Data volume summary

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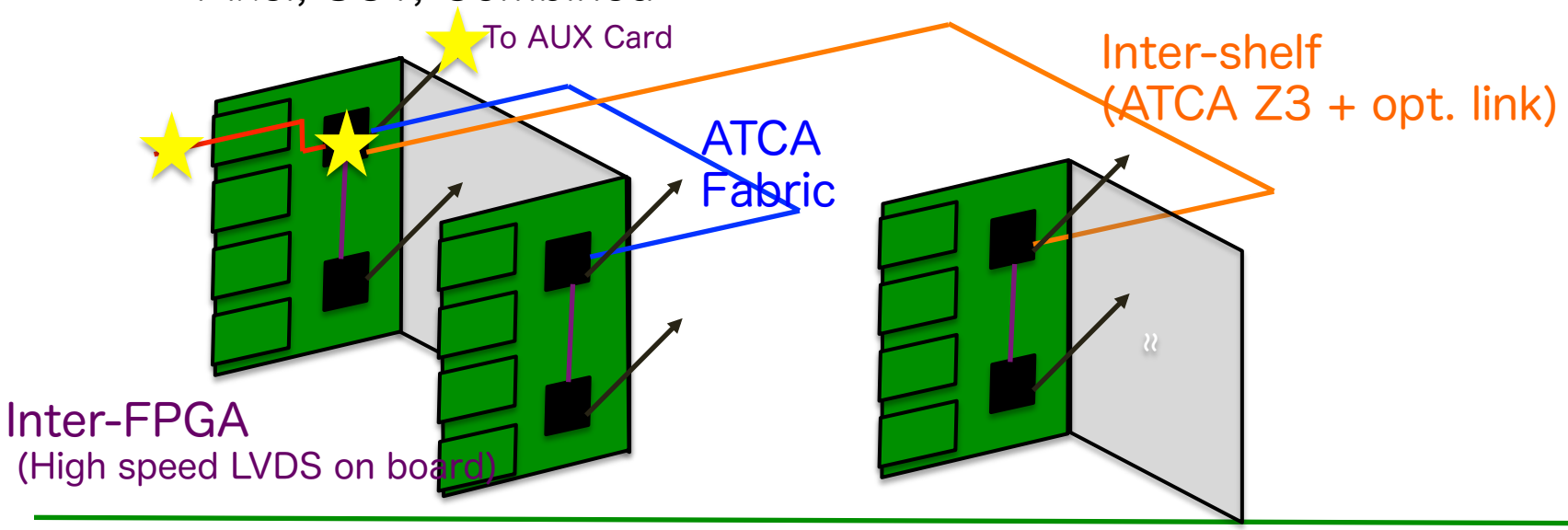
Data

- data12 with 8 TeV
  - Run 201556 LB: 450 $\langle\mu\rangle = 23.1$
  - Run 201556 LB: 526 $\langle\mu\rangle = 20.0$
  - Run 201556 LB: 670 $\langle\mu\rangle = 16.0$
  - Run 201556 LB: 774 $\langle\mu\rangle = 14.0$
  - Run 201556 LB: 928 $\langle\mu\rangle = 12.0$
  - Run 201556 LB: 1039 $\langle\mu\rangle = 10.7$
- data11 with 7TeV
  - Run 191426 LB:563 $\langle\mu\rangle = 10.2$
  - Run 182766 LB:226 $\langle\mu\rangle = 7.3$
  - Run 167067 LB:159 $\langle\mu\rangle = 3.2$

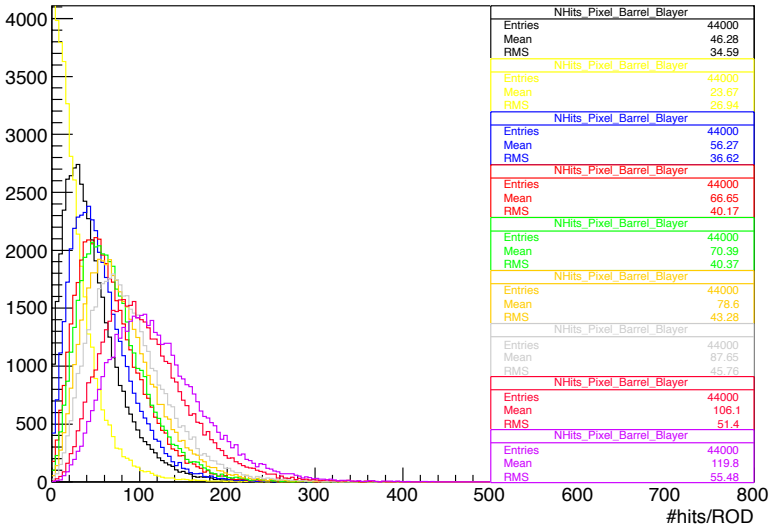
number of hits

- #hits/ROD/event (1) : input from each S-Link
  - Pixel Barrel B-layer, Pixel Barrel Layer1/2
    SCT Barrel, SCT Endcap
- #hits/Input Tower/event (2)
  : total number of input hits for a FPGA
  - Pixel, SCT, Combined
- #hits/Output Tower/event (3)
  : total number of hits sent to AUX card from a FPGA
  - Pixel, SCT, Combined

