

## Lattice study of rotating QCD properties

*среда, 24 июля 2024 г. 10:15 (45)*

In this report the influence of relativistic rotation on QCD properties will be considered. I am going to review the results that were obtained within lattice simulation of QCD. It has become commonplace to perform such studies in the reference frame rotating with the system under investigation. In this case there appears the gravitational field and the problem is reduced to study of QCD in this external gravitational field. Within the report the following topics will be reviewed. The influence of relativistic rotation on the QCD critical temperatures. Equation of state of rotating QCD and the moment of inertia of quark-gluon plasma. Inhomogeneous phase transitions in rotating quark-gluon plasma.

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**Session Classification** : Morning session 24/07/2024

**Track Classification** : QCD (lattice, (non) perturbative, effective models)