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Prototyping Electromagnetic Calorimeter for STAR Forward Calorimeter System using Au + Au at $s = 200\text{GeV}$ data XILIN LIANG, University of California, Riverside, STAR COLLABORATION — The STAR forward upgrade program is motivated to explore a wide range of rich cold QCD physics in the very high and low regions of Bjorken x . This requires new detector capabilities in the forward region including the Forward Calorimeter System (FCS). π^0 reconstruction was developed using a prototype of Electromagnetic Calorimeter (ECal) of the FCS using Au + Au collision at $\sqrt{s} = 200\text{GeV}$ data collected during the 2019 RHIC run. We present this analysis to obtain the gain factors and invariant mass π^0 reconstruction using two different methods (cluster finder method and point maker method) to isolate the two photon candidates of the π^0 .

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