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Spatially inhomogeneous confinement/deconfinement phase transition in rotating gluodynamics and QCD

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Quark-gluon plasma created in heavy-ion collision experiments is subjected to rapid rotation which might modify QCD properties. In this report we are going to present the results of lattice study on how rotation influences phase transitions in gluodynamics and QCD.
To study rotation we pass to the reference frame which rotates with the system.
In this frame the problem is reduced to study of glyodynamics in external gravitational field.
We found that in a certain temperature interval there exists spatially inhomogeneous confinement/deconfinement phase transition.

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