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Extracting phi meson properties in nuclear matter from pA reactions

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There is presently no consensus on how the ϕ meson mass and width will change once it is put in a dense environment such as nuclear matter.
While many theoretical works exist, connecting them with experimental measurements remains non-trivial task, as the ϕ meson in nuclear matter is usually produced in relatively high-energy pA reactions, which are generally non-equilibrium processes.
In this presentation, the status of recent theoretical research related to the behavior of the ϕ meson in nuclear matter is reviewed, including works based on QCD sum rules and ongoing transport simulations of pA reactions in which the ϕ meson is produced in nuclei, focusing on observables that will be measured at the J-PARC E16 experiment and related recent measurements at ALICE and HADES.

Theory / experiment

Theory

Group or collaboration name

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