



Contribution ID: 664

Type: Poster

Measurements of Ω and $\bar{\Omega}$ production in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV with the STAR experiment

Tuesday, 5 September 2023 17:30 (2h 10m)

$\Omega(\bar{\Omega})$, composed of three strange quarks, serves as a sensitive probe into the characteristics of the quark-gluon plasma (QGP). Measurement of its production can be used to extract the temperature and baryon chemical potential at the chemical freeze-out with the statistical hadronization model, providing information on the QCD phase diagram. Also, the Ω/ϕ ratio as a function of transverse momentum (p_T) can be utilized to test hadronization model predictions and to possibly extract the strange quark p_T distribution at hadronization.

In this poster, we will present p_T spectra and yields of $\Omega(\bar{\Omega})$ in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV. The data analyzed were collected by STAR in 2019, when the iTPC was in operation. The iTPC extends the rapidity coverage and enhances the particle identification capability compared to previous results.

Category

Experiment

Collaboration (if applicable)

STAR Collaboration

Primary author: XU, Xiongxiang

Presenter: XU, Xiongxiang

Session Classification: Poster Session

Track Classification: Light and strange flavor