Contribution ID : **721** Type : **Oral talk**

Production of K*(892)^0 mesons in 3He+Au collisions at √(s_NN) = 200 GeV

Thursday, 8 October 2020 18:35 (15)

Collisions of small systems such as $p/d/^3$He+Au collisions are important for the investigation of quark-gluon plasma (QGP) in relativistic heavy ion collisions. These experiments distinguish the effects of the initial state of cold nuclear matter and the final state of hot matter. One of the leading directions in the QGP studies is the research of light hadron production. Due to a short lifetime and strange quark content, the K^{*0}-meson is sensitive to the properties of the hot dense matter and strangeness production from an early partonic phase (i.e. QGP).

This report presents invariant transverse momentum p_T spectra and nuclear modification (R_{HeAu}) factors of K^{*0}-meson as a function of p_T measured in ^{3}He+Au collisions at $\sqrt{s_{NN}}$ = 200 GeV by the PHENIX experiment. The nuclear modification factors for K^{*0}-meson in d+Au and ^{3}He+Au collisions are in a good agreement. Values of R_{HeAu} for K^{*0}, φ, and π^0 mesons are equal within uncertainties in all centrality bins in the whole p_T range. This might indicate that CNM effects are not responsible for the differences between K^{*0}, φ, and π^0 seen in heavy ion collisions.

Primary author(s) : BORISOV, Vladislav

Co-author(s) : Mr. BERDNIKOV, Alexander (Peter the Great St.Petersburg Polytechnic University (SPbPU)); Prof. BERDNIKOV, Yaroslav (Peter the Great St.Petersburg Polytechnic University (SPbPU)); Mr. KOTOV, Dmitry (Peter the Great St.Petersburg Polytechnic University (SPbPU)); Mr. MITRANKOV, Iurii (Peter the Great St.Petersburg Polytechnic University (SPbPU))

Presenter(s) : BORISOV, Vladislav

Session Classification : Heavy Ion Physics

Track Classification : Heavy Ion physics