

Abstract Submitted
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Heavy flavor physics with the sPHENIX MVTX vertex tracker upgrade MING LIU, Los Alamos Natl Lab, SPHENIX COLLABORATION — The sPHENIX detector currently under construction at the Relativistic Heavy Ion Collider (RHIC) at BNL will measure a suite of unique jet, open heavy flavor and Upsilon observables with unprecedented statistics and kinematic reach at RHIC energies. A MAPS-based silicon pixel VerTeX detector upgrade to sPHENIX, the MVTX, will provide a precise determination of the impact parameter of tracks relative to the primary vertex in high multiplicity heavy ion collisions. The MVTX utilizes the latest generation of MAPS technology to provide precision tracking with high efficiency over a broad momentum range in the high luminosity p+p, p+Au and Au+Au collisions at RHIC. These new capabilities will enable precision measurements of open heavy flavor observables, covering an unexplored kinematic regime at RHIC, and shed new light to our understanding of heavy flavor production and interactions with nuclear medium. The physics program, its potential impacts, and recent detector development of the MVTX will be discussed in this talk.

Ming Liu
Los Alamos Natl Lab

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