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Hyperon Polarization at NICA/MPD

Hyperons' polarization provides a possibility to study magnetic field and vortical structures of strongly interacting matter created in heavy-ion collisions. Transverse polarization of inclusive hyperons, directed along the normal to the scattering plane, is expected to dilute in heavy-ion collisions. On the other hand, global polarization, measured with respect to the reaction plane, is growing with decreasing collision energy. Here we investigate the polarization observables for the Λ -hyperons in the future NICA/MPD experiment, which will allow to study heavy-ion collisions in the energy range of a few GeV per nucleon. The study is performed using Monte Carlo simulations focusing on the feasibility of measuring these observables during the first stage of the experiment. The further development including the detailed investigation of various components of polarization and their kinematical dependence, as well as consideration of other hyperons, is outlined.

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