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Study of the EoS of dense QCD in an external magnetic field

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In this report, we present our results on the lattice study of the EoS of dense QCD in an external magnetic field. The simulations are performed with $N_f = 2 + 1$ rooted dynamical staggered quarks at the physical point. Finite density is introduced through the imaginary chemical potentials $\mu_u = \mu_d = \mu_I, \mu_s = 0$. The EoS is obtained as series with respect to μ up to μ^6 term. The dependencies of the expansion coefficients on the magnetic field are studied.

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