## XXI International Workshop on Deep-Inelastic Scattering and Related Subjects



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## **Open Heavy Flavor Results from PHENIX**

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Due to their large mass, heavy quarks are produced in the earliest stages of the collision and will, therefore, experience the full evolution of the system. Leptons resulting from heavy flavor decay are an important tool to probe the hot and dense matter created in nucleus-nucleus collisions at the Relativistic Heavy Ion Collider (RHIC). PHENIX is capable of measuring electrons in the central rapidity region (|eta| < 0.35) and muons in the forward rapidity region (1.2 < | eta| < 2.2).

PHENIX has multiple cross section measurements in p+p collisions at 200 and 500 GeV. These measurements provide a test of pQCD theory in additional to a crucial baseline to study the hot and cold nuclear matter effects present in heavy ion collisions. Similar measurements in d+Au allow access to initial state cold nuclear matter effects. Modification of heavy flavor production in heavy ion collisions (Au+Au and Cu+Cu) is beyond that expected from cold nuclear matter effects alone. In this talk, PHENIX open heavy flavor results from p+p, d+Au, and heavy ion measurements will be presented.

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