

Fitting coupling constant of ground-state charm baryons Λ_c, Σ_c by using decay width of quark model

Tuesday 22 May 2018 12:00 (15 minutes)

Decay process of ground state $\Lambda_c \rightarrow ND, ND^*, \Sigma_c \rightarrow \Delta D, \Delta D^*$ are studied in the 3P_0 nonrelativistic quark model with all parameters fixed in the sector of light quark. In accordance with the assumption that all baryons in question are made of three quarks, the effective coupling strength of the 3P_0 vertex is determined by the decay processes of the $\Sigma(1385)$ baryon. The quark model results are applied to determine the coupling constants in effective field theory.

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Session Classification: A12: High Energy Physics

Track Classification: High Energy and Particle Physics