IST TimeBin Check and online monitoring update

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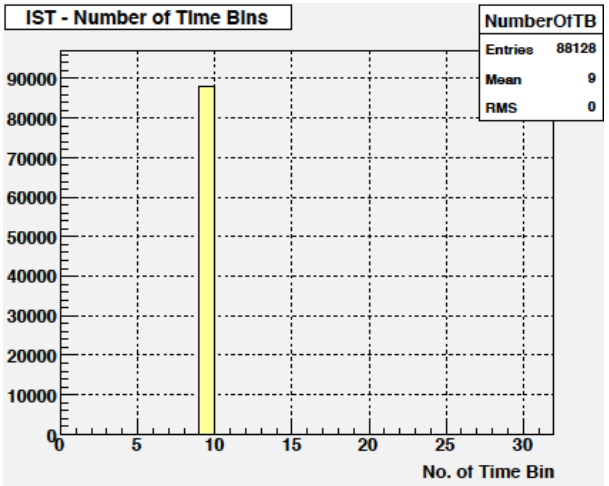
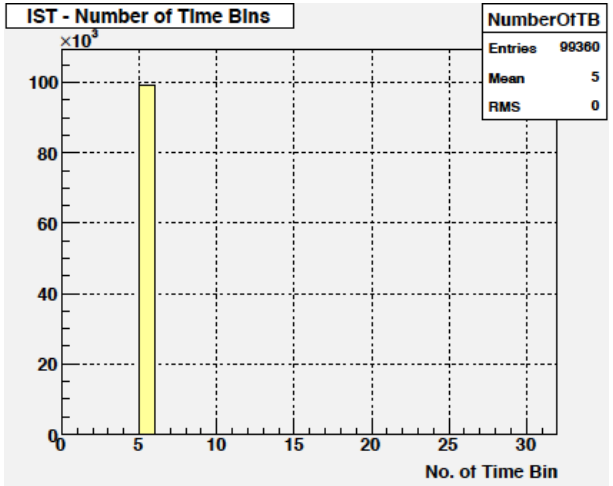
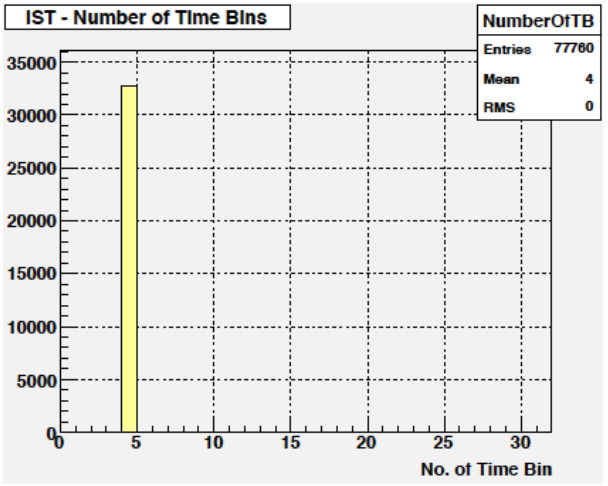
IST time bin numbers







To increase the read rate, the IST time bin number has been adjusted 2 time for 200 GeV Au+Au data:

- On March 24, the IST time bin number switched from 9 to 5 (drop TB5, TB6, TB7, TB8)
- On April 8, the IST time bin number switched from 5 to 4 (drop TB4)

