

Formation of possible $\eta'(958)$ -nucleus bound states and $\eta'N$ interaction

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In this talk, we shed light upon the mass of the η' in nuclear matter in the context of partial restoration of chiral symmetry, pointing out that the $U_A(1)$ anomaly effects causes the mass difference of η' - η necessarily through the chiral symmetry breaking. As a consequence, the mass of the η' is expected to be reduced by order of 100 MeV in nuclear matter. We propose several reactions for the formation of the η' -meson bound states and discuss the experimental feasibilities.

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