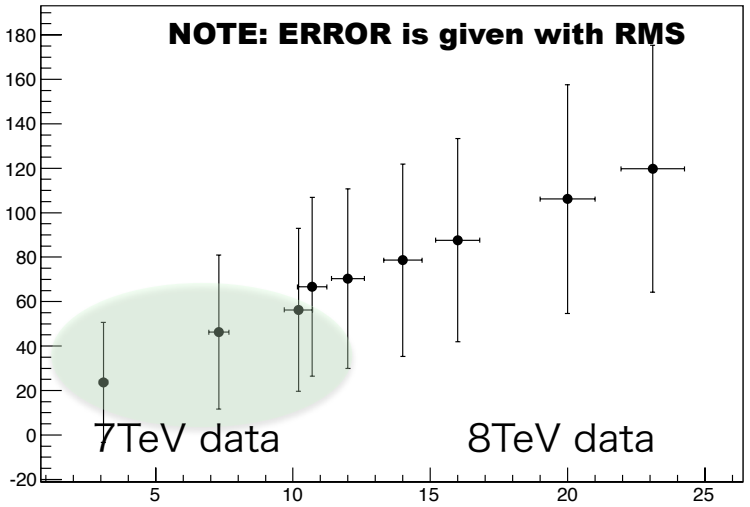


N Pixel Hits/ROD/event

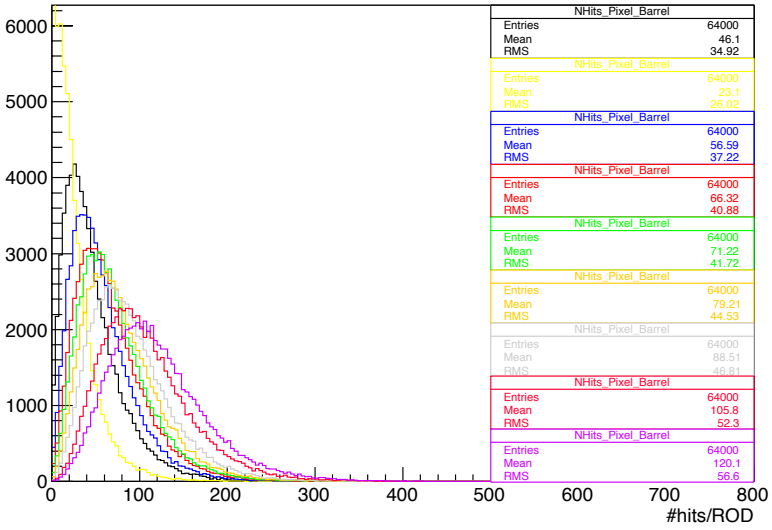
NHits_Pixel_Barrel_Blayer



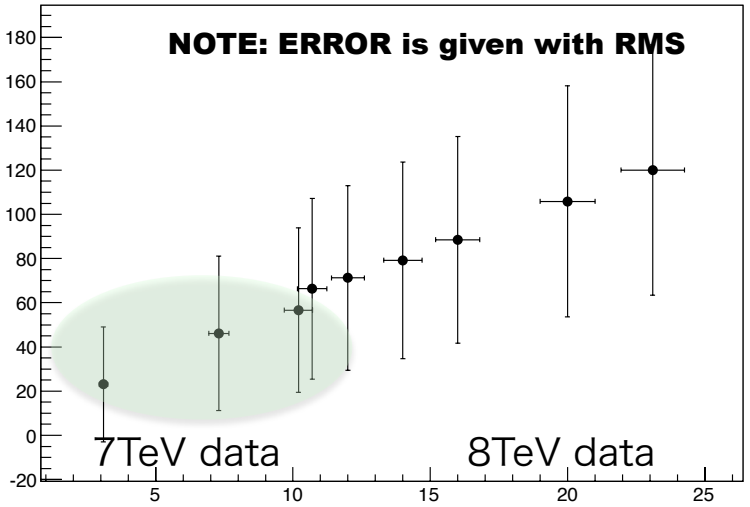
NHits_Pixel_Barrel_Blayer



NHits_Pixel_Barrel

