

Holography and the internal interaction of heavy mesons

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Using the AdS/QCD models, where the particles of the 4D QCD are represented by fields living in a 5D Anti de Sitter space, one can study many properties of heavy mesons. This includes the mass spectrum, decay constants, the behavior in the presence of a thermal medium, etc. However, this approach sees the mesons as point particles, in contrast to what is expected for hadrons. In this work, we show that the background used in a successful AdS/QCD model for heavy mesons provides a description of the internal structure of the meson. That means the interaction between the quark constituents. As a result, we recover the well-known Cornell potential and have obtained a value to string tension between the quark anti-quark pair. Furthermore, we studied the interaction between them in the presence of a medium with temperature and chemical potential.

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