Strange hadron production in O+O collisions at $\sqrt{s_{\rm NN}} = 200$ GeV at STAR

Iris Ponce (Yale) for the STAR Collaboration

Results from high energy collisions of asymmetric small systems (p+Au, p+Pb, etc..), such as flow and enhanced strangeness production, have generated significant discussions in the field about the initial conditions, including the size of the system, needed to generate a Quark-Gluon Plasma (QGP). A smooth iincrease in the strange hadron-to-pion yield ratio as a function of multiplicity has been observed across collision systems (p+p, p+A, A+A). In 2021, the STAR collaboration collected a large dataset of $\sqrt{s_{\rm NN}} = 200$ GeV O+O collisions at RHIC, a unique symmetric small system that enables clearer geometry-centrality mapping compared to asymmetric systems like He+Au or d+Au. This poster will focus on the measured transverse momentum (p_T) spectra, and bulk strange hadron ($\Lambda, \overline{\Lambda}, \Xi, \overline{\Xi}, \Omega, \overline{\Omega}$) plus pion production in O+O collisions. With the high statistics of the dataset and the extended kinematic coverage from the iTPC upgrade, we investigate the p_T, centrality, and rapidity-dependent strangeness production in O+O collisions.