



Contribution ID: 1021

Type: **Parallel Talk**

Heavy Flavor and Charmonia Production in the PHENIX experiment at RHIC

Thursday, July 6, 2017 11:45 AM (15 minutes)

Particles carrying heavy flavor are important probes of the properties of the Quark-Gluon Plasma (QGP) since they are produced in hard scattering during the earliest stages of nuclear collisions. In recent years, the PHENIX detector has collected data on p+p, p+Al, p+Au, He³+Au, Cu+Au and Au+Au collisions at $\sqrt{s_{NN}}=200\text{GeV}$ with the addition of silicon vertex detectors (VTX and FVTX). Analyses using the VTX for central rapidity ($|y|<0.3$) studies, and the FVTX for forward rapidities ($1.2<|y|<2.2$) have produced results on charm and bottom open heavy flavor production, as well as ψ' to J/ψ ratios. In this talk we will present recent results from PHENIX on open heavy flavor and charmonia in a variety of systems to extract information on cold nuclear matter and QGP properties at RHIC.

Experimental Collaboration

PHENIX Collaboration

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