

Hot perturbative QCD in a very strong magnetic background

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We compute the pressure, chiral condensate and strange quark number susceptibility from first principles within perturbative QCD at finite temperature and very high magnetic fields up to next-to-leading order and physical quark masses. We study the convergence of the perturbative series for the pressure for different choices of renormalization scale in the running coupling. Our results for the chiral condensate and strange quark number susceptibility can be directly compared to recent lattice QCD data away from the chiral transition.

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