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Study of lattice QCD at finite baryon density using the canonical approach

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At finite baryon density lattice QCD first-principle calculations can not be performed due to the sign problem. In order to circumvent this problem, we use the canonical approach, which provides reliable analytical continuation from the $\mu_q^{Im\cdot}$ region to the real chemical potential region. We briefly present the canonical partition function method, describe our formulation, and show the results, obtained for two temperatures: $T/T_c = 1.35$ and $T/T_c = 0.93$ in lattice QCD with two flavors of improved Wilson fermions.

Summary

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