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## Pentaquarks $\Theta^+$ in hot asymmetric nuclear matter: $nK^+\pi^0$ and $pK^0\pi^0$ structure

We present the in-medium modification of pentaquark ,  $\Theta^+$ , using chiral SU(3) hadronic mean field model in hot and dense asymmetric nuclear matter. The in-medium properties of hadrons within the chiral model are investigated through the modification of scalar fields  $\sigma$ ,  $\zeta$  and  $\delta$  and the vector fields  $\omega$  and  $\rho$ . The effects of finite temperature and density of the medium are evaluated considering  $\Theta^+$  as  $nK^+\pi^0$  and  $pK^0\pi^0$  structure. For the in-medium masses of kaons  $K^+$  and  $K^0$ , which are used as input in calculations of effective mass of  $\Theta^+$ , we employ chiral SU(3) model and chiral perturbation theory in asymmetric nuclear matter and a comparison of results is presented.

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