

Abstract Submitted
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Simulation Studies for the KLEVER Small-Angle Calorimeter¹

EMILY TSAI, University of Texas at Austin — The aim of the KLEVER experiment is to make a first measurement of the branching ratio of $K_L \rightarrow \pi^0 \nu \bar{\nu}$ events. This project focused on evaluating the efficiency of the experiment's small-angle calorimeter (SAC) in vetoing $K_L \rightarrow \pi^0 \pi^0$ background events. Fast-simulation was used to obtain needed efficiencies for the SAC. Then more detailed Geant4 simulation was used to see if these efficiencies could be reached and to find thresholds that would produce these efficiencies. Future work focuses on improving experiment design and simulation.

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