

String tension and Polyakov loop in a rotating background

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We study the influence of a rotation on the string tension and the temperature of the confinement-deconfinement phase transition of gluodynamics by gauge/gravity duality. We explore two distinct approaches, global transformation and local transformation, to introduce rotation and compare the results. It is shown that the string tension extracted from the free energy in the presence of a heavy quarkonium decreases with increasing angular velocity, while the transition temperature determined by the Polyakov loop increases with increasing angular velocity, which is in line with lattice simulations.

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