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Preliminary CLAS 12 Simulation Analysis and Optimization KIRILL DERGACHEV, GERARD GILFOYLE, CLAS 12 COLLABORATION — Jefferson Laboratory (JLab) is undergoing an upgrade to increase beam energy from 6 GeV to 12 GeV to more clearly understand hadronic structure and quantum chromodynamics. The existing detector in Hall B is being upgraded to take advantage of the new physics opportunities. The new detector, CLAS 12, is in the design phase and we are developing a new simulation package, Sim12. The new code uses at least eight specially configured software packages to run, requiring extended compilation and configuration times. This installation procedure was optimized and documented resulting in a far shorter installation time. Sim12 is resource intensive, hence optimization was performed to decrease initialization times, accommodate the large amount of vertices necessary to represent the detector, and to decrease processing times of simulations. To accommodate event generators, which are necessary for experimentally relevant simulations, utilities to input event files were created. Finally, preliminary analysis was performed on Monte Carlo generated data.

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