

Heavy flavor physics with the sPHENIX detector at RHIC

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In 2023, the sPHENIX detector at BNL's Relativistic Heavy Ion Collider (RHIC) will begin measuring a suite of unique jet and heavy flavor observables with unprecedented statistics and kinematic reach at the RHIC energies using combined EM and hadronic calorimeters and high precision tracking. A MAPS-based 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 and polarized proton-proton/proton-nuclei collisions. It will enable precision measurements of open heavy-flavor observables, covering an unexplored kinematic region at RHIC. The physics program, its potential impact, and the recent detector development will be discussed in this talk.

Submitted on behalf of a Collaboration?

Yes

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