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Impact of finite magnetic field on asymmetric quark matter

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In this work, we inspect the susceptibilities of the conserved charges like charge number, baryon number, and strangeness number using the Polyakov loop extended quark meson model. The effect of a finite magnetic field is studied on the fluctuations for the zero value of the chemical potential by employing Taylor's series expansion method. The impact of the finite magnetic field on the positioning of the QCD critical point has been discussed. The phase boundaries of the chiral and deconfinement transitions are modified as a consequence of magnetic field inclusion.

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