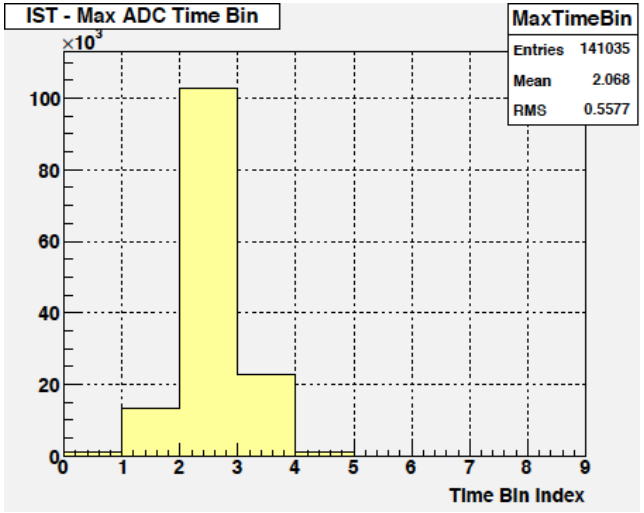
To study the effects of switching time bin number from 5 to 4 and 5 to 3 time bins, following check was carried out:

(1) Pick up part of #15093017 data sample (5 time bins, ZS data type, 7064 events)

(1) IST hit associated with a TPC track required.

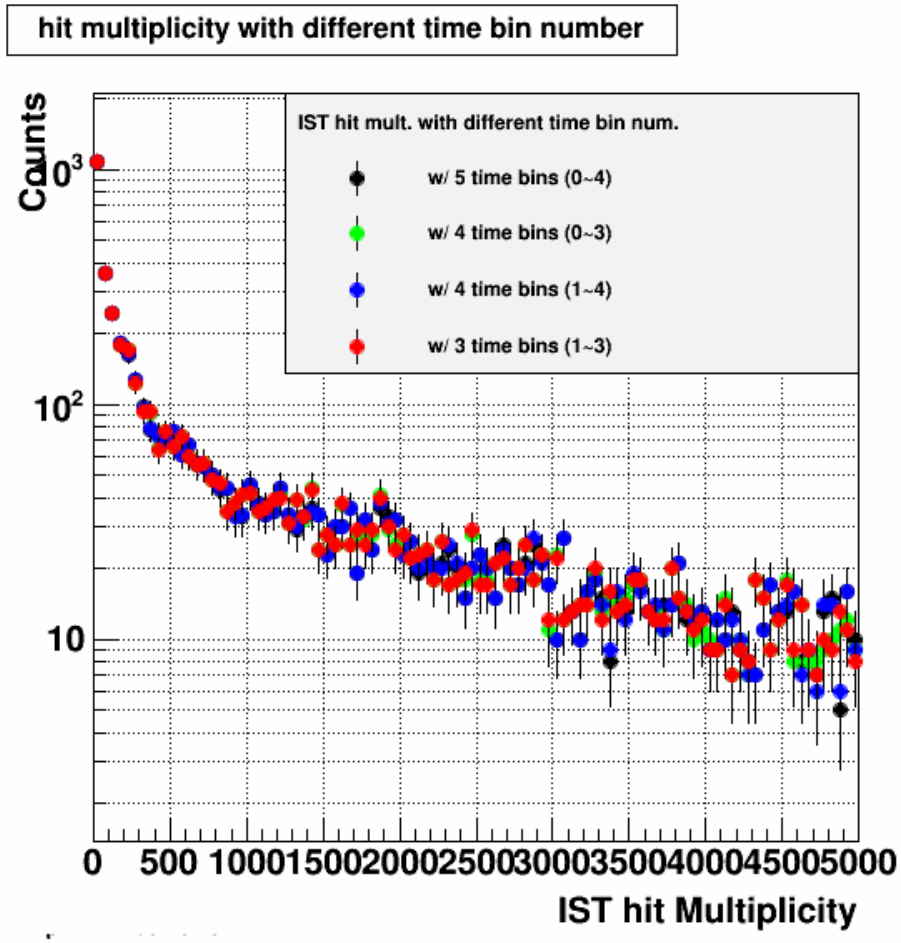
(2) Following 4 cases are studied:

