



Pions in Isospin Dense Media

<http://www.firstlight.cn> 2007-06-30

The thermal and density corrections, in terms of the isospin chemical potential μI , to the mass of the pions, the decay constant and different condensates are studied in the framework of the SU(2) low energy effective chiral Lagrangian at finite temperature in the two phases: The first phase $|\mu I| < m$, being m the tree-level pion mass. As a function of temperature for $\mu I = 0$, the mass remains quite stable, starting to grow for very high values of T , confirming previous results. However, there are interesting corrections

to the mass and the other observables mentioned when both effects (temperature and chemical potential) are simultaneously present. At zero temperature the π^\pm should condense when $\mu I = \pm m\pi$. At finite T , the condensed pion acquires a thermal mass in such a way that a mixture, like in a superfluid, of a condensed and normal phase appears.

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