

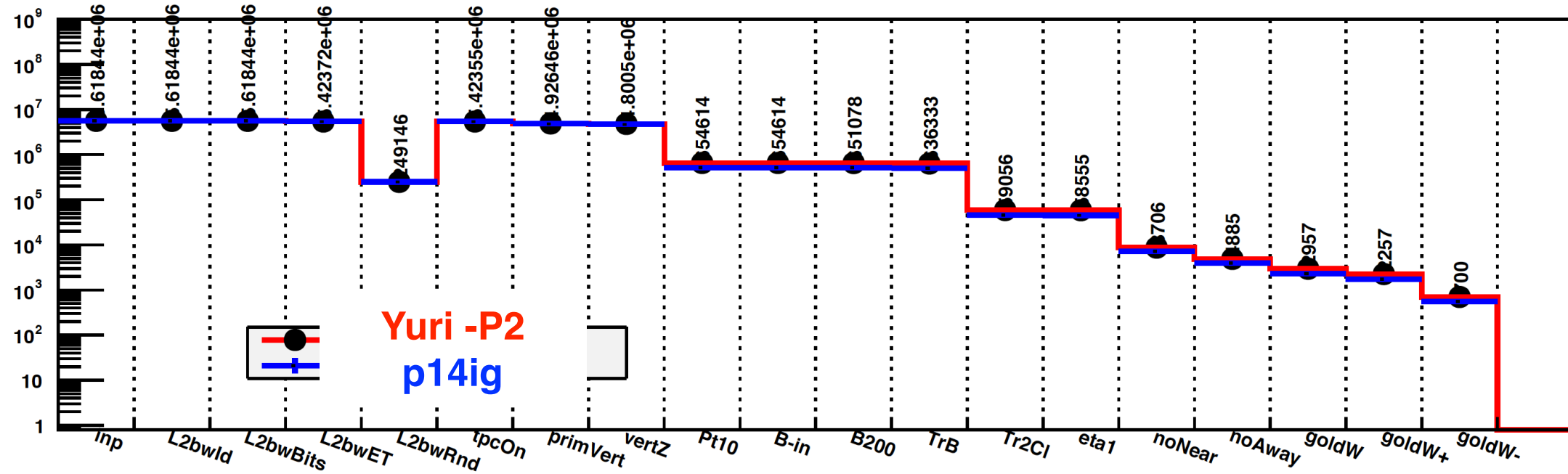
Yuri's-P2 vs P14ig [run 13 - official -P2]

apple- to -apple comparison

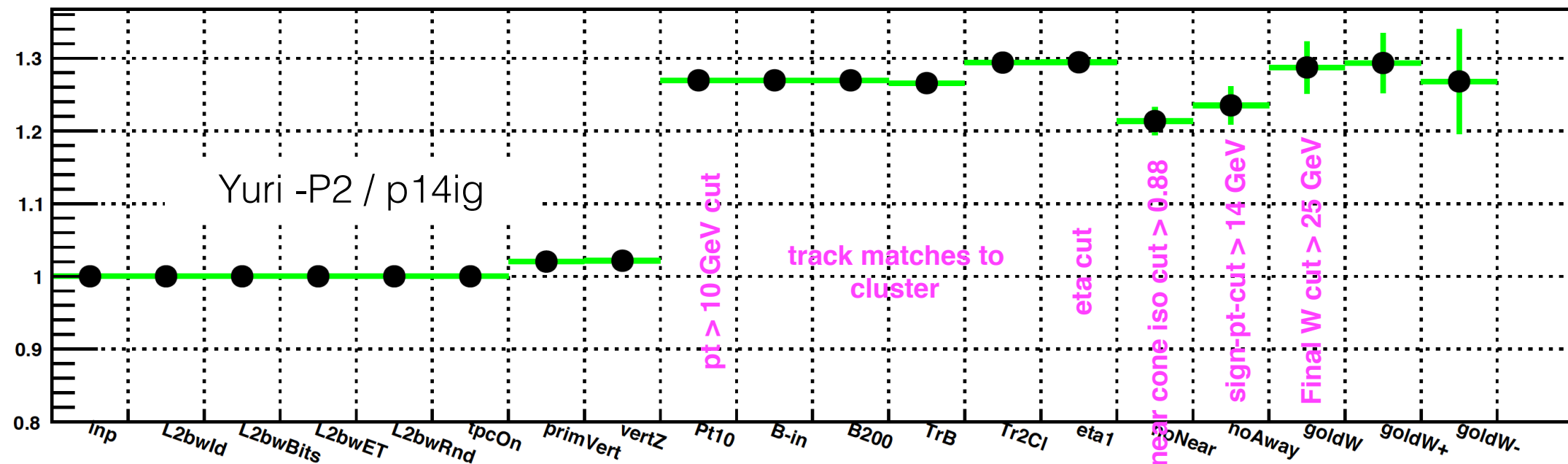
To investigate the difference between STI vs STICA [STICA is in Yuri's code] in run 13 period 2 [<ZDC> ~ 350 kHz and 90% statistics is above 300 kHz] and to test how StiCA deals with the addition HFT materials.

