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Effect of Landau damping modes and resurrection of bound states on thermodynamics of fluctuations

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The Nambu-Jona-Lasinio (NJL) model is a widely used chiral effective field theory of QCD. We use the NJL type model to describe mesons, diquarks, and baryons, with the latter treated as a quark-diquark pair. Going beyond the mean field level, we discuss Landau damping modes and reappearance of bound states beyond the Mott dissociation temperature at non-zero momentum relative to the medium. Finally, we describe the effect of these two phenomena on thermodynamics using the generalized Beth-Uhlenbeck approach.

[1] Mahato B., Blaschke D., Ebert D. arxiv:2409.10507

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