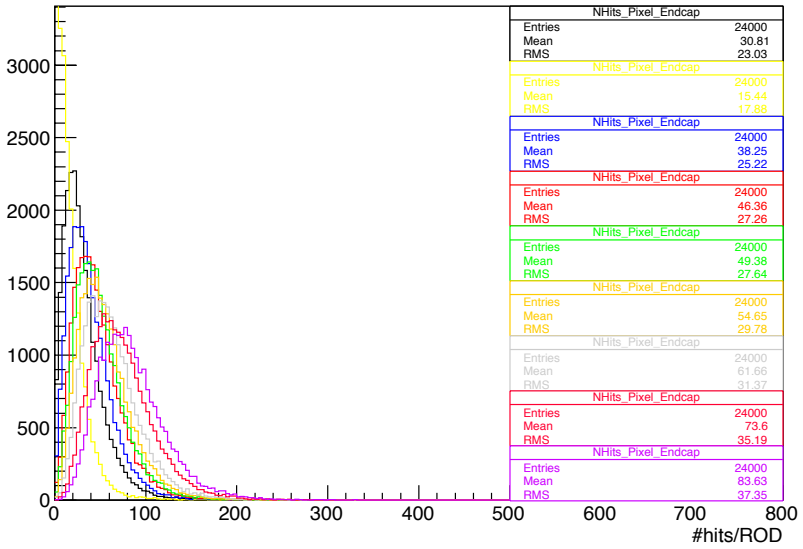


NHits_Pixel_Barrel

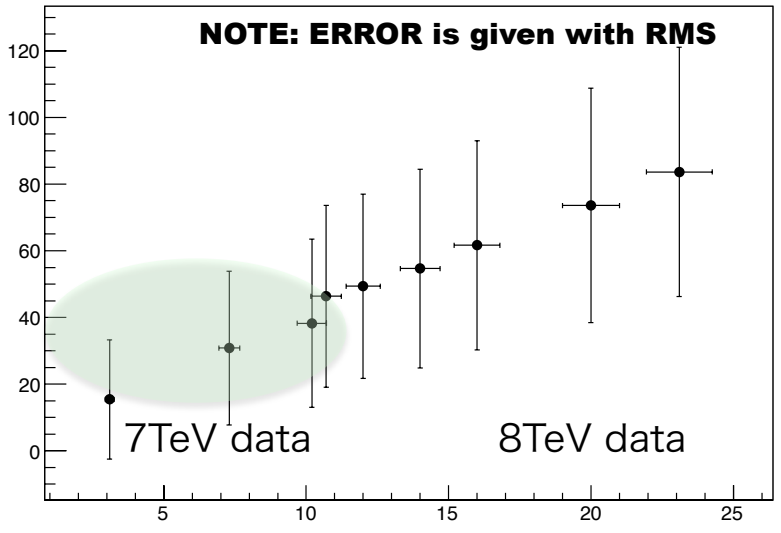


N Pixel Hits/ROD/event

NHits_Pixel_Endcap

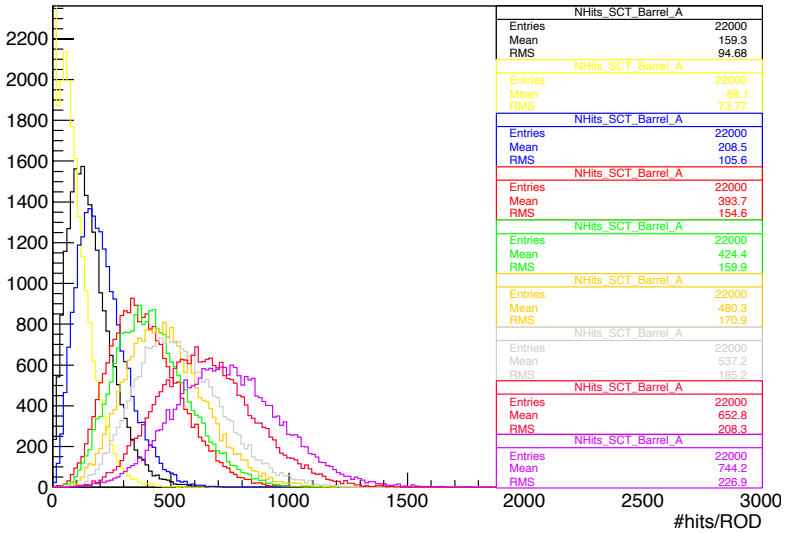


NHits_Pixel_Endcap

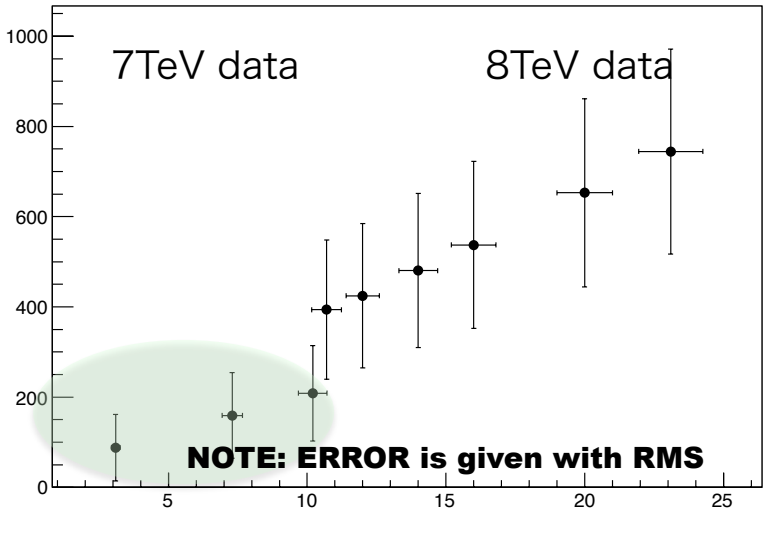


