

Oral contribution

J^P assignments of Λ_c^+ baryons

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摘要

The “good” diquark is employed to study Λ_c^+ baryons within a mass loaded flux tube model. The study indicates that all Λ_c^+ baryons candidates in the 2008 review by the Particle Data Group (PDG) are well described in the mass loaded flux model. The quantum numbers J^P of these Λ_c^+ candidates are assigned. If $\Lambda_c(2765)^+$ is an orbitally excited Λ_c^+ , it is likely the $J^P=3/2^+$ one. If $\Lambda_c(2765)^+$ is an orbitally excited Σ_c , there ought to be another $J^P=3/2^+$ Λ_c^+ with mass ≈ 2770 MeV. In the model, there exists no $J^P=1/2^+$ Λ_c^+ (≈ 2700) predicted in existing literature. $\Lambda_c(2940)^+$ is very possible the orbitally excited baryon with $J^P=5/2^-$.

关键词 [diquark, flux tube model, charmed baryons](#)

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