

Abstract Submitted
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Exclusive Electroproduction of the π^0 Meson off of the Nucleon

ANTHONY VILLANO, Rensselaer Polytechnic Institute — Nucleon transition amplitudes offer insight into the transition between hadronic degrees of freedom and quark-gluon degrees of freedom. Since many resonant excitations of the nucleon couple strongly to single pion production, one can hope to probe the interesting transition region through pion production measurements. A study of π^0 production from a nucleon target at Q^2 of 6.4 and 7.7 GeV² has recently been undertaken by the Jefferson lab Hall C collaboration. The differential cross sections can be used to constrain excitation form factors G_M^* and several multipole transition amplitudes for the lowest lying nucleon excitation, the $\Delta(1232)$ resonance. Differential cross sections as they relate to both non-resonant processes and resonance excitations will be discussed. Information on the excitation form factors and multipole amplitudes will be presented along with the implications of various theoretical predictions.

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