

Photoproduction of η mesons via Primakoff at GlueX

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The PrimEx-*eta* measurements conducted in Hall D at Jefferson Lab, aims to extract the radiative decay width of the η meson. This experiment serves as a probe to test fundamental symmetries in low energy QCD by exploiting the Primakoff effect, specifically by extracting the $\eta \rightarrow \gamma\gamma$ cross section . Additionally, it will provide valuable input to determine the light quark mass ratio and the mixing angle between η and η' mesons. Furthermore, it will contribute by providing an additional data point to complement previous results for the η radiative decay width obtained through leptons colliders and Primakoff measurement. The GlueX collaboration collected data in three phases 2019, 2021 and 2022 using the GlueX detector. Preliminary results will be presented for the charged decay channel for the 2022 data.