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The STAR Heavy Flavor Tracker

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In relativistic heavy-ion collisions at RHIC, heavy quarks are primarily created from initial hard scatterings. Due to the heavy masses, their intrinsic properties are much less affected by the QCD medium compared to those of light quarks. Therefore heavy quark hadrons are suggested as a clean probe for the studying of early dynamic evolution of the dense and hot medium created in high-energy nuclear collisions. To enhance the study of heavy quark production at RHIC, the Heavy Flavor Tracker (HFT) for the STAR experiment has been built and installed before RHIC Run 14. The HFT consists of four layers of silicon detectors. The two outermost layers are silicon strip detectors and the two innermost layers are made from the state of art ultra thin CMOS Monolithic Active Pixel Sensors (MAPS). This is the first application of the CMOS MAPS detector in a collider experiment. The thin pixel sensors plus the carbon fiber supporting design reduces the material to 0.4 % radiation length per pixel detector layer, enabling reconstruction of low pT heavy flavor hadrons. In this talk, the status and performance of HFT in the current 200 GeV Au+Au run will be discussed.

On behalf of collaboration:

STAR

Primary author: Dr QIU, Hao (LBNL)

Presenter: Dr QIU, Hao (LBNL)

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