Intermediate Silicon Tracker (IST) for STAR Heavy Flavor Tracker (HFT)

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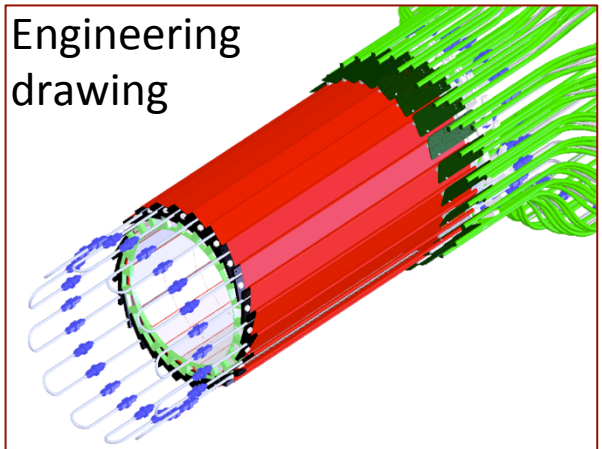
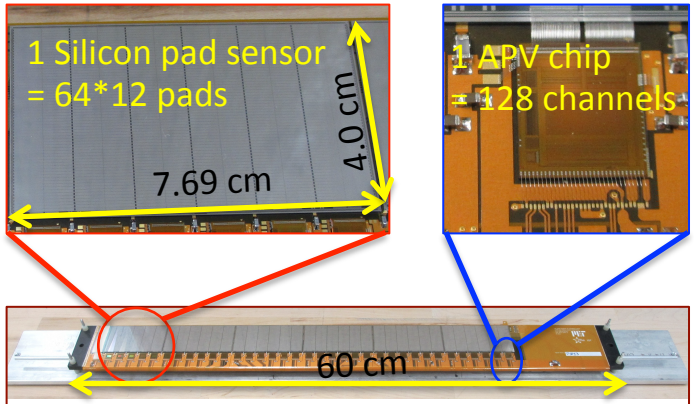
1. IST introduction
2. Weekly report

