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The PHENIX Forward Silicon Vertex Detector

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After more than a decade of discovery physics at RHIC, major questions still remain concerning QCD color screening and the exact mechanisms governing parton energy loss in the nuclear medium that is created in ultrarelativistic collisions of large nuclei. To answer these questions, the PHENIX experiment has developed and installed a new silicon detector which dramatically enhances the capabilities of the existing PHENIX muon spectrometer. The Forward Silicon Vertex Tracker (FVTX) consists of over a million $75\mu\text{m}$ -wide silicon ministrips, read out by custom ASIC chips, and provides precise charged particle tracking at forward and backward rapidity. With data taken during the 2012 and 2013 runs at RHIC, the FVTX has demonstrated single hit efficiencies greater than 95% and a hit position resolution better than $30\mu\text{m}$. This poster will discuss the design, construction, and operation of the FVTX detector at PHENIX.

On behalf of collaboration:

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