

Abstract Submitted  
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**Measurement of charm and bottom production at RHIC-PHENIX** YUHEI MORINO, RCNP, PHENIX COLLABORATION — Measurements of heavy flavor production (charm and bottom) in  $p + p$  collisions provides stringent tests for perturbative QCD (pQCD) calculations. In addition, heavy quarks are good probes of the hot and dense medium created in relativistic heavy ion collisions, since they are mainly generated at the beginning of collisions and interact with the media in all collision stages. Production of heavy quarks has been studied by the PHENIX experiment at RHIC via measurements of single leptons from semi-leptonic decays in  $p + p$  and Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV. The ratio of  $(b \rightarrow e)$  to  $(c \rightarrow e + b \rightarrow e)$  is extracted from the correlation between the heavy flavor electrons and associated hadrons. The ratio,  $(b \rightarrow e)/(c \rightarrow e + b \rightarrow e)$ , is important to interpret the results of heavy flavor in Au+Au collisions. In this presentation we will show the latest PHENIX results for the production of charm and bottom. In addition, large energy loss and flow of the heavy quarks will be discussed based on the measured  $(b \rightarrow e)/(c \rightarrow e + b \rightarrow e)$ .

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