Studies of Excited Nucleon Structure with CLAS and CLAS12

Kyungseon Joo

for the CLAS collaboration

Significant progress has been realized in studies of excited nucleon state structure (N\* program) from the data on exclusive meson electroproduction measured with the CLAS detector in Hall B at Jefferson Laboratory (JLab). Studies of N\* program give us the unique opportunity to explore the complex interplay of quark-gluon and meson-baryon degrees of freedom in the N\* structure and the transition from quark-gluon confinement towards perturbative QCD as it is revealed in the structure of excited nucleons with different quantum numbers. New high statistics experimental data with the CLAS12 detector following 12 GeV upgrade have been taken to extract the N\* electrocouplings at high photon vitalities (Q2) ever achieved up to 10-12 GeV2. This high-Q2 reach will shed light on the transition between the cloud of hadrons and the core of three confined quarks in N\* structure. This talk will review the current status of N\* program with CLAS and discuss on-going efforts with CLAS12.