Low $Q^2$ Pion Electroproduction and VCS in the Delta Resonance Region

ADAM BLOMBERG, MICHAEL PAOLONE, NIKOLAOS SPARVERIS, Temple University — The study of the $N \rightarrow \Delta$ transition has been historically essential in order to achieve a better understanding of the nucleon structure and of the underlying nucleon dynamics. The pion electroproduction and VCS channels of the transition allow exploration for non-spherical angular momentum amplitudes in hadrons through the measurement of the transition quadrupole amplitudes. The VCS channel also provides access to the generalized polarizabilities of the nucleon. New, precise measurements of the pion excitation channel from JLab/Hall-A and from MAMI will be presented. Furthermore, new results from the first high precision measurement of the VCS channel at the $\Delta$ resonance from MAMI will also be presented and discussed.