$\frac{\partial m}{\partial \mu}$ in the Nambu–Jona-Lasinio (NJL) model

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Abstract

Using the Nambu–Jona-Lasinio (NJL) model we study the response of the pion and kaon mass to changes in the chemical potential, $\frac{\partial m}{\partial \mu}$, at both zero and finite chemical potential. We find that the behavior of $\frac{\partial m}{\partial \mu}$ for the pion is quite different from that for the kaon. Our results can give a clue for future studies of $\frac{\partial m}{\partial \mu}$ on the lattice.

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