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Simulation of the Scintillator Geometry in the Electromagnetic Calorimeter in the CLAS12 Detector<sup>1</sup> KEEGAN SHERMAN, GERARD GIL-FOYLE, University of Richmond — We have modified the geometry of the electromagnetic calorimeter (EC) in a simulation of the CLAS12 detector at Jefferson Lab (JLab). The goal of JLab is to understand how quarks and gluons form nucleons and nuclei. It is being upgraded with a higher energy beam and new detectors including CLAS12 in Hall B. To prepare for CLAS12's operation, we use the code gemc that is based on Geant4 to simulate particle tracks. The EC is one of the CLAS12 components and it is used to measure the energy and position of charged and neutral particles. It is composed of alternating layers of lead and scintillating plastic. Each layer of scintillator is, in turn, composed of 36 parallel strips that form a triangle about 4.7 m on a side. Adjacent layers are rotated 120 degrees so the crossed strips can be used to determine the position of a hit. In the past the scintillators have been defined as a large slab instead of stips to reduce computation time. We have redefined them as the more realistic strips in *gemc*. Using the UNIX "time" command we observe about a 5% increase in CPU time in the EC simulation. To test the effect on the interactive graphics in gemc we use glagears and see about a 25%decrease in frame rate.

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