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Studying of final states in p-Au and p-Pb collisions

In the framework of PYTHIA8.2 program we considered p-Pb and p-Au heavy ion collisions at the energy of 5.02 TeV and 8 TeV. The advantage of this program is in the combining of several nucleon-nucleon collisions into one heavy ion collision, based on phenomenological treatment of a hadron as a vortex line in a colour superconducting medium, the consistent treatment of the central rapidity region with improvements of Glauber-like model where diffractive excitation processes are taken into account. We have considered the influence of impact parameter correlations on the production cross sections of p-Pb and p-Au processes to estimate the influence of hard and soft subprocesses on basic hadronic final-state properties in proton-ion collisions. Using these characteristics based on semi-hard multiparton interaction model we received the transverse momentum and rapidity distributions of K-meson and Lambda baryon at the energy of 5.02 TeV and 8 TeV.

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Collaboration / Activity

High energy physics

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