

## The 85th HENPIC seminar by Dr. Guan-nan Xie (谢冠男), Lawrence Berkeley National Lab, Sept. 19, Thursday 10:30 am (Beijing time)

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Title: Measurement of Open Heavy Flavor Production in Au+Au Collisions at  $\sqrt{s_{NN}} = 200$  GeV in STAR

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### Abstract:

Due to the large mass, heavy quarks are suggested to be an important tool for studying the properties of the Quark Gluon Plasma (QGP) produced in heavy-ion collisions. In this presentation, we will report on the measurements of production of various charmed hadrons ( $D^0(\overline{D}^0)$ ,  $D_s^\pm$ ,  $D^{*\pm}$ ,  $D^\pm$  and  $\Lambda_c^\pm$ ) as well as open bottom production through displaced decay daughters in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV, utilizing the Heavy Flavor Tracker at STAR. Precise results on the  $D^0$  yields are reported for a wide transverse momentum range down to 0 GeV/c in various centrality bins. We will also report on the  $D^\pm$ ,  $D^{*\pm}$ ,  $D_s^\pm$  and  $\Lambda_c^\pm$  spectra measured in different collision centralities and the total charm quark cross section extracted from these measurements in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV. In addition, we will present the nuclear modification factors for daughters from decays of bottom hadrons and compare them to those for charm hadrons.

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