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Heavy baryon spectroscopy in a quark-diquark approach

We report progress on calculations of the heavy-light baryons Σ_c and Λ_c and their excitations with $J^P = 1/2^+$ and $3/2^+$ using functional methods. The three-quark Faddeev equations are reduced to two-body equations by employing a covariant quark-diquark approach. The interaction amounts to a quark exchange between quarks and effective diquarks, and the ingredients are determined via a rainbow-ladder truncation. A partial-wave analysis reveals the presence of orbital angular momentum components in terms of p waves, which are non-relativistically suppressed. A diquark contribution analysis reveals the distribution of scalar and axialvector diquarks, of equal and unequal flavors, in the heavy-light baryon spectrum.

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