

Exotic Heavy Mesons and Lattice QCD Potentials

Saturday 29 April 2023 12:05 (15 minutes)

Quantum ChromoDynamics (QCD) is universally accepted as the theory of strong interactions. However, because of the nonperturbative nature of QCD at low energies, calculating the hadron spectrum from the fundamental theory is a daunting task. In this talk, I focus on mesons containing a pair of heavy quarks. This is particularly interesting because some of these mesons, like the famous $X(3872)$, escape the conventional picture of a bound quark-antiquark state. I will show how such systems can be studied in the Born-Oppenheimer approximation, where the dynamics of the heavy quarks can be determined via a nonrelativistic Schrödinger equation, with potentials that are numerically accessible in lattice QCD.

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Session Classification: Talks