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Exclusive η photoproduction and Σ beam asymmetries at GlueX

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— GlueX is capable of making Σ beam asymmetry measurements using a tagged, linearly-polarized 9 GeV photon beam incident on a hydrogen target. Measurements of the Σ beam asymmetry for the exclusive reaction, $\gamma p \rightarrow \eta p$, will provide insight into the meson production mechanism. These measurements are the first beam asymmetry results for the η in this energy range and are expected to further constrain Regge theory models for photoproduced pseudoscalar mesons. This talk will present preliminary results of the photon Σ beam asymmetry as a function of the Mandelstam variable, t , for multiple η decay modes using data from a recent run.

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