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Single π^0 Photoproduction off the Deuteron[1] WILLIAM BRISCOE, IGOR STRAKOVSKY, The George Washington University, THE MAMI-MAINZ A2 COLLABORATION — The quasifree $\gamma d \to \pi^0 n(p)$ photon beam asymmetry, has been measured at photon energies from 390 to 610 MeV, corresponding to CM energies, W, from 1.271 to 1.424 GeV, for the first time. The data was collected in the A2 Hall of the MAMI electron beam facility with the Crystal Ball and TAPS calorimeters covering pion CM angles from 48 to 148 degrees. In these kinematic regions, polarization observables are sensitive to contributions from the $\Delta(1232)$ and $N^*(1440)$ resonances. The extracted values of Σ have been compared to predictions based on PWAs of the existing pion-photoproduction database. We include the SAID, MAID, and Bonn-Gatchina analyses; while a revised SAID fit, including the new Σ measurements, has also been performed. In addition, isospin symmetry is examined as a way to predict $\pi^0 n$ photoproduction observables, based on fits to published data in the channels $\pi^0 p$, $\pi^+ n$, and $\pi^- p$.

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