N SCT Hits/ROD/Event

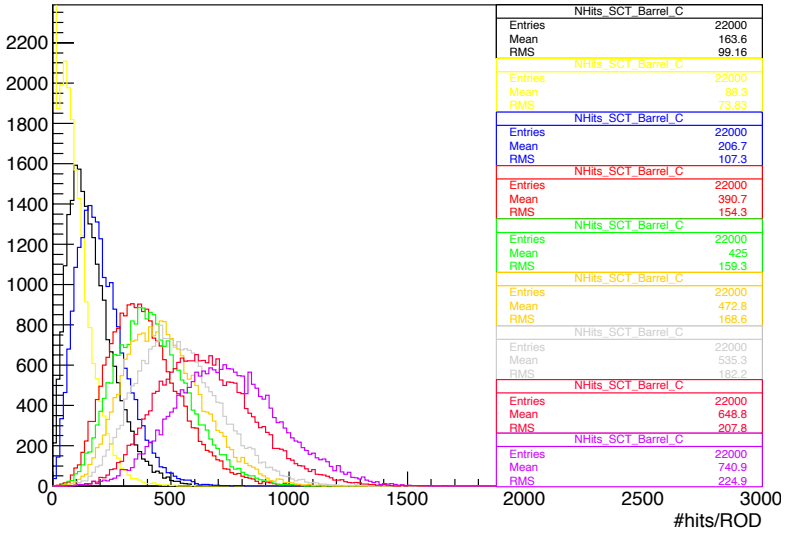
NHits_SCT_Barrel_A



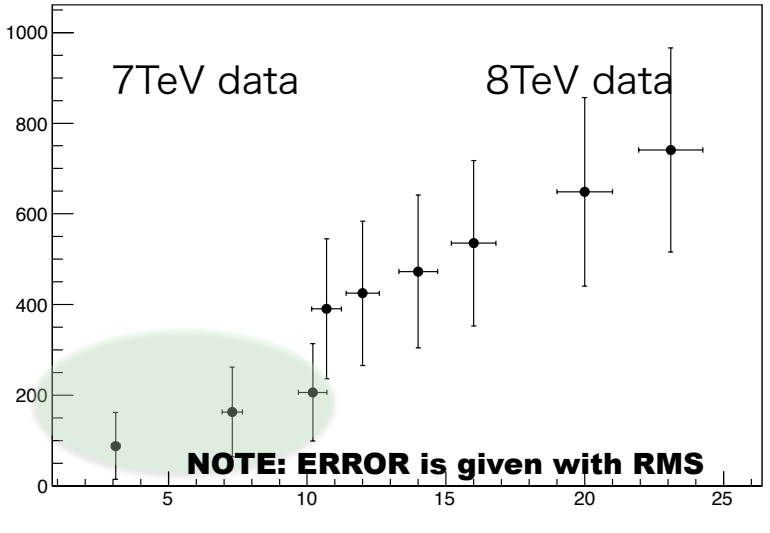
NHits_SCT_Barrel_A



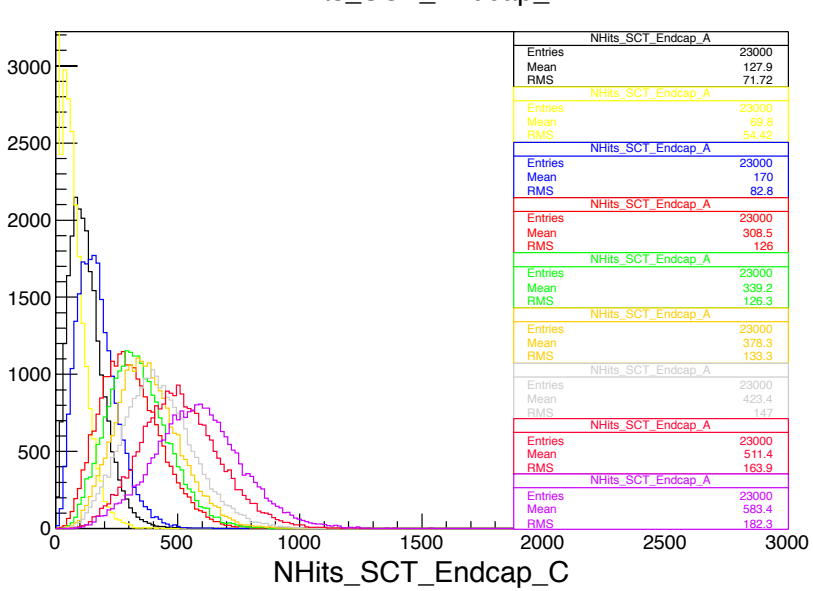
NHits_SCT_Barrel_C

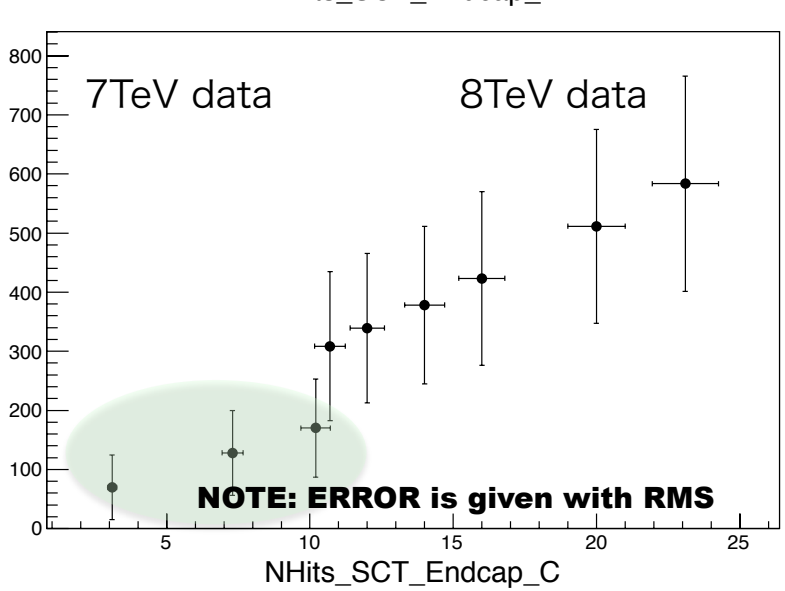


