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Study of Heavy Tetraquarks in a Diquark Model

A non-relativistic quark model is used to study heavy tetraquarks within a diquark-antidiquark configuration, where the four body system is considered as three subsequent two-body systems. The considered Hamiltonian is a combination of the linear confining, Coulombic and spin-spin interaction terms. Using the perturbation theory, we calculate the heavy meson spectra and then estimate the masses of the bottom tetraquaks. We find that the exotic state $Z_b(10650)$ can be considered as diquark–antidiquark bound state.

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