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Properties of heavy mesons at finite temperature

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Heavy hadrons at finite temperature are nowadays attracting much attention in the field of hadron physics in view of the extremely high temperatures reached in the on-going and upcoming heavy-ion collision experiments and the new level of accuracy of the numerical simulations of QCD on the lattice. Along these lines, we go beyond the state-of-the-art to study the properties of heavy mesons using a unitarized approach in a hot pionic medium, based on an effective hadronic theory. The interaction between the heavy mesons and pseudoscalar Goldstone bosons is described by a chiral Lagrangian at next-to-leading order in the chiral expansion and leading order in the heavy-quark mass expansion so as to satisfy heavy-quark spin symmetry. The meson-meson scattering problem in coupled channels with finite-temperature corrections is solved in a self-consistent manner. In this talk I will show the in-medium unitarized amplitudes in a pionic environment at finite temperature for heavy-mesons and their spectral functions. The aim is to test our results against Lattice QCD calculations in the near future.

Primary authors: Ms MONTAÑA, Gloria (University of Barcelona); RAMOS, Àngels (University of Barcelona); Dr TOLOS, Laura

Presenter: Ms MONTAÑA, Gloria (University of Barcelona)

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