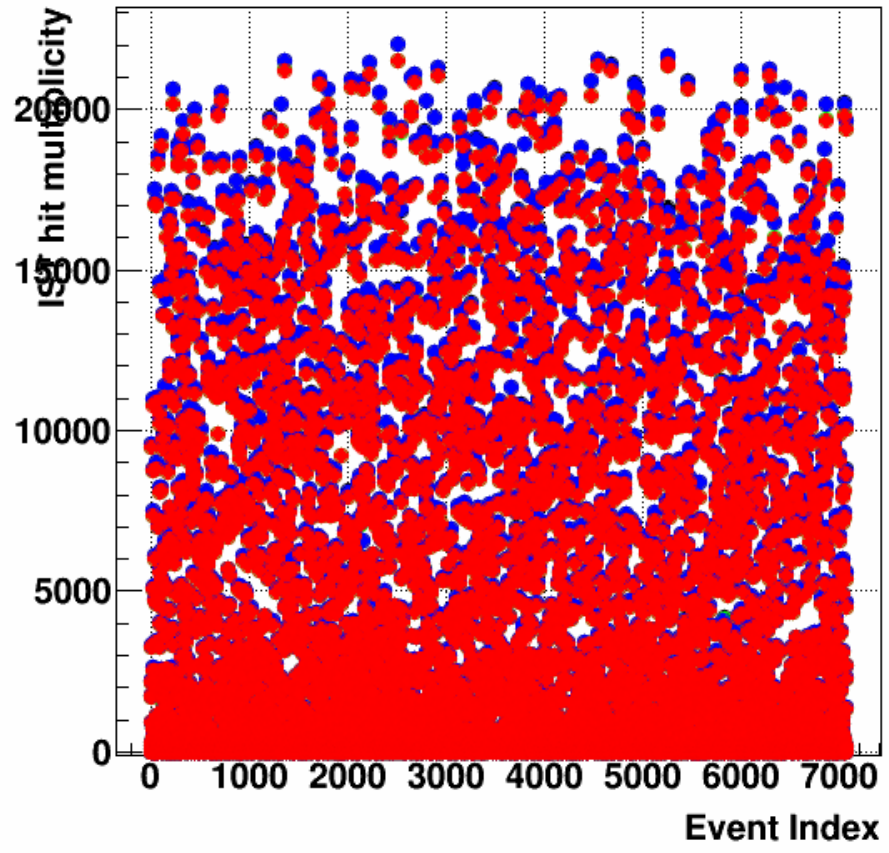
- Full 5 time bins (as reference)
- 4 time bins (drop TB4)
- 4 time bins (drop TB0)
- 3 time bins (drop TB0 and TB4)



Max ADC TB pattern

IST hit multiplicity with different time bin comb.

