

Abstract Submitted
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Reconstruction of $K^{*\pm}(892)$ in Au+Au Collisions at $\sqrt{s_{NN}} = 200$ GeV¹ HE ZHENG, UCLA, STAR COLLABORATION — The Relativistic Heavy Ion Collider (RHIC) produces a hot, dense and deconfined Quantum ChromoDynamics (QCD) medium, called the quark-gluon plasma (QGP), with Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV. The $K^{*\pm}(892)$ resonance is a short-lived particle with a lifetime shorter than the expected lifetime of the QGP. The K^* production may provide an effective tool to probe the QGP properties, such as strangeness enhancement. Experimentally, $K^{*\pm}$ analysis is difficult and less studied previously because of large combinatorial background. In recent years, improvements in data sample statistics and particle identification capability promise better $K^{*\pm}$ measurements. In this presentation, we report the reconstruction of $K^{*\pm}$ resonance via the hadronic decay channel $K^{*\pm}(892) \rightarrow K_S^0 \pi^\pm$ as a function of transverse momentum (p_T) up to 5 GeV/c for various collision centrality classes. The data are Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV collected in the year 2011 run from the STAR experiment. Physics implications of our measurements will also be discussed.

¹For the STAR collaboration

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