

# Quarkonia spectral function and thermal static quark-antiquark potential from Lattice QCD

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Quarkonia, the bound states of heavy quark-antiquark pairs, have proven to be crucial probes for studying quark-gluon plasma. The color screening properties of the QGP weaken the interaction between quark-antiquark pairs, leading to the suppression of quarkonia yields within the QGP. We present some preliminary results on the fate of quarkonia bound states in the QGP by performing spectral reconstruction from lattice correlators. The spectral function is reconstructed by combining the vacuum part, which is valid at large energy, with the one obtained from the thermal potential near the threshold. We observe that this spectral function effectively describes the lattice data. Our findings indicate that the thermal interaction shifts the bound state mass and results in a significantly larger thermal width. In the charmonium system, the width is much larger than in the bottomonium system.

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