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Dynamical Background for L-G Phase Transition in QHD-I Model

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Abstract: Starting from the QHD-I model, the nucleon-nucleon interaction potential in hot/dense nuclear matter is studied. We find that the attractive and repulsive Yukawa potential between nucleons is modified by the variation of Debye mass directly and, especially, the nucleon system described by this Yukawa potential will be unbounded at some critical T and μ. The critical point we get accords with that of L-G phase transition given by the P-ρ_B phase diagram.

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