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Lattice study of rotating gluodynamics

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In this report we present the results of lattice study of how rotation influences confinement/deconfinement transition in SU(3) gluodynamics. To conduct this study we pass to the reference frame which rotates with the system under consideration. In this reference frame rotation is accounted for by the external gravitational field. We calculate the Polyakov loop, its susceptibility and determine the critical temperature of the confinement/deconfinement transition for various angular velocities. We find that rotation leads to the rising of the critical temperature.

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