

## **Influence of relativistic rotation on the confinement-deconfinement transition within lattice simulation**

*Friday, November 12, 2021 11:00 AM (30 minutes)*

The influence of relativistic rotation on the confinement/deconfinement transition in gluodynamics has been studied within lattice simulation. The simulation is performed in the reference frame which rotates with the system under investigation, where rotation is reduced to external gravitational field. Different types of boundary conditions (open, periodic, Dirichlet) are imposed in directions, orthogonal to rotation axis. It is shown, that the critical temperature of the confinement/deconfinement transition in gluodynamics grows quadratically with increasing angular velocity. This conclusion does not depend on the boundary conditions used in our study and we believe that this is universal property of gluodynamics.

First preliminary results of the study of the phase diagram of rotating QCD matter with fermions are also presented. The results indicate, that effect of the rotation on fermions is opposite to gluons: it leads to the decrease of the critical temperature.

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