

Nuclear Theory

Equation of state at finite baryon density based on lattice QCD

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We employ the lattice QCD data on Taylor expansion coefficients to extend our previous parametrization of the equation of state to finite baryon density. When we take into account lattice spacing and quark mass dependence of the hadron masses, the Taylor coefficients at low temperature are equal to those of hadron resonance gas. Thus the equation of state is smoothly connected to the hadron resonance gas equation of state at low temperatures. We also show how the elliptic flow is affected by this equation of state at the maximum SPS energy.

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