Production	Production Library [also W-code compiled library]	Tracking	vertex finding	BEMC-gains	# of runs used in the comparison	# of events
P14ig [official run 13 - P2 (day 129-161)]	SL14g	Sti	PPV_W	run 12 - 200 GeV	436	5618340
Yuri's - P2 (day 129-161)	DEV2/TFG16a	StiCA [Yuri's code]	PPV_W	run 12 200 GeV	436	5618485

Events Counts as a function of W cuts

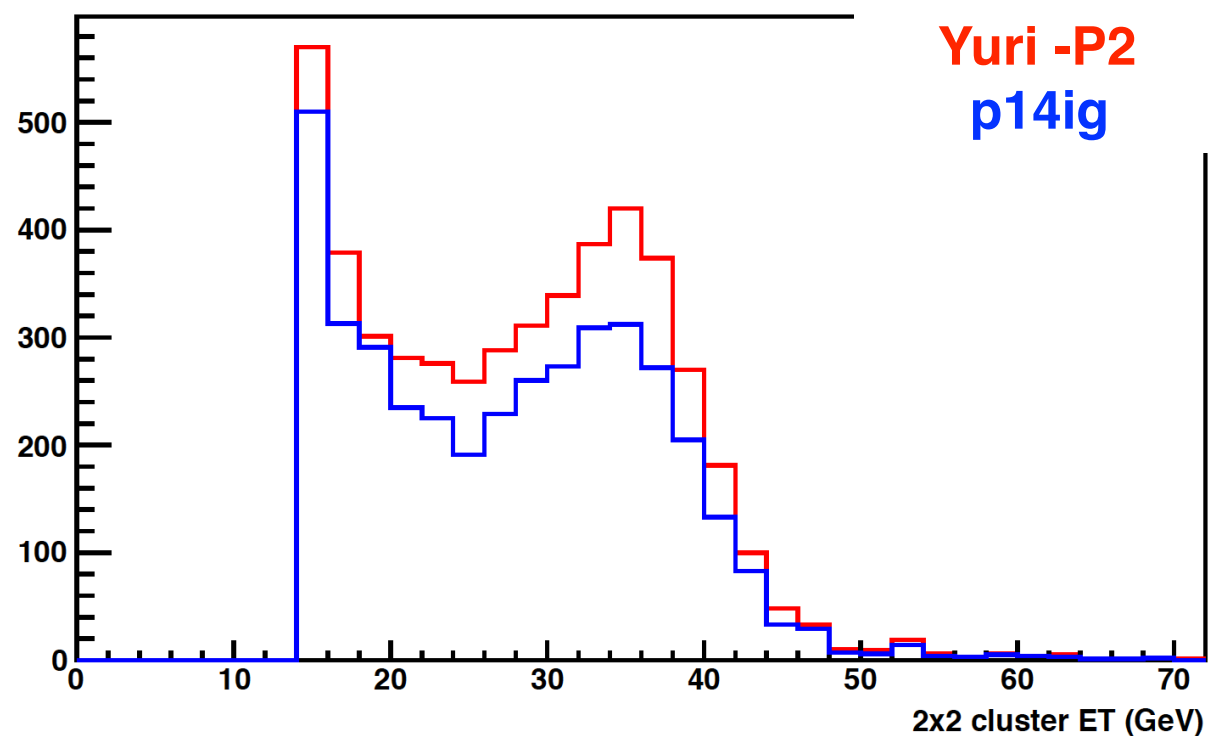


New / Old

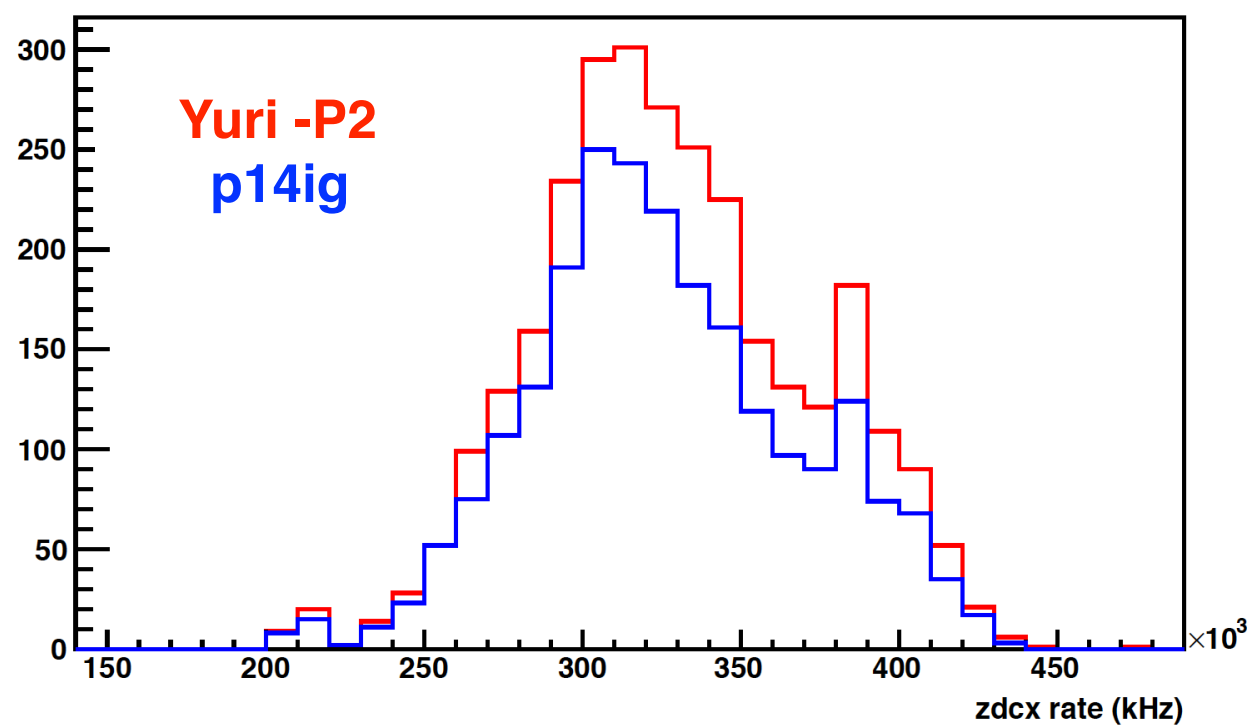


Final W : Et , ZDC

