
The MAPS-based vertex detector for the sPHENIX experiment

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A three-layer Monolithic-Active-Pixel-Sensor (MAPS) based vertex detector (MVTX), based on the Inner Barrel design of ALICE ITS upgrade, will serve as the innermost tracking system of the sPHENIX experiment at BNL's Relativistic Heavy Ion Collider (RHIC). The MVTX detector play an important role for the study of heavy flavor physics within heavy ion collisions at RHIC. It will cover from 2 cm to 4 cm radially and a pseudorapidity range of $|\eta| < 1.1$. The very fine $27 \mu\text{m} \times 29 \mu\text{m}$ pixels allow us to identify B-decay secondary vertices and B-jets in heavy ion collisions with high efficiency and high purity. The detector is at an advanced stage of testing with several test beam activities having taken place through 2019. In this presentation, we show the current status of R&D efforts towards custom readout and mechanical systems to integrate the MVTX detector into the sPHENIX system. In addition, results from the analysis of the testbeam data, used for evaluation of the tracking reconstruction capabilities for heavy flavor production studies will be presented.