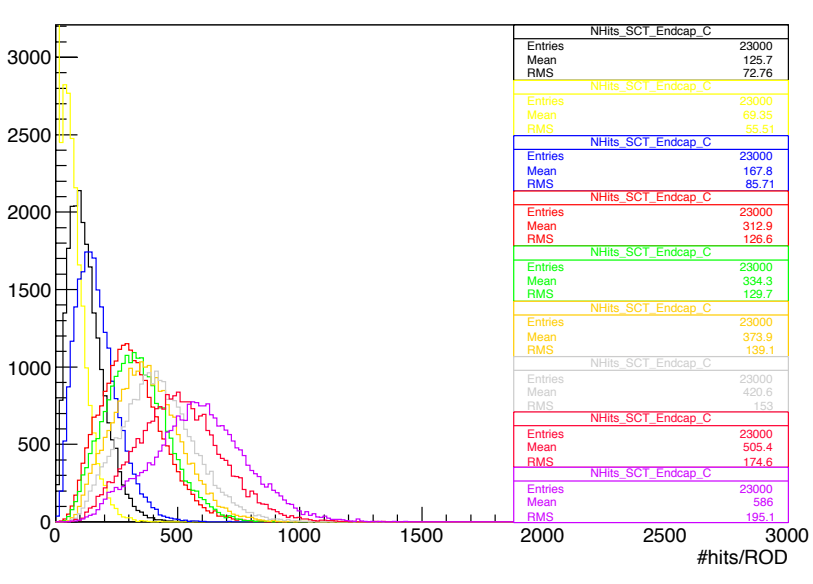
NHits_SCT_Barrel_C

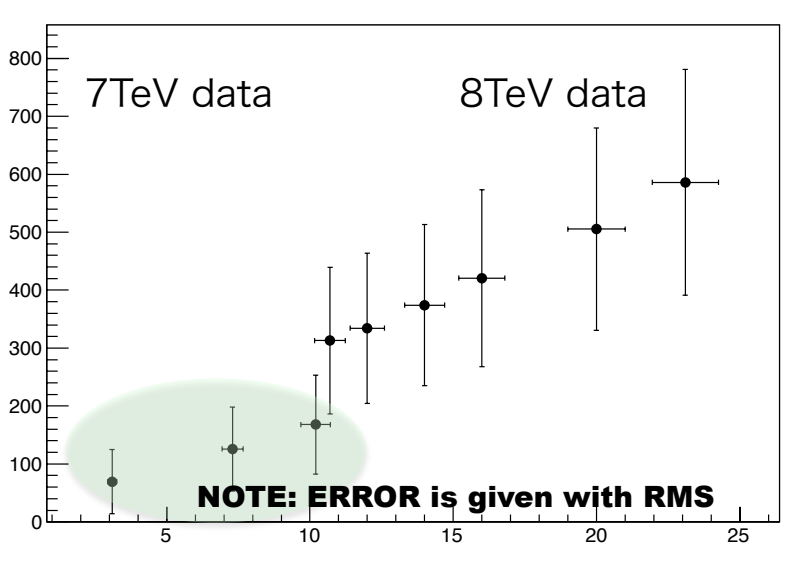


N SCT hits/ROD/Event



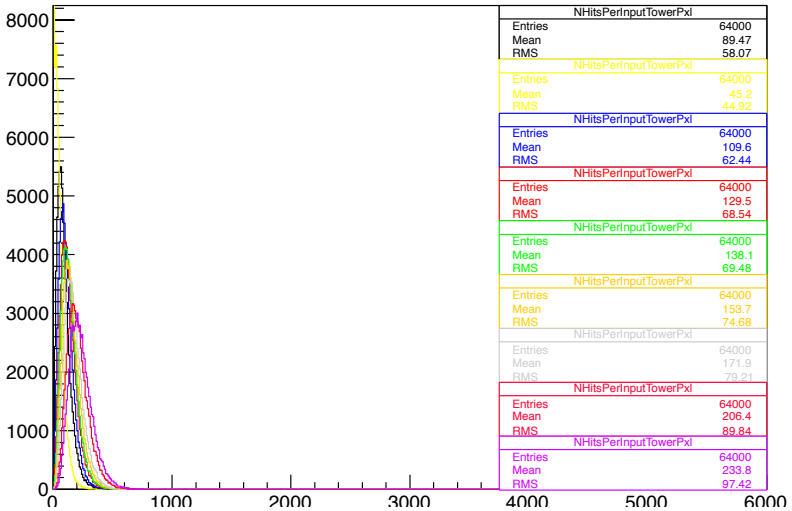




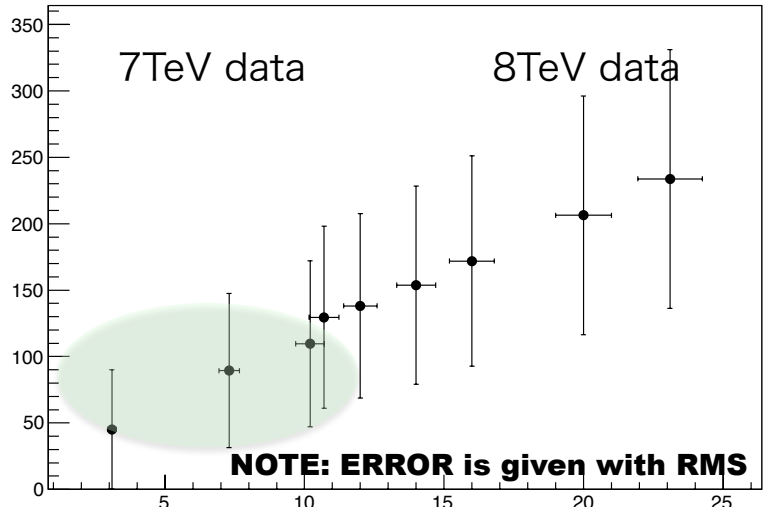


N hits/Tower/event (Input)

