String models and Regge trajectories for baryons

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Abstract. The string with massive ends may be considered as the model q-$\overline{q}$ of a meson or as the quark-diquark model q-qq of a baryon. Rotational states (planar uniform rotations) of this string demonstrate quasilinear dependence between angular momentum and square of energy of a state. Such a behavior was used for describing light, strange, charmed, bottom mesons on Regge trajectories. In this paper we choose the quark-diquark string baryon model because of its stability and true Regge slope and use this model with two types of spin-orbit correction for describing N, Δ, Σ, Λ and Λ_c baryons on Regge trajectories.

Keywords: string models of baryons, rotational states, Regge trajectories

MSC numbers: 70B05,70E55

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