The 14th Workshop on QCD Phase Transition and Relativistic Heavy-Ion Physics (QPT 2021)



Contribution ID: 29 Type: not specified

Predictions for production of ${}^3{\rm H}$ and ${}^3{\overline {\rm H}}$ in isobaric ${}^{96}_{44}{\rm Ru} + {}^{96}_{44}{\rm Ru}$ and ${}^{96}_{40}{\rm Zr} + {}^{96}_{40}{\rm Zr}$ collisions at $\sqrt{s_{ m NN}}$ = 200 GeV

The production of ${}^{3}H$ and ${}^{3}\overline{H}$, as well as ${}^{3}H$, ${}^{3}\overline{H}$, ${}^{3}He$, and

 $^3\overline{\text{He}}$ are studied in central collisions of

isobars ${}^{96}_{44}$ Ru + ${}^{96}_{44}$ Ru

and $^{96}_{40}$ Zr + $^{96}_{40}$ Zr

at $\sqrt{s_{\rm NN}}=200$ GeV, using the dynamically constrained phase-space coalescence model and the PACIAE model with chiral magnetic effect.

The yield, yield ratio, coalescence parameters,

and strangeness population factor of (anti-)hypertriton and

(anti-)nuclei produced in isobaric $^{96}_{44}$ Ru+ $^{96}_{44}$ Ru

and $^{96}_{40}\mathrm{Zr} + ^{96}_{40}\mathrm{Zr}$ collisions are predicted.

The (anti-)hypertriton and (anti-)nuclei production is found to be insensitive to the chiral magnetic effects. Experimental data of Cu+Cu, Au+Au and Pb+Pb collisions from RHIC, LHC, and the results of PACIAE+DCPC model are presented in the results for comparison.

Primary authors: SHE, Zhilei (China University of Geosciences); Prof. 陈, 刚 (中国地质大学)

Co-author: 周, 代梅 (CCNU)

Presenter: SHE, Zhilei (China University of Geosciences)