Contribution ID : **69** Type : **not specified**

Transport model approach to Λ and Λ^- polarization in heavy-ion collisions

четверг, 12 ноября 2020 г. 20:30 (30)

Thermal vorticity in non-central Au+Au collisions at energies $7.7 \leq s\sqrt{} \leq 62.4$ GeV is calculated within the microscopic transport model UrQMD. The whole volume of an expanding fireball is subdivided into small cubic cells. Then we trace the final Λ and Λ^- hyperons back to their last interaction point within a certain cell. Extracting the bulk parameters of hot and dense medium in the cell, one can get the temperature and the chemical potentials at the time of the hyperon emission by fitting the extracted characteristics to statistical model of ideal hadron gas. After that the polarization of both hyperons is calculated. We found that the polarization of both Λ and Λ^- increases with decreasing energy of nuclear collisions. The stronger polarization of Λ^- is explained (i) by slightly different freeze-out conditions of both hyperons and (ii) by the different space-time distributions of Λ and Λ^-.

Primary author(s) : Prof. ZABRODIN, Evgeny; Prof. BRAVINA, Larisa

Presenter(s) : Prof. ZABRODIN, Evgeny

Session Classification : Session 9: Phase diagram in the context of heavy-ion collisions

Track Classification : Phase diagram in the context of heavy-ion collisions