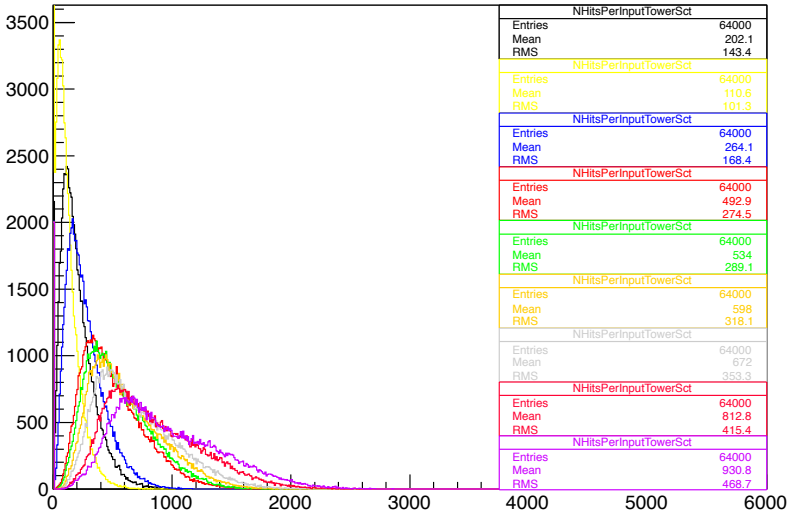
NHitsPerInputTowerPxl



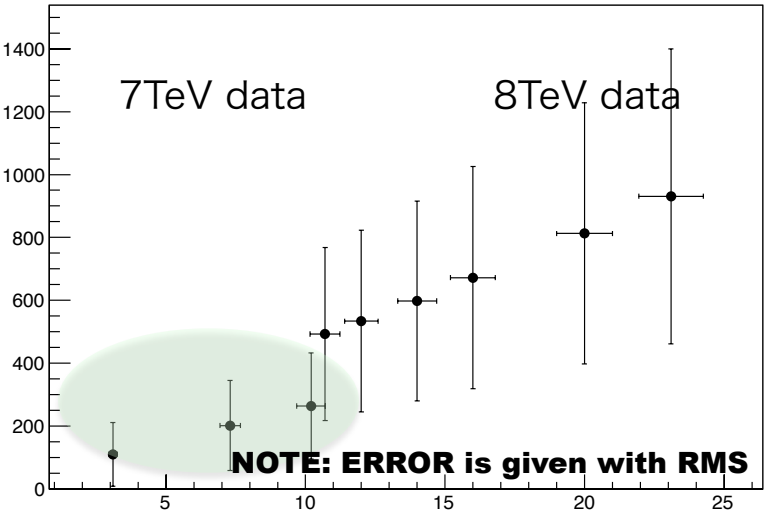
NHitsPerInputTowerPxl



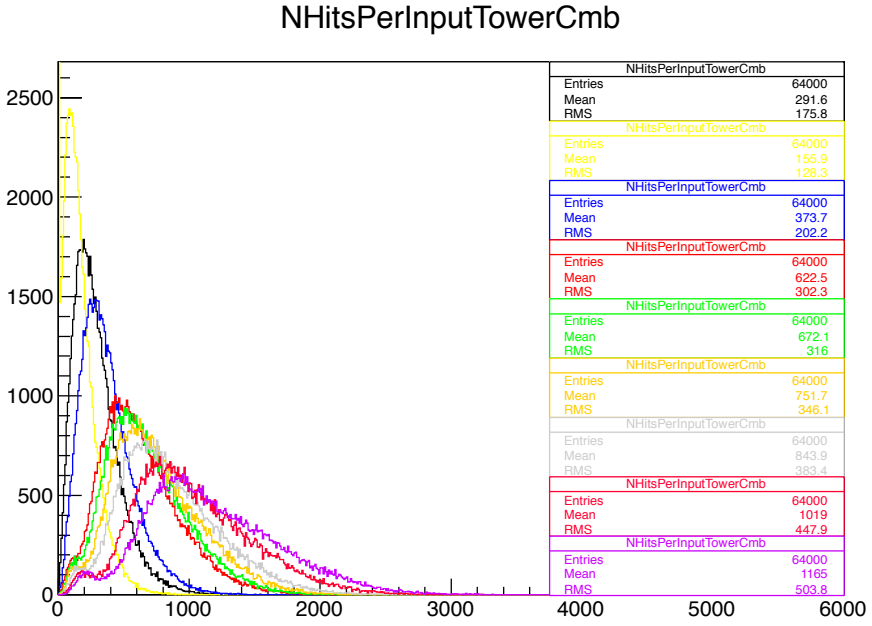
NHitsPerInputTowerSct

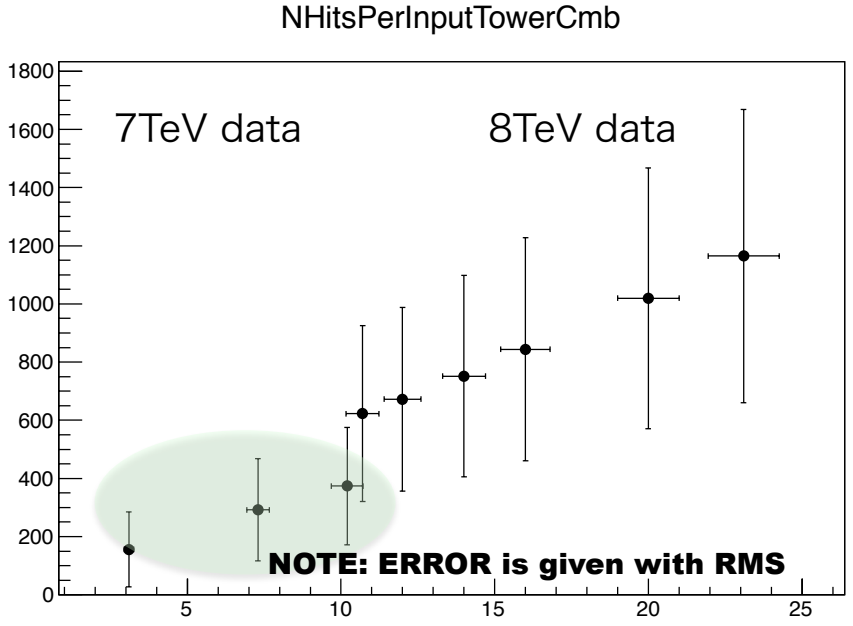


NHitsPerInputTowerSct



