

Chiral transition in a magnetic field and at finite baryon density

We study the quark-meson model with two quark flavors in a strong external magnetic field at finite temperature and finite baryon chemical potential. We calculate the full renormalized effective potential to one loop order in perturbation theory. While the critical temperature in the chiral limit is almost unchanged and compared to the case with zero external magnetic field, the transition is becoming more strongly first order.

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