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Measurement of $\Sigma^+ K^0$ and η photoproduction with the CBELSA/TAPS experiment

The CBELSA/TAPS experiment is especially well suited to measure photons from neutral meson decays to study N^*- and Δ^*-resonances which are created via photoproduction off the nucleon. Investigating triple neutral pion photoproduction, the kaon-hyperon final state, $\Sigma^+ K^0$, as well as the photoproduction of η mesons decaying into $3\pi^0$ can be studied.

The photoproduction of neutral kaons is of particular interest as the t-channel kaon exchange is suppressed which makes the channel more sensitive to resonant s-channel contributions. Data in the $\gamma p \rightarrow \Sigma^+ K^0$ channel is, however, still scarce.

A challenge in the analysis presented, is the careful separation of the $\Sigma^+ K^0 \rightarrow p3\pi^0$-signal from other triple neutral pion events not originating from kaon photoproduction.

This contribution in form of a poster will focus on the selection of $\gamma p \rightarrow p3\pi^0$ events and discuss preliminary results in the $\Sigma^+ K^0$ and η photoproduction channels.

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