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The high temperature QCD static potential beyond leading order

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The dominant interaction between a heavy quark and antiquark at low energy is described through the static potential. The real part of the potential becomes screened with a screening mass proportional to the temperature, and the imaginary part of the potential gives bound-states a non-zero width. As the temperature increases bound-states can disappear either because they are no longer supported by the screened potential, or because they become wide resonances. We calculate next-to-leading order corrections to the static potential using finite temperature perturbation theory and study their effect on the dissociation temperature of heavy quarkonia. We also study the effect of anisotropy on bound-state energies.

session

F. Heavy Flavor and Quarkonia

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Session Classification: F. Heavy Flavor and Quarkonia