Contribution ID: **27** Type: **not specified**

Hadronization of Deconfinement Matter in Terms of First-Order Phase Transition

Thursday, November 21, 2019 4:15 PM (30 minutes)

The hadronization of the deconfined matter arising in high-energy particle collisions is considered in terms of the first kind phase transition in the multiple flux tube approach. Based on the compactification of the standard (3+1) chromodynamics into $QCD_{xy} + QCD_{zt}$, the rate of hadron production in particle collisions with respect to both the rapidity and p_T distributions is derived in the flux tube approach. The obtained rate strongly depends on the energy of the colliding particles, number of tubes, hadron mass as well as on the temperature of the confinement-deconfinement phase transition. Under the concept of the longitudinal dominance and the transverse confinement in a flux tube, and provided that the hadronization process is governed by the phase transition of the first kind, the hadron rate is obtained in the explicit form in the multiple tube approach. In the case of the pion production in *pp* collisions we obtain a good agreement to the experimental results on the pion yield with respect to both the rapidity and p_T distributions.

Primary author: Prof. KOSHELKIN, Andrew (National Research Nuclear University)

Presenter: Prof. KOSHELKIN, Andrew (National Research Nuclear University)

Session Classification: High Multiplicities (small system)

Track Classification: High Multiplicities (small system)