

Exclusive $p\pi^+\pi^-$ electroproduction in the resonance region at high Q^2 .

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Abstract

We are reporting the analysis of $p\pi^+\pi^-$ electroproduction in the resonance region at Q^2 range of 2.0 - 5.0 (GeV/c)². Nine differential and fully integrated $ep \rightarrow ep\pi^+\pi^-$ cross sections were measured with the CLAS detector at invariant masses of the final hadrons W from 1.4 to 2.0 GeV. A combination of the JLAB continuous electron beam accelerator and the CLAS detector with almost complete coverage of the final hadron phase space allowed us to obtain high precision data on integrated and differential cross sections of this exclusive channel in a large range of photon virtualities for the first time. Phenomenological analysis of these data within the framework of reaction model JM is in progress with the goal to establish all essential contributing mechanisms at high photon virtualities from their manifestation in observables. New information on N^* electrocouplings at high Q^2 will offer an access to N^* structure at the distance scale, that corresponds to transition from a combined contribution of meson-baryon and quark degrees of freedom to a dominance of dressed quark core.