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## Weakening of the deconfinement phase transition in an external gravitational field

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We have investigated the accelerating hot gluonic matter near the critical temperature of the deconfinement phase transition within the framework of lattice quantum field theory (QFT). We used the Tolman-Ehrenfest relation between the temperature gradient and the gravitational field to introduce acceleration into the lattice QFT formalism. We considered several lattice sizes along imaginary time and took the infinite-volume limit to make our results convincing. We have shown that even the weakest acceleration to  $\sim 4$  MeV is sufficient to change the first-order deconfinement phase transition occurring in pure gluodynamics to a soft crossover for the accelerated medium.

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