

# Quark Matter 2019 - the XXVIIIth International Conference on Ultra-relativistic Nucleus-Nucleus Collisions



Contribution ID: 371

Type: **Poster Presentation**

## Performance evaluation of sensor module for INTT at sPHENIX

*Monday 4 November 2019 17:40 (20 minutes)*

sPHENIX is a new heavy ion experiment at RHIC and aims to study the microscopic structure of quark-gluon plasma by measuring the Jet modification with different flavors and the possible different suppressions of Upsilon.

Intermediate silicon strip tracker (INTT) is one of the tracking detectors sandwiched between the inner silicon pixel tracker (MVTX) and the outer TPC. INTT consists of two layers of the barrel detector and covers  $|y| < 1.1$  and full azimuth. INTT provides hits information for each beam crossing. This enables to separate the event from multiply overlapped events, and to confirm tracks measured by MVTX and TPC.

INTT ladder is composed of a silicon strip sensor, read-out chips (FPHX), high-density interconnect (HDI) and a carbon fiber (high thermal conductive) stave. The second prototype of ladder was produced to check their performance. We first checked the functionality and ADC response by measuring the test pulse and cosmic ray using the test bench at Nara Women's University. Secondary, the test beam experiment was performed with 120 GeV proton at FNAL during the summer 2019 to measure the detection efficiency and charge distribution of MIP. At the test beam, three ladders were arranged side by side to form a telescope, and the efficiency was evaluated by counting the number of tracks passing through all three ladders.

In this presentation, we report the current status of the ladder development, and the on-going data analysis for the detection efficiency and charge distribution of MIP.

**Author:** SUZUKI, Ayaka (Nara Women's University)

**Presenter:** SUZUKI, Ayaka (Nara Women's University)

**Session Classification:** Poster Session

**Track Classification:** Future facilities and instrumentation