Contribution ID: **255** Type: **Oral presentation**

A potential approach to the $\chi(3872)$ thermal behaviour

Tuesday 24 September 2024 10:50 (20 minutes)

We study the potential of X(3872) at finite temperature in the Born-Oppenheimer approximation under the assumption that it is a tetraquark. We argue that, at large number of colors, it is a good approximation to assume that the potential consists in a real part plus a constant imaginary term. The real part is then computed adapting an approach by Rothkopf and Lafferty and using as input lattice QCD determinations of the potential for hybrids. This model allows us to qualitatively estimate at which temperature range the formation of a heavy tetraquark is possible, and to propose a qualitative picture for the dissociation of the state in a medium. Our approach can be applied to other suggested internal structures for the X(3872) and to other exotic states.

Category

Theory

Collaboration

Primary authors: G. FERREIRO, Elena (Universidade de Santiago de Compostela (ES)); ESCOBEDO, Miguel Angel; ARMESTO, Nestor; LÓPEZ PARDO, Víctor

Presenter: LÓPEZ PARDO, Víctor

Session Classification: Parallel 15: heavy quarks, spin polarization

Track Classification: 3. Heavy quarks and quarkonia