

Effects of (axial)vector mesons on the chiral phase transition: initial results

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Collaboration

Abstract content

We investigate the effects of (axial)vector mesons on the chiral phase transition in the framework of an $SU(3)$, (axial)vector meson extended linear sigma model with additional constituent quarks and Polyakov loops. We determine the parameters of the Lagrangian at zero temperature in a hybrid approach, where we treat the mesons at tree-level, while the constituent quarks at 1-loop level. We assume two nonzero scalar condensates and determine their temperature and baryochemical potential dependence according to the 1-loop level equations of states. We also investigate the changes of the tree-level scalar/vector meson masses in the hot and dense medium.

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