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Strange and heavy flavor physics with the sPHENIX trackers in the inaugural physics Run-24

The new sPHENIX experiment at the Relativistic Heavy Ion Collider (RHIC) is currently in its inaugural physics run with proton-proton and gold-gold collisions. sPHENIX is equipped with a state-of-the-art four-component tracking system, featuring two silicon vertex trackers based on Monolithic Active Pixel Sensors (MAPS) and silicon strip sensors, respectively, a compact Time Projection Chamber, and a Micromegas tracker. This sophisticated tracking system supports streaming readout to capture a substantial fraction of all p+p collisions, which is essential for the high precision charm and bottom hadron measurements which are part of sPHENIX's unique physics program at RHIC. Furthermore, it facilitates the measurement of high-statistics heavy flavor jets in conjunction with the electromagnetic and hadronic calorimeter system. This talk provides an overview of the commissioning of the tracking system, which includes its performance and progress towards first measurements of strange and heavy flavor physics with the sPHENIX detector.

Category

Experiment

Collaboration

sPHENX

Author: ROSATI, Marzia

Presenter: ROSATI, Marzia

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