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First Studies of Exclusive Reactions with CLAS12

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The CLAS12 detector started data taking with a polarized 10.6-GeV electron beam at Jefferson Laboratory (JLab) this February. The N^* program of CLAS12 is focussed on the study of the structure of excited nucleon states for the still unexplored regions of photon virtualities Q^2 down to 0.05 GeV^2 and for Q^2 from $5 - 12 \text{ GeV}^2$. The focus at low Q^2 is the search for new so-called hybrid baryon states. At high Q^2 , CLAS12 will map out the N^* core quark structure at distances where the transition from quark gluon confinement to pQCD takes place. The talk will focus on the first measurements of the different exclusive reactions with CLAS12. A special focus will be on the exclusive $ep \rightarrow e\pi^0$ channel in the resonance and the semi-inclusive $ep \rightarrow e\pi^0 X$ production in the DIS region. For both processes, the beam spin asymmetry will be studied. These processes can be seen as a benchmark for the capabilities of CLAS12. In addition, the measurement and characterization of the $\Phi(1020)$ and $\Lambda(1520)$ in the exclusive channel $ep \rightarrow e\pi K^+ K^-$ will be presented. For the $\Lambda(1520)$, the first results for the beam-spin asymmetry will be shown.