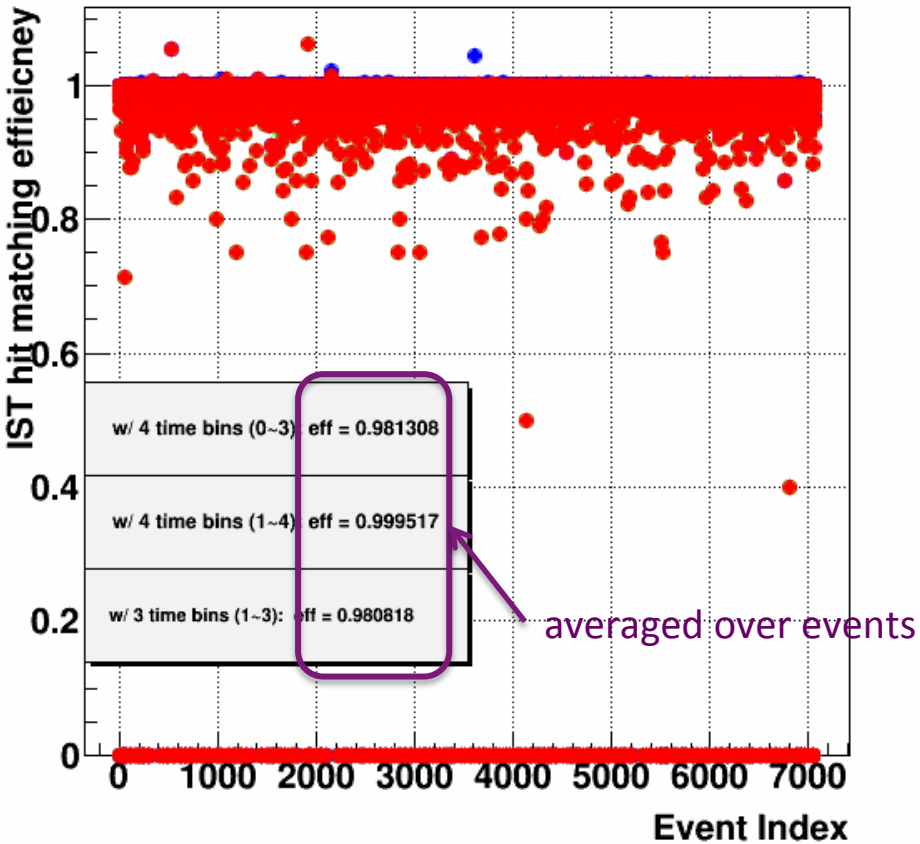


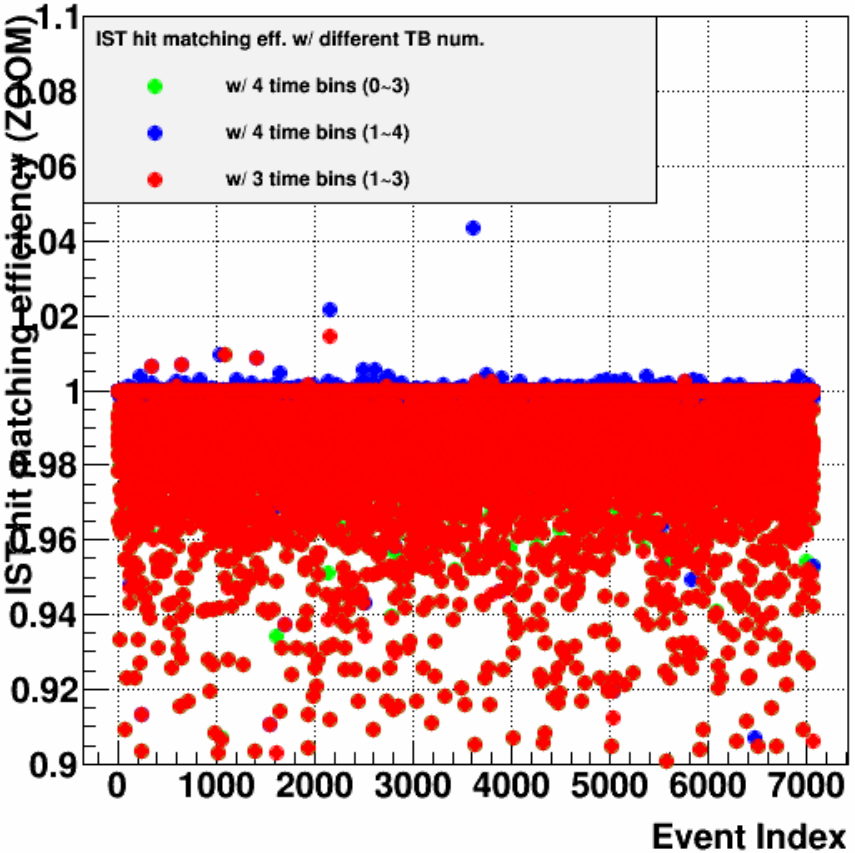


The IST hit matching efficiency is analyzed event-by-event

IST hit matching efficiency with reduced time bin number

IST hit matching efficiency of reduced time bin number w.r.t full 5 time bins





Based on the check:

(1) Using 4 time bins, dropping TB4 will cause 1.9% IST hit matching efficiency loss; No clear matching efficiency loss while dropping TB0.

(2) Using 3 time bins, 2% matching efficiency loss found.

