Progress on Neutron-Target Multipoles above 1 GeV

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We report a new extraction of nucleon resonance couplings using $\pi^-$ photoproduction cross sections on the neutron. The world database for the process $\gamma n \rightarrow \pi^- p$ above 1 GeV has quadrupled with the addition of new differential cross sections from the CEBAF Large Acceptance Spectrometer (CLAS) at Jefferson Lab in Hall B [1]. Differential cross sections from CLAS have been improved with a new final-state interaction determination using a diagrammatic technique taking into account the $NN$ and $\pi N$ final-state interaction amplitudes [2]. Resonance couplings have been extracted and compared to previous determinations. With the addition of these new cross sections, significant changes are seen in the high-energy behavior of the SAID cross sections and amplitudes [1].


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