

Equation of State at Imaginary Chemical Potential and External Magnetic Field from Lattice QCD

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This report is devoted to lattice study of QCD equation of state (EoS) at finite baryon chemical potential and nonzero magnetic field. The simulations are performed with rooted dynamical staggered u , d , and s quarks at physical quark masses. In view of the sign problem, the study is carried out at imaginary chemical potential. The results are analytically continued to real chemical potential.

Our preliminary results for the pressure and energy density for various values of temperature, chemical potential and magnetic field are presented.

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