

Plenary talk

Photoproduction of multi-meson final states — recent results from the Crystal-Barrel/TAPS experiment at ELSA-

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摘要

Multi-meson final states such as $\gamma p \rightarrow p n^0 n^0$ and $\gamma p \rightarrow p n^0 \eta$ have been investigated with the Crystal-Barrel/TAPS experiment at ELSA. Baryon cascades via Δn and $\Delta \eta$ and also via higher mass baryon resonances are clearly observed. Based on this data and on data from other reactions a partial wave analysis has been performed from which partial decay widths of various N^* and Δ^* states into the different $p n^0 n^0$ and $p n^0 \eta$ decay channels have been determined, leading partly to unexpected results. In addition, polarisation observables have been investigated. The beam asymmetry Σ has been determined for both reactions and double polarisation data using a longitudinally polarised target and a circularly or linearly polarised photon beam has been taken. Given the angular coverage of the Crystal-Barrel/TAPS experiment this data covers almost the full angular range and phase space. This data will provide new and important information for the partial wave analyses and bring us one step closer towards a complete experiment.

关键词 [baryon spectroscopy](#), [photoproduction](#), [multi-meson final states](#), [polarisation observables](#)

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