

Nucleon Form Factors and N- Δ Transitions in a Hypercentral Constituent Quark Model with Meson Cloud

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Abstract: We study the nucleon form factors and the nucleon- $\Delta(1232)$ transitions in a framework of hypercentral constituent quark model. The pion meson cloud effect is taken into account explicitly. Our results show that the pion cloud contributes substantially to the nucleon form factors as well as to the helicity amplitudes of $\Delta(1232)$, and it gives an improved agreement compared to the experimental measurement.

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Key words: electromagnetic form factor, nucleon and $\Delta(1232)$, hypercentral constituent quark model, meson cloud

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