**CLAS Simulations for** $D(\vec{e}, e'p)n$[1] ROBERT BURRELL, KURI GILL, GERARD GILFOYLE, University of Richmond, CLAS COLLABORATION — We are simulating the electrodisintegration of the deuteron in the $D(\vec{e}, e'p)n$ reaction in the CEBAF Large Acceptance Spectrometer (CLAS) at the Thomas Jefferson National Accelerator Facility. CLAS is a large, complex particle detector that measures the debris from collisions of electron and photon beams with nuclear targets with nearly $4\pi$ solid-angle coverage. To better understand the response of CLAS, to calculate its acceptance, and to test our analysis codes, we simulate the detector's performance. Working on the University of Richmond's supercomputing cluster, we have written a Perl script to perform the simulation by executing a sequence of commands running different programs, managing files, *etc*. We use a model of quasi-elastic scattering called QUEEG (Quasi-Elastic Electron Generator) to generate the initial four-vectors for each event. These events pass through a GEANT simulation of CLAS, are reconstructed with standard CLAS software, and final-stage analysis of the reconstructed four-vectors is performed with ROOT. We will report results of the application of this technique to the measurement of asymmetries in CLAS for the 2.56-GeV, reversed-polarity data set of the E5 running period.

Gerard Gilfoyle
University of Richmond

Electronic form version 1.4