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Nucleon-to-Roper electromagnetic transition form factors at large Q^2

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High-precision nucleon-resonance electroproduction data on a large kinematic domain of energy and momentum transfer have proven crucial in revealing novel features of strong interactions within the Standard Model and unfolding structural details of baryon excited states. Thus, in anticipation of new data reaching to unprecedented photon virtuality, we employ a quark-diquark approximation to the three-valence-quark bound-state problem to compute $\gamma p \to R+$ *and* $\gamma n \to R0$ transition form factors on $Q2/mN2 \in [0,12]$, where mN is the nucleon mass. Having simultaneously analyzed both charged and neutral channels, we also provide a quark-flavor separation of the transition form factors. The results should be useful in planning new-generation experiments.

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