N hits/tower/event (Input)





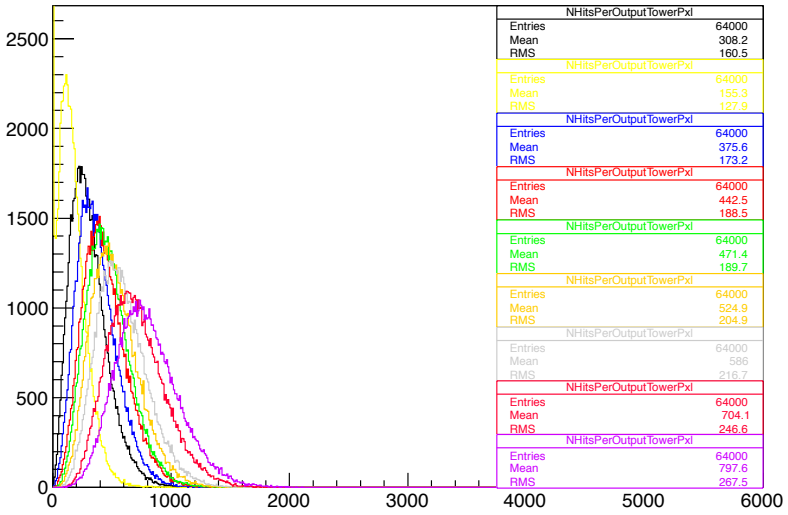
1,165 hits are input to a FPGA in average with $\langle\mu\rangle = 23$

NOTE:

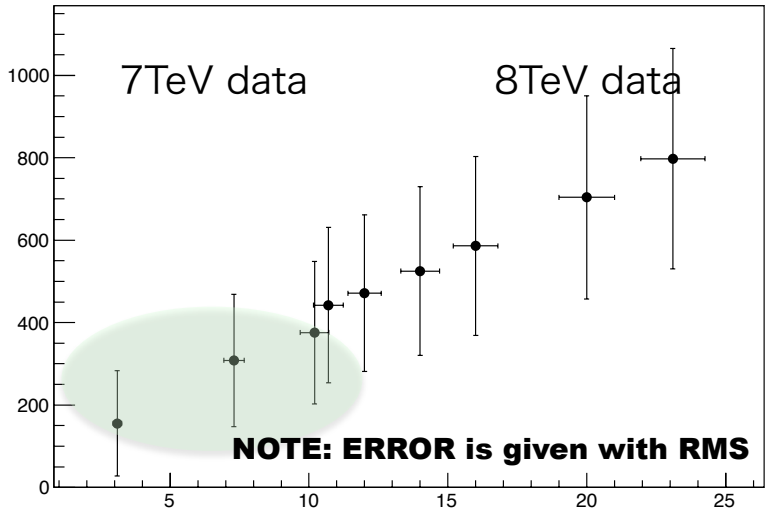
- A ROD cover 1.9 Pixel ROD & 1.4 SCT ROD in average

N hits/tower/event (Output)

