

Production of (Multi-)Strange Hadrons in Proton-Proton Collisions at RHIC

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1 Strangeness enhancement is one of the first proposed signatures of the formation of the quark-gluon plasma
2 (QGP) in heavy-ion collisions, as strange quarks are more likely to be produced in the QGP than in hadron gas.
3 Hence, strange hadron production in $p+p$ collisions can be used to explore whether the QGP is formed in small
4 systems.

5 In this poster, we present measurements of the ratios of (multi-)strange hadrons ($K_s^0, \Lambda/\bar{\Lambda}, \Xi^-/\Xi^+$) to pion as a
6 function of event multiplicity in $p+p$ collisions at $\sqrt{s} = 200$ GeV using high statistics data collected by the STAR
7 experiment in 2015. These results can shed light on the possible formation of a hot and deconfined medium in high
8 multiplicity $p+p$ collisions, and are compared to similar measurements in larger systems.