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Upstream Photon Veto Studies for the GlueX Project JAMES CUSTER, Florida State University, GLUEX COLLABORATION — The Upstream Photon Veto (UPV), being developed at Florida State University, is a sampling electromagnetic calorimeter that will become part of the GlueX project. The detector will be placed upstream of the photon beam. The main goal of this detector is to veto photons in the backwards direction of the target. This study looks to optimize the detector configuration for resolution and efficiency. To do this, we've modeled the detector in the Geant4 simulation toolkit. Past studies have shown that the optimal configuration is 12 layers of lead-scintillator followed by 6 layers of double the thickness of lead, and scintillator. In this study, we test how the resolution and efficiency respond to changing the number of layers with a fixed total volume, by changing the sizes of the layers overall, and the addition of a pre-radiator. The results have shown that we can most effectively increase our resolution and efficiency by doubling the thickness of the scintillator, or by doubling the number of layers, but keeping the same overall volume.

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