

Phase diagram of rotating QCD with $N_f = 2$ clover-improved Wilson fermions

Thursday, 13 October 2022 11:55 (20 minutes)

The relativistic rotation causes a change in QCD critical temperature. Various phenomenological and effective models predict a decrease in the critical temperature in rotating QCD. Nevertheless, it follows from lattice simulations that the critical temperature in gluodynamics increases due to rotation. But in QCD the rotation acts on both gluons and fermions, and combination of these effects may lead to unexpected results. In this report the lattice results for a rotating QCD with dynamical $N_f=2$ clover-improved Wilson quarks will be presented. It is shown that the rotation of gluons and fermions has an opposite effect on the critical temperature. Dependence of the results on the pion mass is also discussed.

Primary authors: Prof. BRAGUTA, Victor (BLTP JINR); Dr KOTOV, Andrey (JINR); SYCHEV, Dmitrii (BLTP JINR, MIPT); Dr ROENKO, Artem (JINR, BLTP)

Presenter: Dr ROENKO, Artem (JINR, BLTP)

Session Classification: LFTQCD Session