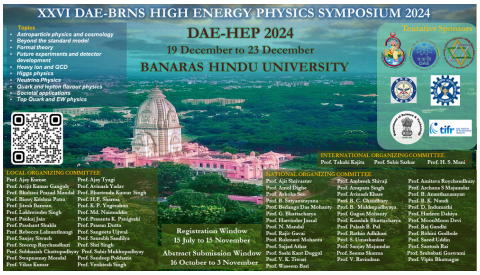

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Kaons structure in dense nuclear medium

In the present work, we investigated the impact of finite density of nuclear medium on the electromagnetic properties of kaons and antikaons. We employed the combined approach of chiral SU(3) quark mean field (CQMF) model and light cone quark model (LCQM). In the LCQM, the properties of kaons, for example, weak decay constant, distribution amplitude (DA) and parton distribution functions (PDFs) of valence quarks are expressed in terms of constituent quark masses. We evaluated the in-medium masses of constituent quarks in the dense nuclear matter using CQMF model and used those as input in LCQM to investigate the medium modified properties of $K(K^+, K^0)$ and $\bar{K}(K^-, \bar{K^0})$ mesons. The impact of finite isospin asymmetry and temperature is also explored.

Field of contribution

Phenomenology

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