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Heavy hadrons in a chiral-diquark picture

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Since singly heavy baryons and doubly heavy tetraquarks contain two light quarks, they are expected to exhibit well-developed (light-)diquark structures. The properties of light diquarks are affected by spontaneous chiral symmetry breaking and serve as a sensitive probe for investigating the unknown property of the QCD vacuum.
In this talk, we will discuss the spectroscopic properties of heavy hadrons, where we construct a chiral effective model implementing chiral-partner structures of light diquarks (e.g., scalar/pseudoscalar diquarks [1] or vector/axialvector diquarks [4]) and apply this model to heavy-baryon spectra [1,2,4], heavy-baryon decays [3,6], and heavy tetraquarks [5].
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