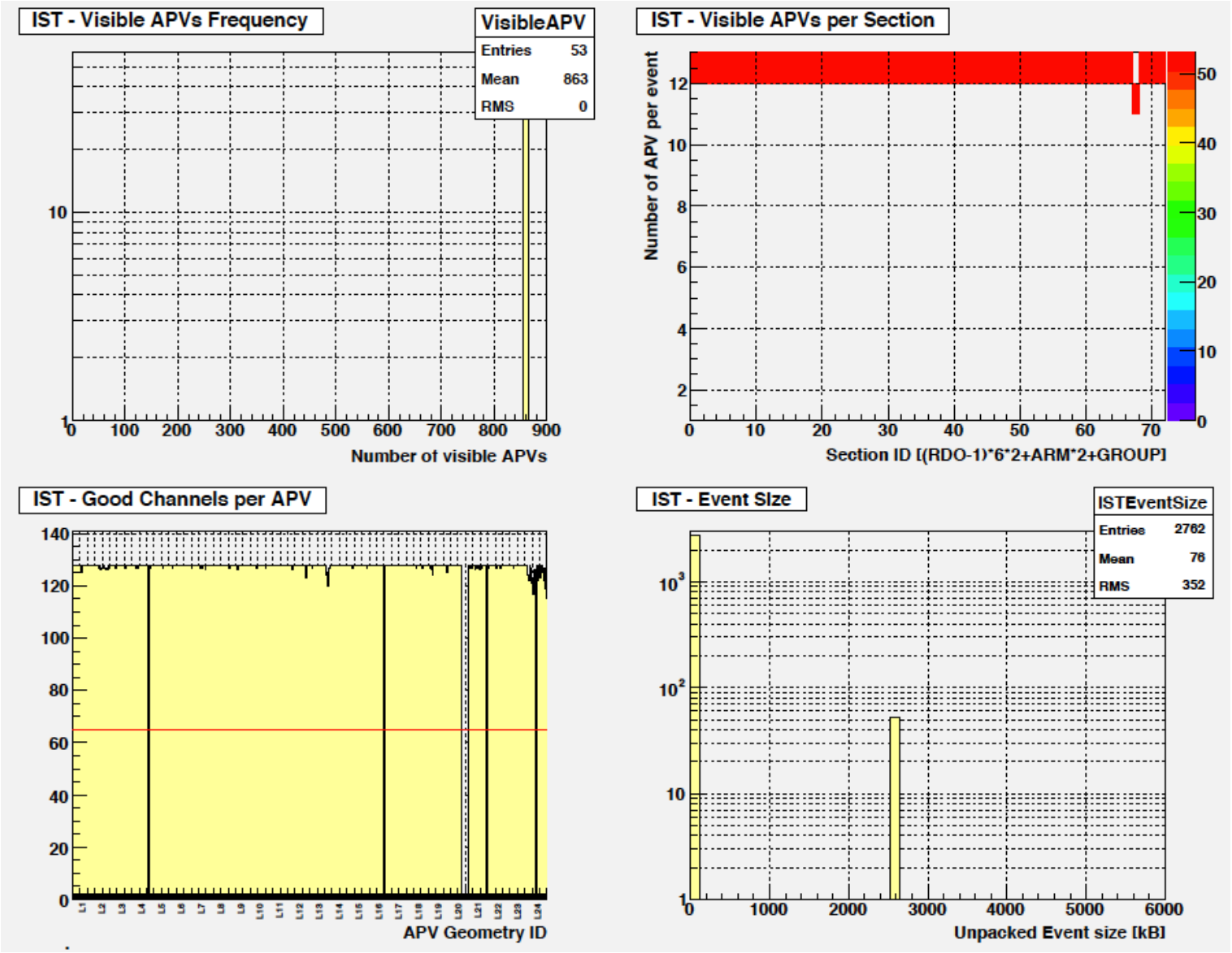
IST online monitoring update -- testing

Major updates:

1. Access external pedestal/rms table (generated by Tonko onlie) for pedestal subtraction and raw hit cut setting in online monitoring code
2. Trigger alarms setup: E_Mail will be sent out to IST experts once alarm threshold reached (testing and investigating now)
3. Plots available for ZS data

