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Strangeness Production Au+Au collisions at STAR energies using AMPT

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The production of strange quarks and antiquarks in high-energy collisions of heavy ions is a significant indicator for the creation of a state of matter known as Quark-Gluon Plasma (QGP). The QGP is characterized by the liberation of quarks and gluons from their confinement inside hadrons. Due to their instant decay via weak interactions, strange quarks and antiquarks are not present in normal matter and can only be produced via strong interactions within the QGP. As the mass of strange quarks and antiquarks is close to the temperature at which protons, neutrons, and other hadrons dissolve into quarks, they serve as sensitive probes for studying the conditions, structure, and evolution of the deconfined state of matter.

In this Work, we will report the strange particles (K^0_s, Λ, $\bar{\Lambda}$, Ξ, $\bar{\Xi}$ and Ω) Yields, their rapidity density distribution and also the baryon to meson ratio in Au+Au collisions at $\sqrt{s_{\rm NN}}$ = 7.2GeV using AMPT model .Their physics implications will also be discussed.

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