

Influence of relativistic rotation on the equation of state of gluodynamics

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Until recently the influence of relativistic rotation on the properties of quark-gluon plasma was studied analytically only via phenomenological and effective models. Now, with lattice methods becoming available, the properties of rotating QCD or rotating gluodynamics can also be probed numerically. For example, lattice simulations suggest an increase in the gluodynamics' critical temperature with rotation, contrary to predictions of the majority of effective models. In this report we present a lattice study of the equation of state of rotating gluodynamics and the corresponding moment of inertia. The results show the moment of inertia to be negative below a certain temperature in the deconfinement region, while turning positive at higher temperatures.

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