Theory predictions for the J-PARC E16 experiment

The status of recent theoretical research related to the behavior of the ϕ meson in nuclear matter is reviewed, focusing on observables that will be measured at the J-PARC E16 experiment, including dilepton and K^+K^- decay modes and their angular distributions. The relation of these observables to fundamental properties of the strong interaction and nuclear matter, such as chiral symmetry, its partial restauration in nuclear matter, in-medium Lorentz symmetry violation and the resultant modification of hadronic dispersion relations, are also discussed.

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