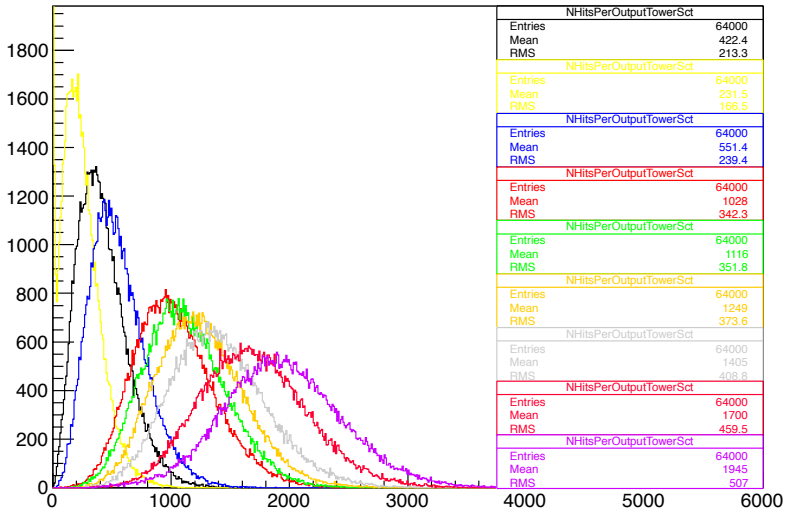
NHitsPerOutputTowerPxl



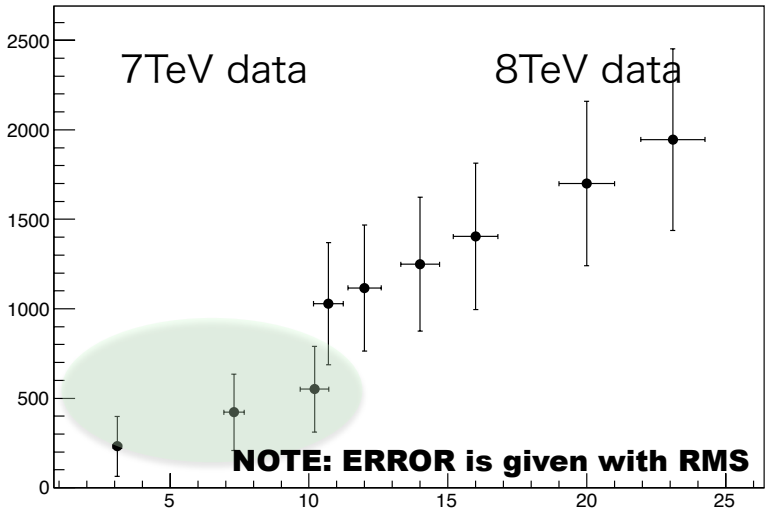
NHitsPerOutputTowerPxl



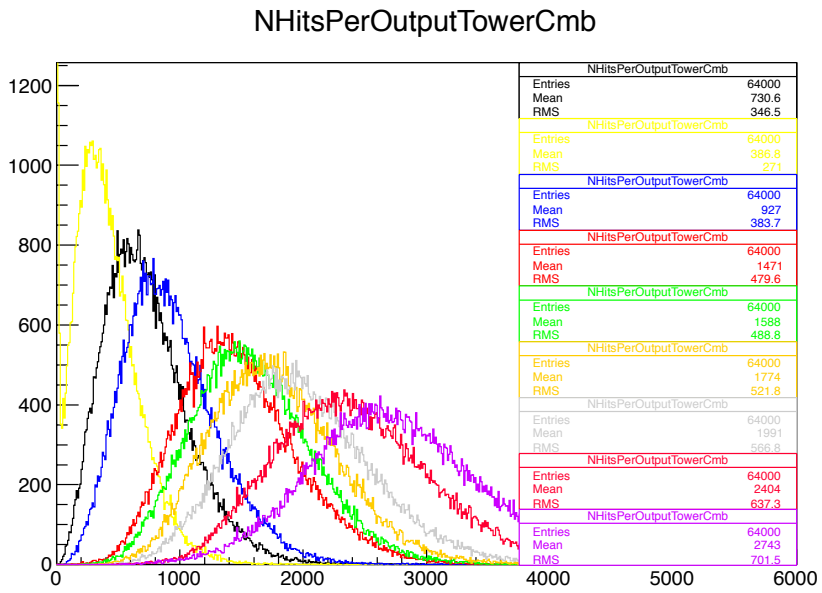
NHitsPerOutputTowerSct

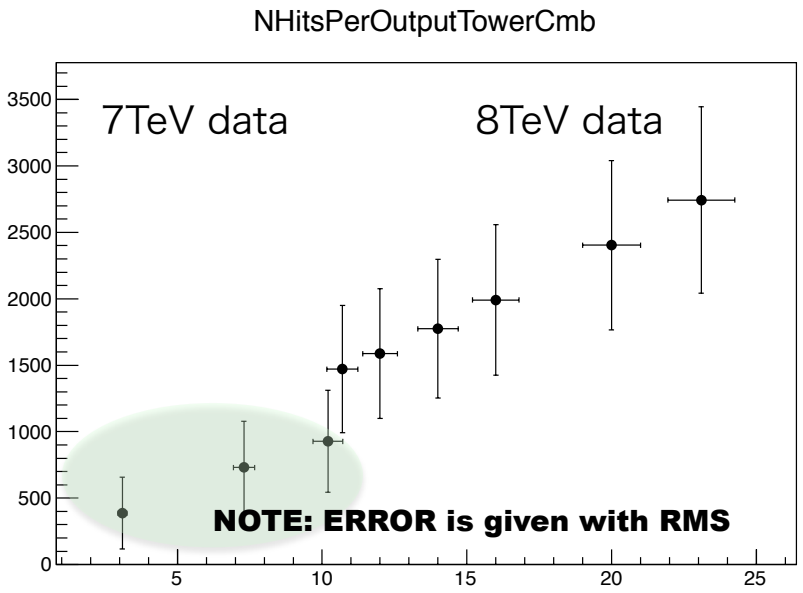


NHitsPerOutputTowerSct



N hits/tower/event (Output)





2,743 hits are input to a FPGA in average with <μ> = 23

NOTE :

- A pixel hit is copied & sent to 3.2 towers in average
- A SCT hit is copied & sent to 2.1 towers in average
- 3,000 hits / output line = 10Gbps (still with <μ> = 23)
  (with assumption of 32bits/hit)