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Strangeness production at finite temperature and baryon density in an effective relativistic mean field model

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We study the strangeness production at finite temperature and density nuclear matter by means of an effective relativistic mean-field model with the inclusion of the full octet of baryons, the Delta-isobars degrees of freedom and the lightest pseudoscalar and vector mesons. These last particles are considered taking into account of an effective chemical potential and an effective mass depending on the self-consistent interaction between baryons. The analysis is performed by requiring the Gibbs conditions on the global conservation of baryon number, electric charge fraction and net strangeness. In this context, we study the influence of the kaon-nucleon interaction in the determination of the different meson ratios and in the strangeness production.

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