Detailed plots set can be found:
http://www4.rcf.bnl.gov/~ypwang/IST_OnlineMonitoring/

IST online monitoring update -- testing



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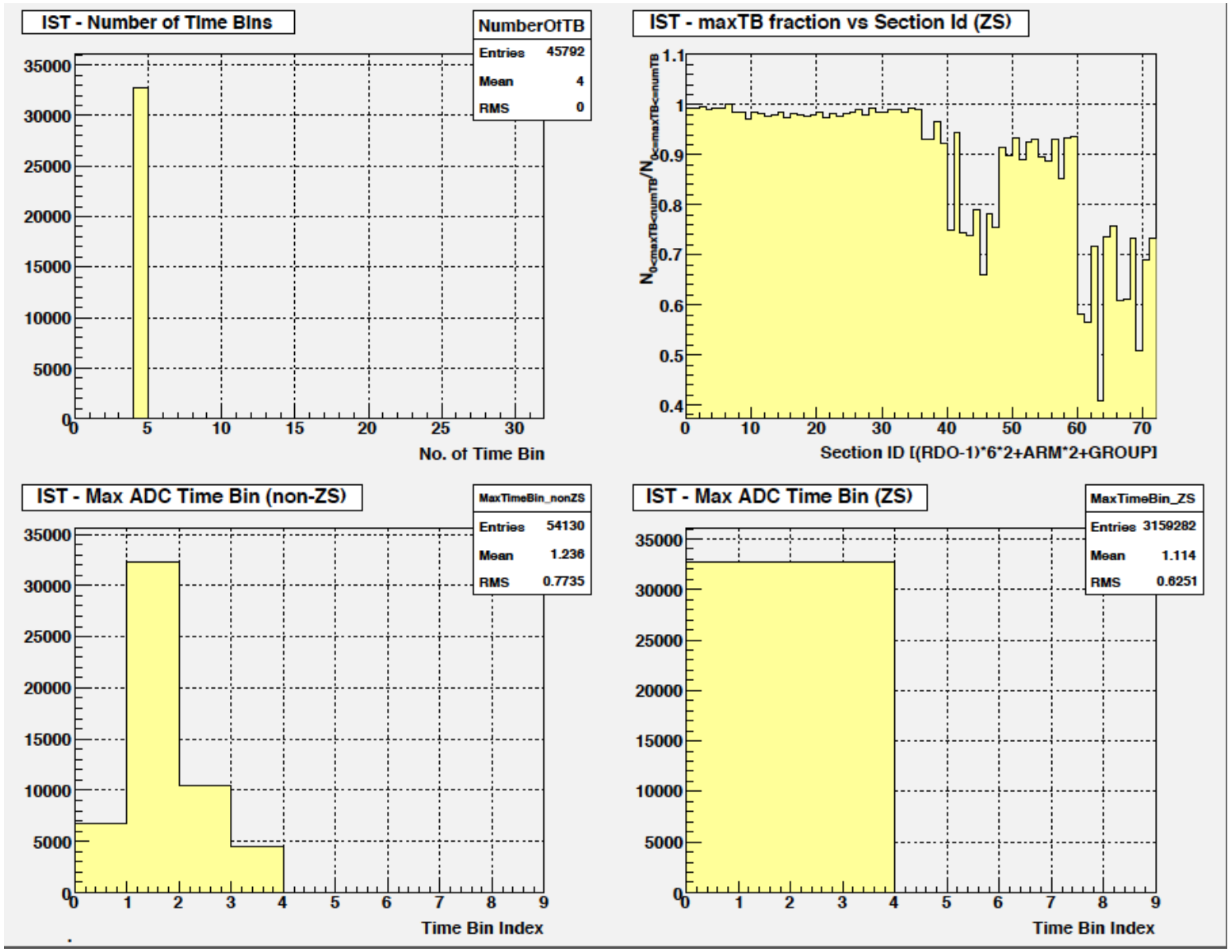
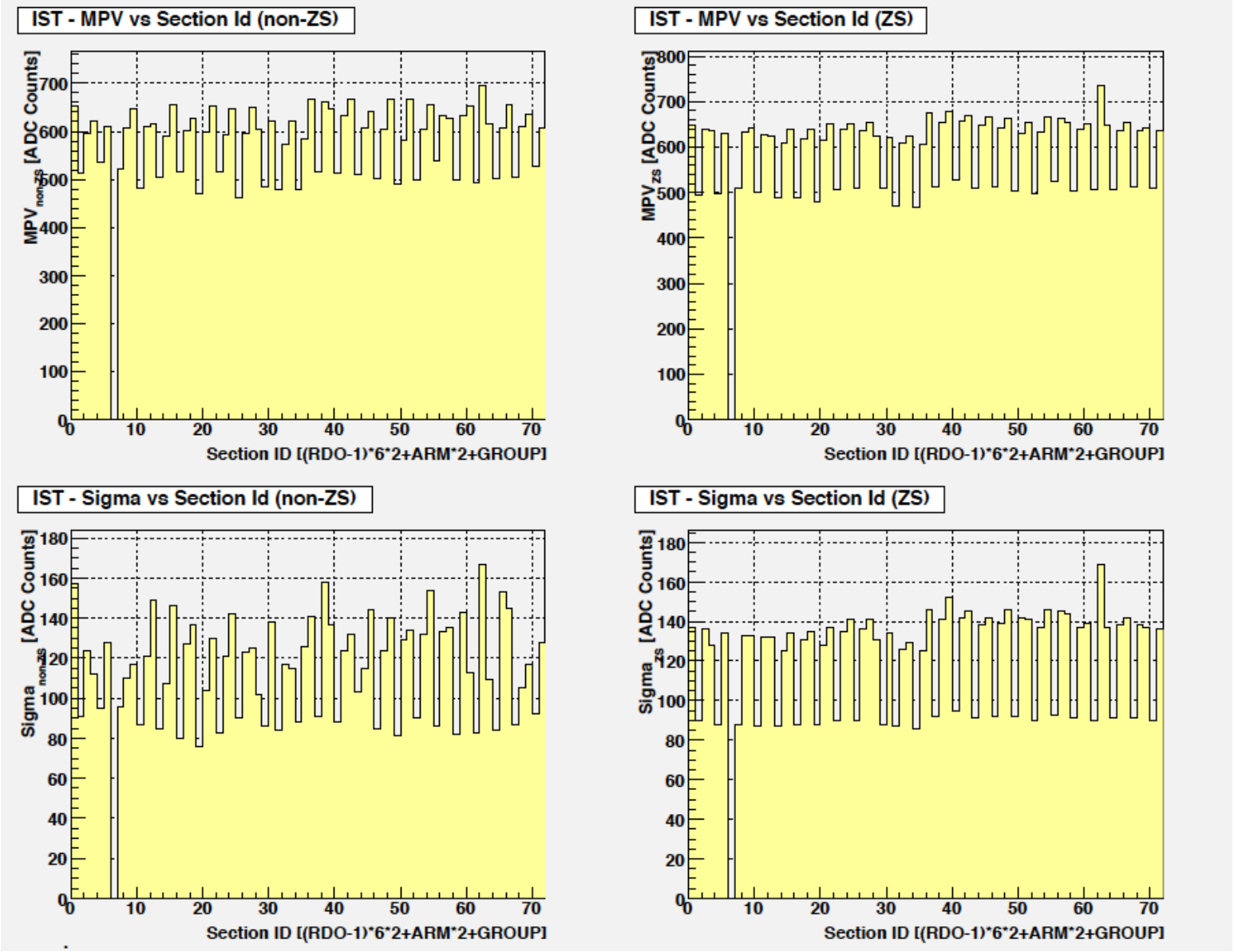
IST online monitoring update -- testing