

Meson-antimeson threshold effects on quarkonium spectrum in an EFT formalism

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I use the Born-Oppenheimer EFT (BOEFT) formalism to study the effect of meson-antimeson thresholds on the quarkonium spectrum. In this talk, I introduce the leading order BOEFT lagrangian for the system with inputs on the potentials from recent lattice studies on string breaking. For below threshold quarkonium states, I show results for the threshold corrections obtained in two ways: by solving coupled equations with quarkonium and meson-antimeson threshold and as self energy corrections from meson-antimeson threshold. Additionally, I present results from an even deeper EFT perspective where the meson-antimeson d.o.f. are integrated out and effect on quarkonium states are accounted via an effective potential. For above-threshold quarkonium states, I present results for the decay widths into the thresholds accounting for selection rules in BOEFT. Finally I compare our results with available experimental data and literature.

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