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Λ_c baryon reconstruction and measurement of the $\overline{\Lambda_c}^-/\Lambda_c^+$ at the STAR detector in Au+Au collisions at $\sqrt{s_{NN}}$ = 200 GeV

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Λ_c is the lightest baryon containing a charm quark and, as such, presents a unique probe into the bahavior of heavy quarks in the hot and dense QCD medium. Together with the measurement of the D^0 meson, we can probe the various modes of hadronization of the charm quark in heavy-ion collisions and bring more insight into the possible process of quark coalescense in the strongly coupled quark-gluon plasma. The yield ratios of strange anti-baryons to baryons have been measured in heavy-ion collisions and exhibit a trend that is closer to unity with increasing number of valence strange quarks. This ratio has, however, never been measured for charm baryons, and it will be important to establish if they exhibit a similar amount of baryon-to-anti-baryon enhancement as strange baryons. However, Λ_c baryons have an extremely small lifetime ($c\tau \sim 60$ μm) and have not been measured in heavy-ion collisions yet. The newly installed STAR Heavy Flavor Tracker (HFT) has shown high efficiency and a before unforseen pointing resolution that can facilitate the reconstruction of hadronic decays in heavy-ion collisions. In run 2014, STAR has collected 1.2 B events of minimum bias Au+Au collisions $\sqrt{s_{NN}}$ = 200 GeV. In this talk, I will show the first measurement of the Λ_c in high-energy heavy-ion collisions. I will report reconstruction of Λ_c baryons via hadronic decays, using 2014 Au+Au data at $\sqrt{s_{NN}}$ = 200 GeV at STAR. Moreover, I will present first, preliminary, measurement of the $\overline{\Lambda_c}^-/\Lambda_c^+$ ratio from the same data set.

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