

One Born Oppenheimer Effective Theory for all Exotics

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The XYZ exotic states discovered in the hadronic sector with two heavy quarks constitute one of the most important open problems in particle theory. In this talk, I show that an effective field theory derived from QCD, the Born Oppenheimer effective field theory (BOEFT), can describe exotics of any composition. I show the results of the Schrödinger coupled equations that describe hybrids, tetraquarks, pentaquarks, doubly heavy baryons, and quarkonia at leading order, including nonadiabatic terms. Additionally, I also present the results of the predicted multiples, corresponding selection rules, and expressions of the nonperturbative gauge invariant correlators which are the input of the BOEFT: static energies, generalized Wilson loops, gluelumps and adjoint mesons that should be calculated on the lattice.

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