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Axial-vector transition form factors from the baryon decuplet to the octet within a pion mean-field approach

Thursday 2 December 2021 13:45 (15 minutes)

In the present talk, we provide the results for the axial-vector transition form factors $C_5^A(Q^2)$ from the baryon decuplet to the baryon octet, based on a pion mean-field approach, taking into account the rotational $1/N_c$ corrections and the effects of flavor SU(3) symmetry breaking. We obtain all possible axial-vector transition form factors for both the strange-conserving and strangeness-changing transitions. Since lattice QCD provides only the transition from Δ^+ to p, we compare our results for the Δ^+ to p transition with those from lattice QCD. For this comparison, we consider the unphysical value of the pion mass corresponding to that lattice calculation have taken. We discuss also the physical implications of the present results.

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