

1      Recent studies on heavy-flavor femtoscopy in  
2                      Au+Au collision by STAR

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5      Heavy quarks are produced in hard partonic scatterings at the very early  
6 stage of heavy-ion collisions and they experience the whole evolution of the  
7 Quark-Gluon Plasma medium. Femtosopic correlations, i.e. two-particle cor-  
8 relations at low relative momentum, are sensitive to the final-state interactions  
9 as well as to the extent of the region from which the correlated particles are  
10 emitted. A study of correlations between heavy-flavor mesons and identified  
11 charged hadrons could shed light on their interactions in the hadronic phase.

12      STAR did the first measurement of femtosopic correlation between  $D^0 -$   
13 *hadron* pairs at mid-rapidity in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV.  $D^0$   
14 mesons are reconstructed via the  $K^- - \pi^+$  (and its charge conjugate) decay  
15 channel using topological criteria enabled by the Heavy Flavor Tracker with  
16 excellent track pointing resolution. We will present the femtosopic correlation  
17 function for  $D^0/\bar{D}^0$  transverse momentum above 1 GeV/c in the 0 – 80% cen-  
18 trality. STAR results will be compared with existing theory predictions and  
19 physics implications will also be discussed.