

Abstract Submitted  
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**$\eta$  and  $\eta'$  photoproduction off the proton<sup>1</sup>** NATHAN SPARKS,  
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— The photoproduction of  $\eta$  and  $\eta'$  mesons ( $I=1/2$ ) serves as an isospin filter facilitating the study of  $N^*$  resonances. Total and differential cross sections for these mesons have been determined using the Crystal Barrel CsI(Tl) calorimeter at ELSA, University of Bonn in Germany, in the energy range  $E_\gamma = 850$  to 2550 MeV by analyzing the neutral decay modes:  $\eta \rightarrow 3\pi^0$ ,  $\eta \rightarrow 2\gamma$ , and  $\eta' \rightarrow 2\pi^0\eta$ . In this experiment, the BaF<sub>2</sub> spectrometer TAPS was placed in the forward direction increasing the solid angle coverage to nearly  $4\pi$ . For the first time, these measurements cover the full angular range in  $\cos\theta_{\text{meson}}^{\text{cms}}$ . In separate beam time using the same detector setup, linearly polarized photons were produced by coherent bremsstrahlung off a diamond radiator to allow the extraction of the photon beam asymmetry,  $\Sigma$ . Preliminary results for pseudoscalar mesons in the range  $E_\gamma = 1100$  to 1700 MeV are discussed.

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