XXIV QUARK MATTER
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Three loop HTL perturbation theory at finite temperature and chemical potential

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We present results of a three-loop hard-thermal-loop perturbation theory (HTLpt) calculation of the thermodynamic potential of a finite temperature and chemical potential system of quarks and gluons. We compare the resulting pressure, energy density, etc., and the diagonal/off-diagonal quark susceptibilities with lattice data. We show that there there is good agreement between the three-loop HTLpt analytic result and available lattice data.

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