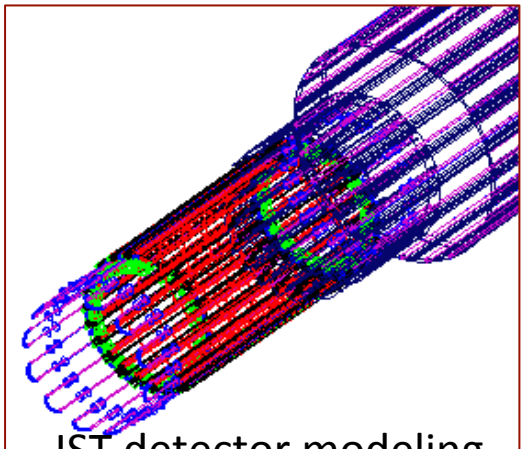
IST Introduction



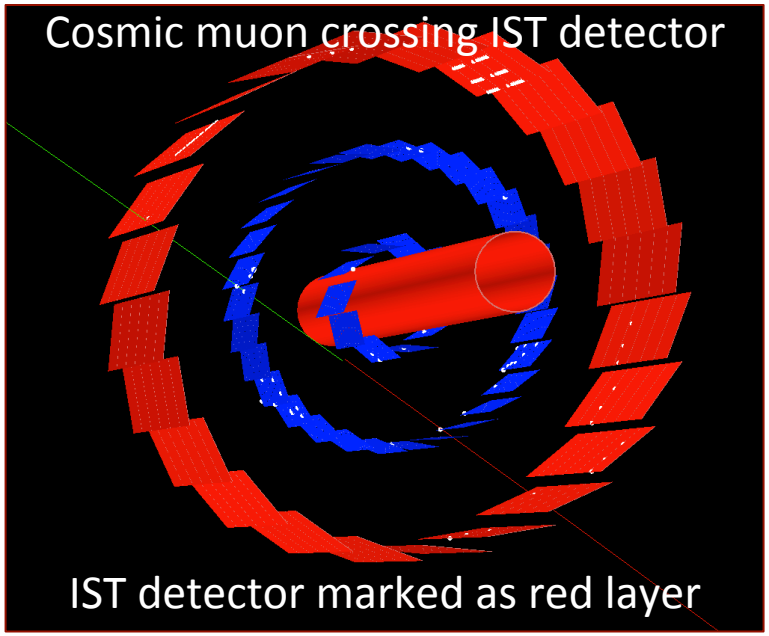
IST detector = 24 ladders

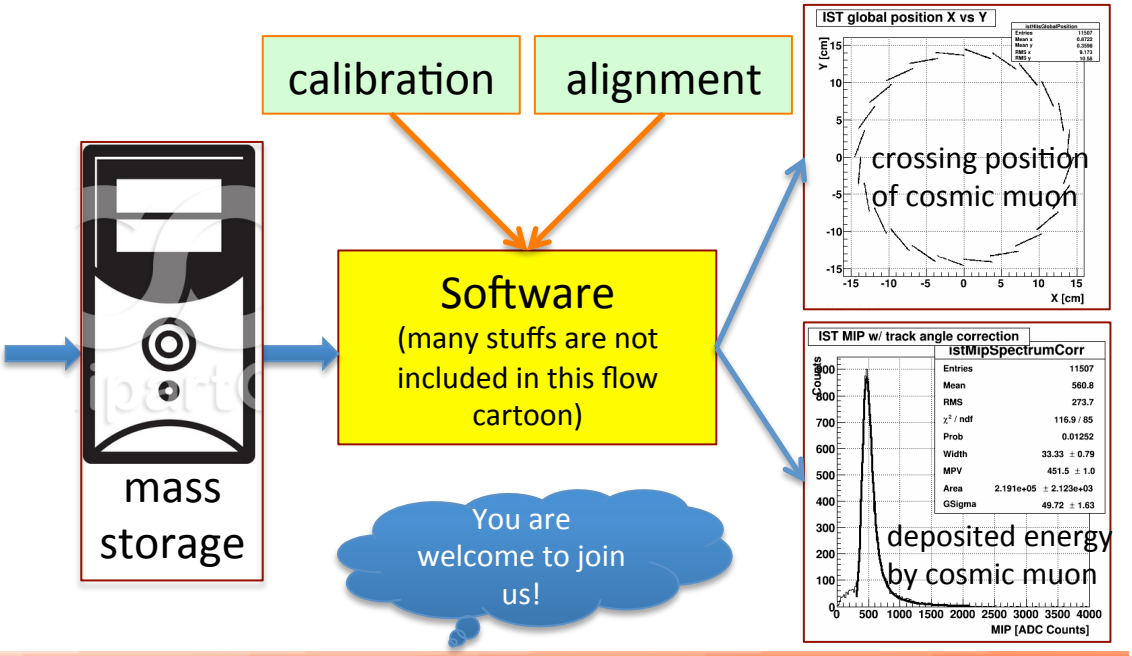


1 ladder = 6 silicon pad sensors
+ 36 APV readout chips



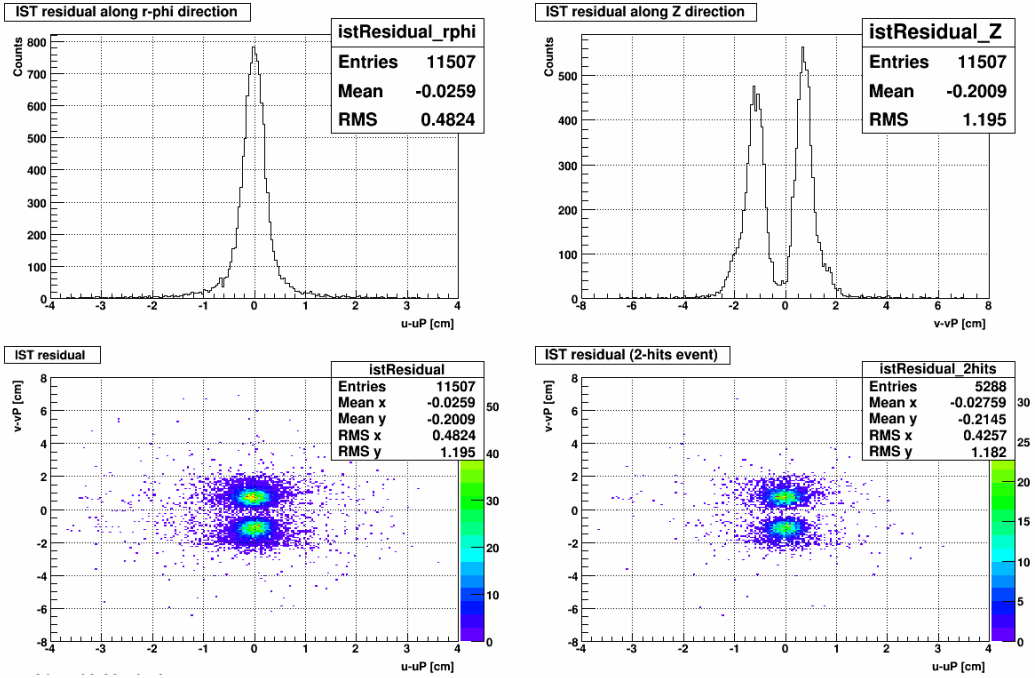
IST detector modeling
for simulation



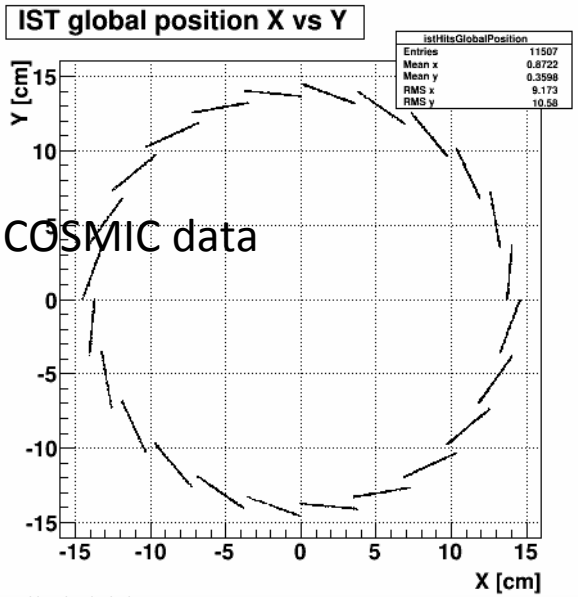


