Contribution ID: **309**   Type: **Poster**

Intermediate Silicon Tracker in sPHENIX at RHIC

Tuesday 24 September 2024 17:05 (20 minutes)

The sPHENIX collaboration has been taking data since 2023 at the Relativistic Heavy Ion Collider in BNL to study the Quark-Gluon Plasma and cold-QCD. A detector complex consisting of the solenoid magnet, a hadron calorimeter, an electromagnetic calorimeter, a time projection chamber, a MAPS-based vertex detector, and the intermediate silicon tracker (INTT). A tracking system formed by the three latter detectors enables us to measure the heavy flavor jets and identify the three upsilon states. The INTT surrounding the collision point azimuthally at about 10 cm away with two layers of silicon strip sensors detects hit points at the intermediate area of the tracking system to have better tracking precision. In addition to that, the INTT also provides timing information to tracker hits, which is possible only by INTT, thanks to its good timing resolution, to eliminate pile-up events by misidentifying bunch-crossing. This poster presentation will show the status of commissioning with proton-proton collision runs this year and achievements using Au-Au collision data taken in 2023.

Category

Experiment

Collaboration

sPHENIX

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Session Classification: Poster Session

Track Classification: 6. Future experimental facilities and new techniques