Contribution ID : **168** Type : **Oral talk**

K*(892) meson production in Au+Au at $\sqrt{s_{NN}}$ = 200 GeV

Friday, 25 October 2024 09:45 (15)

The research on K*(892) meson production can lead to a new discoveries in properties of exotic state of matter called quark-gluon plasma (QGP) in which quarks and gluons are deconfined. Strangeness enhancement is one of the main observables of QGP which can be measured by studying the production of particles containing strange quark(s). K*(892) meson is one of such particles. Production of K*(892) can be described by it's invariant p_T spectra. Comparison of production of K*(892) in heavy and in p+p collision systems can be shown by nuclear modification factors. Since QGP isn't formed in p+p collisions at $\sqrt{s_{NN}} = 200$ GeV strangeness enhancement can be observed through the nuclear modification factors.

Current report is dedicated to measurements of K*(892) mesons invariant p_T spectra and nuclear modification factors as functions of transverse momentum and centrality in Au+Au collision system at $\sqrt{s_{NN}} = 200$ GeV. The report can be considered as a prototype of the research planned in the MPD experiment of the megaproject NICA.

We acknowledge support from Russian Ministry of Education and Science. State assignment for fundamental research (code FSEG-2024-0033).

Primary author(s) : Mr. ANTSUPOV, Sergei (Peter the Great St.Petersburg Polytechnic University, Saint-Petersburg, Russia); Prof. BERDNIKOV, Yaroslav (Peter the Great St.Petersburg Polytechnic University); Mr. KOTOV, Dmitry (Peter the Great St.Petersburg Polytechnic University)

Presenter(s) : Mr. ANTSUPOV, Sergei (Peter the Great St.Petersburg Polytechnic University, Saint-Petersburg, Russia)

Session Classification : Heavy Ion

Track Classification : Heavy ion physics