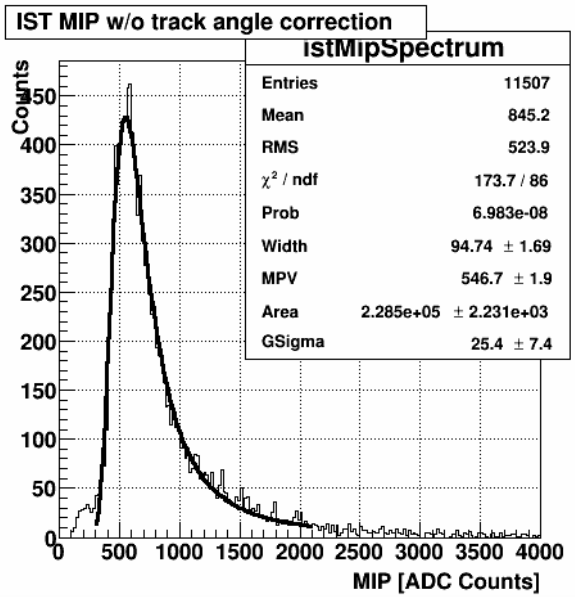
Weekly Report -- software

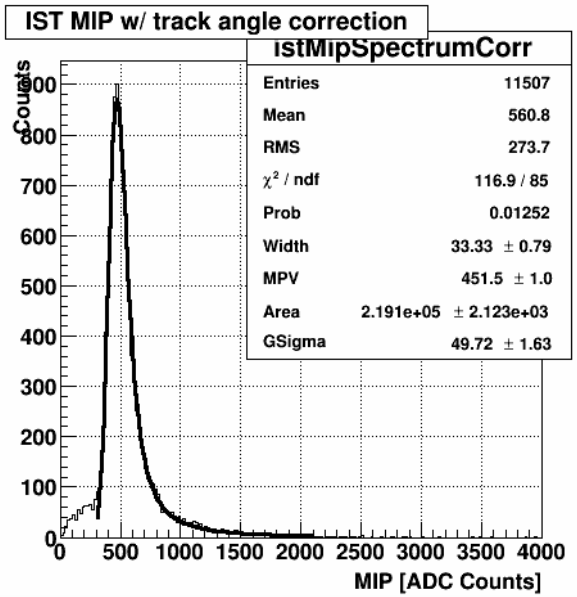
1. Keep updating IST offline software following up reviewer's feedbacks
2. Codes developed/updated for IST in StEvent is started to review and response feedbacks.
3. Training Leszek (new) to take IST slow simulator development, and need to prepare simple instruction for Leszek to run IST fast simulation as practice.
4. Geometry Db tables are available in STAR DB.
5. Calibration Db tables for cosmic analysis are available in STAR DB. Detailed calibration work is continued by Babak.
6. Alignment set-up is available and tested, need to prepare simple instruction for Zillay to start alignment practice.

