

Studies of properties of the η' meson at the COSY–11 facility

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Studies on the properties of the η' meson with the COSY–11 facility will be presented and discussed. Results on the isospin dependence of the η' production cross section in nucleon-nucleon collisions will be discussed in view of the η' meson structure. Additionally, the results of comparative analysis of the invariant mass distributions for the $pp \rightarrow pp\eta'$ and $pp \rightarrow pp\eta$ reactions will be shown in the context of the proton-eta and proton-eta-prime interaction. Finally, the value of the total width of the η' meson will be reported as derived directly from the measurement of the mass distribution together with an explanation of the experimental technique used in order to achieve a precision about an order of magnitude better than former experiments.

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