

Parallel talk

Hadro- and photo-production of η' in quasi-free proton and neutron processes

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摘要

The η' photoproduction process on quasi-free proton and neutron and the reaction $NN \rightarrow \eta' NN$ are investigated within a relativistic effective Lagrangian approach to hadronic interactions. Resonances with spins 1/2 and 3/2 are considered together with the nucleonic and t-channel meson-exchange current contributions. In photoproduction processes, the S_{11} resonance is found to be responsible for the sharp rise of the cross sections near threshold. In $pp \rightarrow \eta' pp$, it is found that the S_{11} resonance dominates the total cross section over the entire energy region considered. The spin observables, in particular the beam and target asymmetries, are shown to be very sensitive to the reaction mechanism and will help impose more stringent constraints on the model parameters.

关键词 [\$\eta'\$ production, free and quasi-free photoproduction, meson production in NN collisions](#)

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