

Abstract Submitted
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D_s^\pm meson production in Au+Au collisions at $\sqrt{s_{NN}}=200$ GeV in STAR¹ LONG ZHOU, BNL/USTC, STAR COLLABORATION — Heavy quarks, produced in hard scattering processes in the initial stages of the collisions, are considered as excellent probes for the strongly interacting deconfined medium formed in heavy-ion collisions. The $D_s(c\bar{s}/\bar{c}s)$ production is affected by the strangeness enhancement and the primordial charm quark production. Thus the modification of the D_s meson spectra in ultra-relativistic heavy-ion collisions provides a new interesting probe to the key properties of the hot nuclear medium. The Heavy Flavor Tracker, installed in STAR in 2014, has been designed to extend STAR's capability of measuring heavy flavor production by the topological reconstruction of displaced decay vertices. It provides a unique opportunity for precise measurement of the D_s meson production. We will present the first measurement of D_s meson production via two decay channels $D_s \rightarrow \phi(1020) + \pi$, and $D_s \rightarrow K + K^*(892)$ in Au+Au collisions at 200GeV. Preliminary results on the central-to-peripheral nuclear modification factor (R_{cp}) will also be presented.

¹for the STAR Collaboration

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