

Abstract Submitted
for the HAW09 Meeting of
The American Physical Society

Measurement of the $gp \rightarrow \eta p$ reaction with Crystal Ball detector at the Mainz Microtron (MAMI-C)¹ IGOR STRAKOVSKY, GWU, SERGEY PRAKHOV, University of California LA, YAKOV AZIMOV, Petersburg Nucl. Phys. Inst., WILLIAM BRISCOE, GWU, BERND KRUSCHE, Basel Univ., MICHAEL OSTRICK, Mainz Univ., FOR THE A2 CBTAPS COLLABORATION — The $gp \rightarrow \eta p$ reaction has been measured with the Crystal Ball multiphoton spectrometer and TAPS calorimeter in the energy range from the production threshold of 707 to 1400 MeV. Bremsstrahlung photons produced by the 1.5 GeV electron beam of the Mainz Microtron MAMI-C and tagged by the Glasgow photon spectrometer were used for the η -meson production. The available statistics of 3.8×10^6 $gp \rightarrow \eta p \rightarrow 3\pi^0 p \rightarrow 6\gamma p$ events allowed to study in detail the reaction dynamics at our energies. The $gp \rightarrow \eta p$ differential cross sections were determined for the full range of the production angles by dividing the data in 120 energy intervals. The systematic uncertainties in the differential cross sections are at the order of 4%. The data have been used to evaluate the ηp multipoles in the vicinity of several low-lying $I = 1/2$ baryon resonances. These data and the extracted multipoles are compared to previous determinations.

¹Supported by US DOE, NSF OISE/IRES, and German DFG, SFB 443.

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Date submitted: 29 Jun 2009

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