

Abstract Submitted
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Development of a CompCal Calorimeter for the eta-Primakoff Experiment at JLab¹ NICHOLAS STERLING², University of North Carolina Wilmington, GLUEX COLLABORATION — The eta-Primakoff experiment (E12-10-011) is aimed to perform a precision measurement of the eta radiative decay width via the Primakoff effect in Hall D to determine the light quark-mass ratio and the eta-etamixing angle. In addition to using the standard GlueX apparatus, a compact, high resolution electromagnetic calorimeter (CompCal) will be critical for controlling the experimental systematic uncertainty by detecting the electron Compton scattering in parallel to the physics production. In order to investigate the possibility of adding a scintillating hodoscope in front of CompCal for the charged particle identification, I performed Monte Carlo simulations to study two primary quantities of interest, namely, the back splash from CompCal and the electromagnetic background rate. The result of this study will be presented.

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