

Quark model calculations of transition form factors at high photon virtualities

Wednesday, June 12, 2019 3:00 PM (30 minutes)

We present calculations of $\gamma^* N \rightarrow N^*$ transition form factors, where N is the nucleon and N^* and N^* is a nucleon resonance, based on a covariant quark model. At high photon virtualities (large Q^2) it is expected that the valence quark degrees of freedom dominate the contributions to the transition form factors. In these conditions, the quark model estimates can be compared with the available data, particularly with the Jefferson Lab data at intermediate and large momentum transfer ($Q^2 > 2 \text{ GeV}^2$). The main focus is on the $\Delta(1232)3/2^+$, $N(1440)1/2^+$, $N(1535)1/2^-$ and $N(1520)3/2^-$ resonances, but the estimates for other higher mass resonances are also discussed.

Primary author: RAMALHO, Gilberto (LTFC, Universidade Cruzeiro do Sul)

Presenter: RAMALHO, Gilberto (LTFC, Universidade Cruzeiro do Sul)

Session Classification: Parallel Session A

Track Classification: Advances in the modeling of baryon spectrum and structure