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Track Reconstruction with the sPHENIX Experiment

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The sPHENIX detector at Brookhaven National Laboratory's Relativistic Heavy Ion Collider (RHIC) has a broad experimental QCD physics program focused on jets, their substructure, and open and closed heavy flavor production. To measure these observables, the sPHENIX tracking system is composed of a silicon vertex and strip detector, continuous-readout time projection chamber, and micromegas-based modules for calibration. Precise and efficient track reconstruction is required to achieve the sPHENIX science goals. The high luminosity provided by RHIC, large occupancies of heavy ion events, and streaming readout mode of the tracking system produce a challenging environment in which track reconstruction must take place. In this poster, we provide a general overview of the track reconstruction at sPHENIX and discuss its status utilizing the A Common Tracking Software package with the first data taking period of the sPHENIX experiment. Future track reconstruction plans as sPHENIX enters its primary data taking phase will also be discussed.

Category

Experiment

Collaboration (if applicable)

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