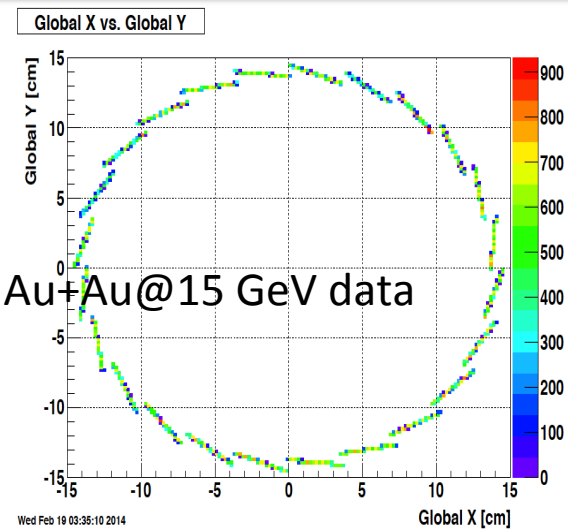


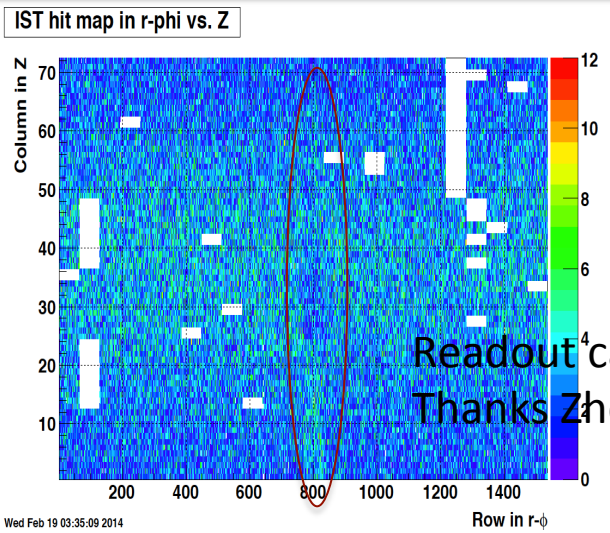
Weekly Report -- QA

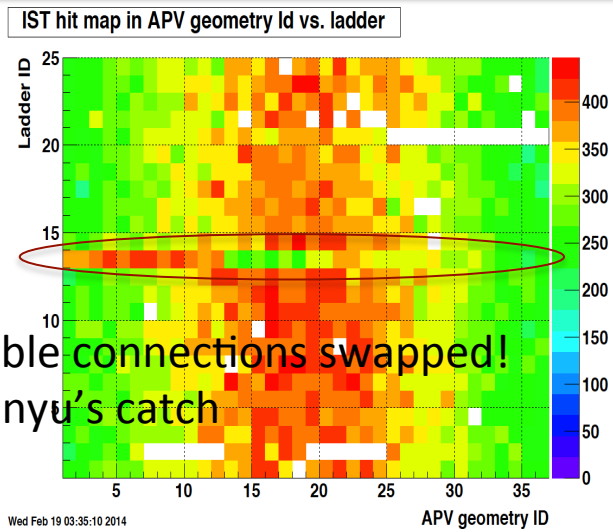












Readout cable connections swapped!
Thanks Zhenyu's catch

Weekly Report – ZS/non-ZS data check

Both ZS and non-ZS data are stored for each event during data taking.

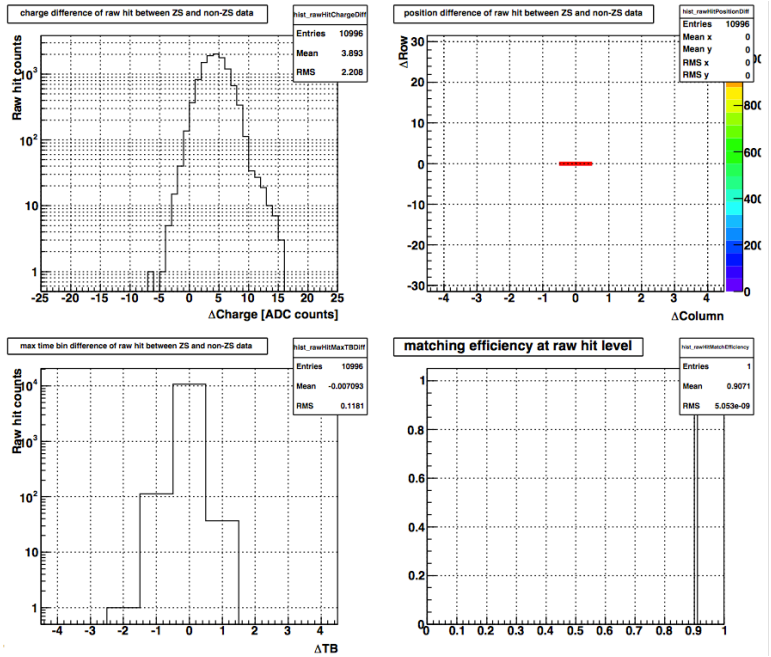
step 1. reconstruct IST hit by the offline chain only pulling out ZS information for each event, and a raw-hits/hit tree generated.

step 2. reconstruct IST hit by the offline chain only pulling out non-ZS information for each event, and a raw-hits/hits tree generated .

step 3. match the hit from non-ZS data type to the hit from ZS data type.

(For example: If there is a IST hit with channel geometry ID == 12345 in event ID == 678 from the non-ZS . Then I scan the hits from ZS to search for a hit with the same channel geometry ID in the same event (with the same event ID). If we found it, the hit is counted as matched hit.)

step 4. match efficiency = counts of matched hits / total number of hits found from non-ZS



Conclusion:

(1) The comparison shows the percentage of the non-ZS raw-hits/hits that match the ZS raw-hits/ hits seems to be bigger than 90%.

(2) The results from ZS and non-ZS data show a very good agreement except for the hit(raw hit) ADC counts, ~ 4 ADC counts shift.

Further comparison needed!