Tracking Experiment will employ a novel, high granularity, pressurized time projection chamber to measure fission cross-sections of the major actinides to sub-1% precision. The first suite of GEANT4 simulation and reconstruction software has been developed and run in a “mock data challenge” to validate the detector design and demonstrate the capabilities of the experiment. This talk will present the current status of results from this exercise, details for future simulation runs and plans for analysis of the first experimental data.