

spin dynamics in intermediate-energy heavy-ion collisions

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While the spin polarization of hyperons and the spin alignment of vector mesons become a hot topic in relativistic heavy-ion collisions, the spin dynamics in intermediate-energy heavy-ion collisions has attracted little attention. Starting from the spin-dependent Boltzmann-Vlasov equation, we have derived the spin-dependent equations of motion for nucleons, and developed a spin- and isospin-dependent Boltzmann-Uehling-Uhlenbeck transport model. It has been found that the nucleon spin polarization can be generated from either the spin-dependent mean-field potential or the spin-dependent nucleon-nucleon scatterings.

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