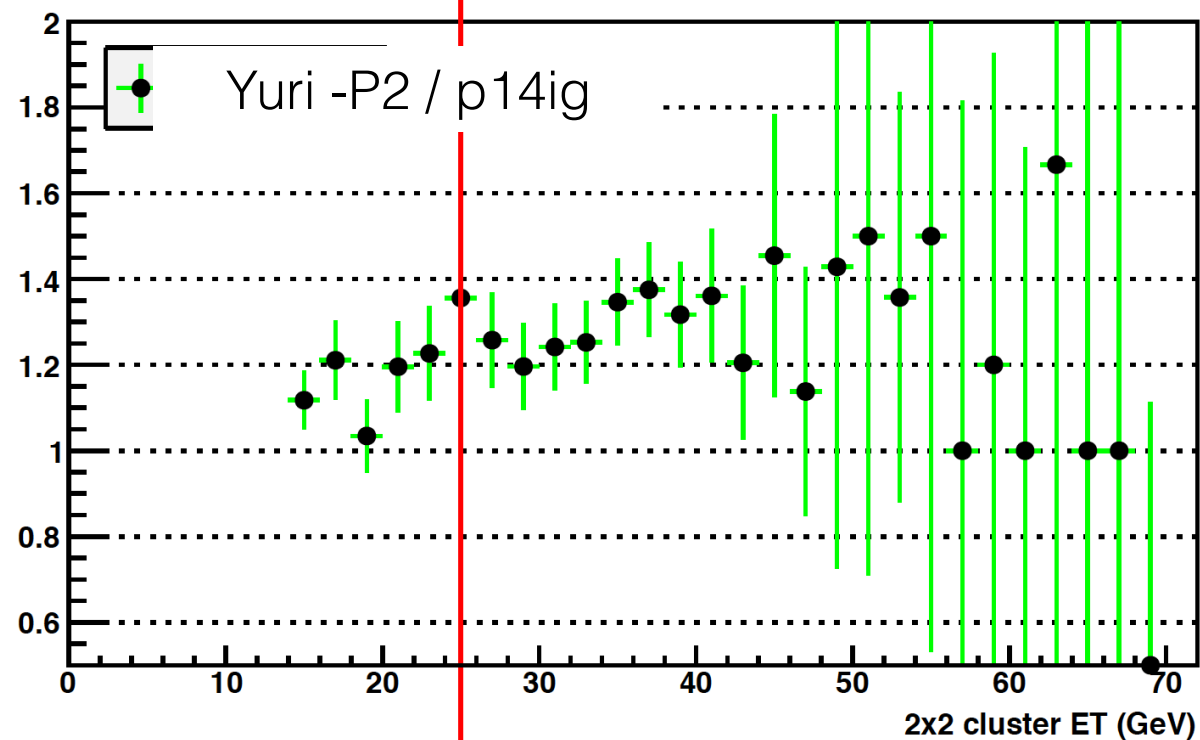
Final W - Et



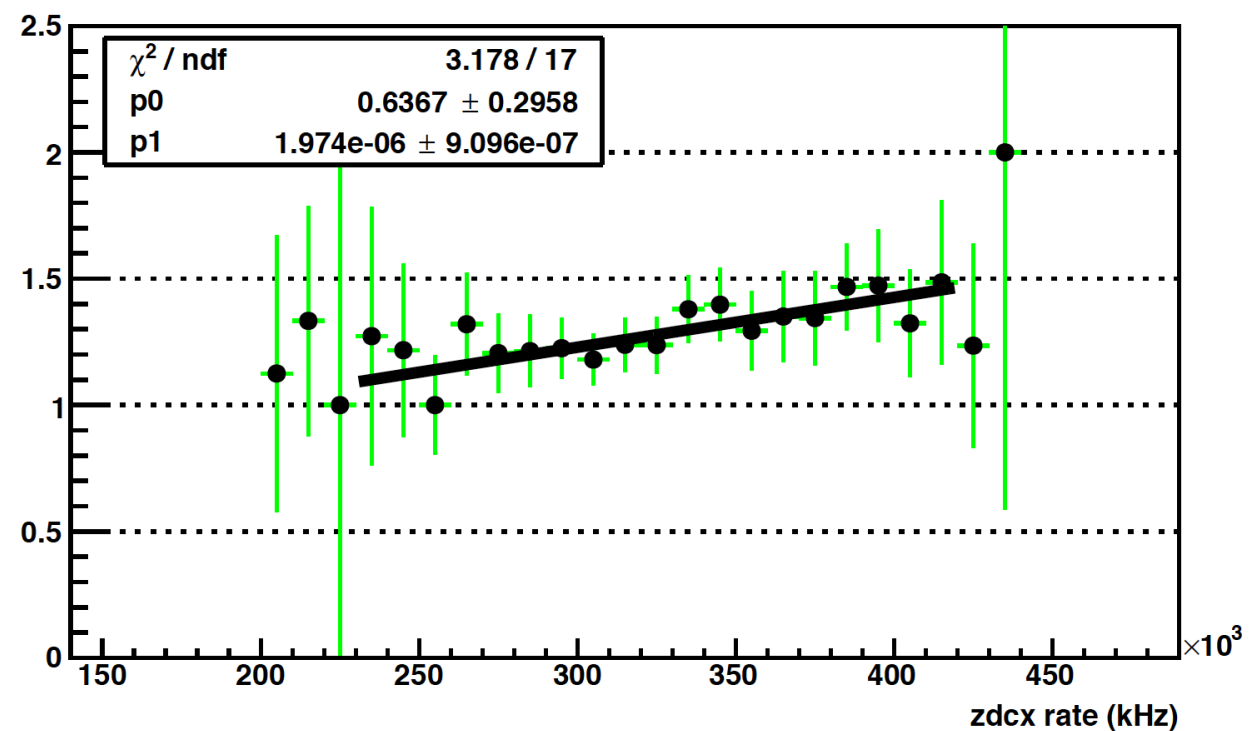
Final W - ZDC



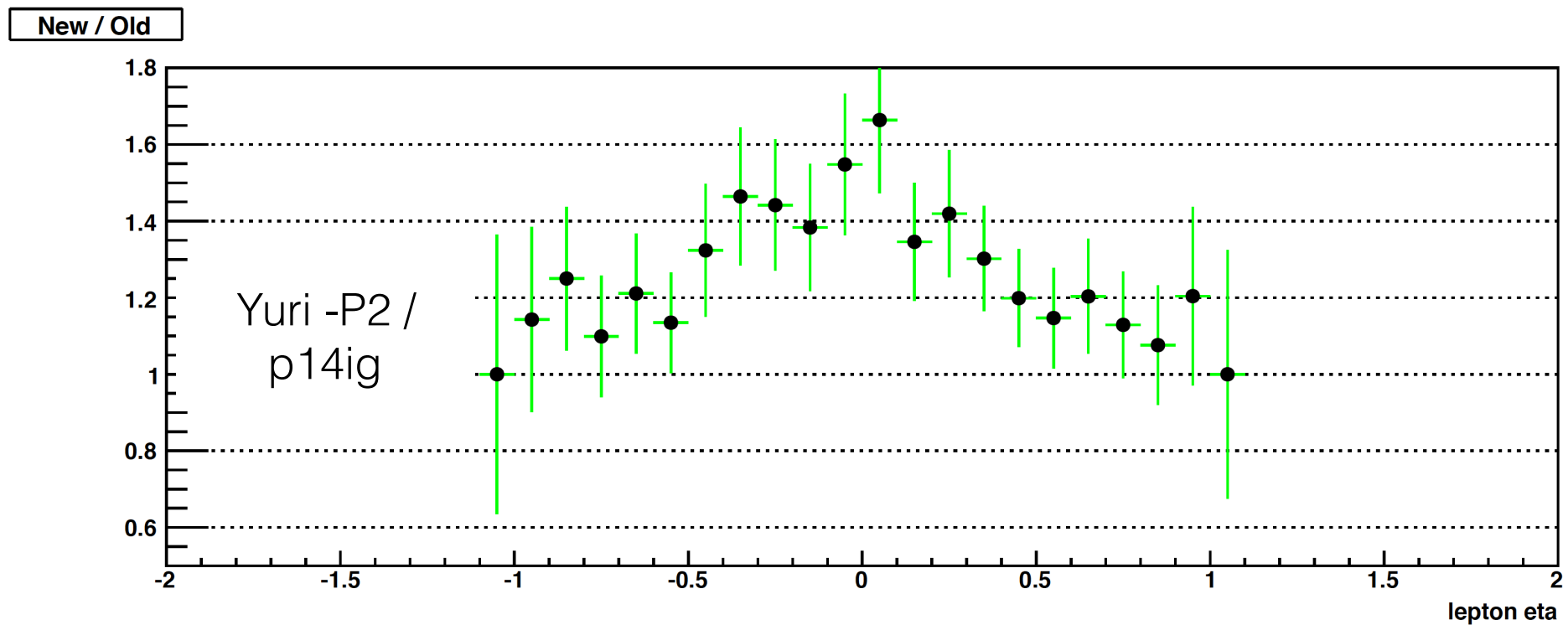
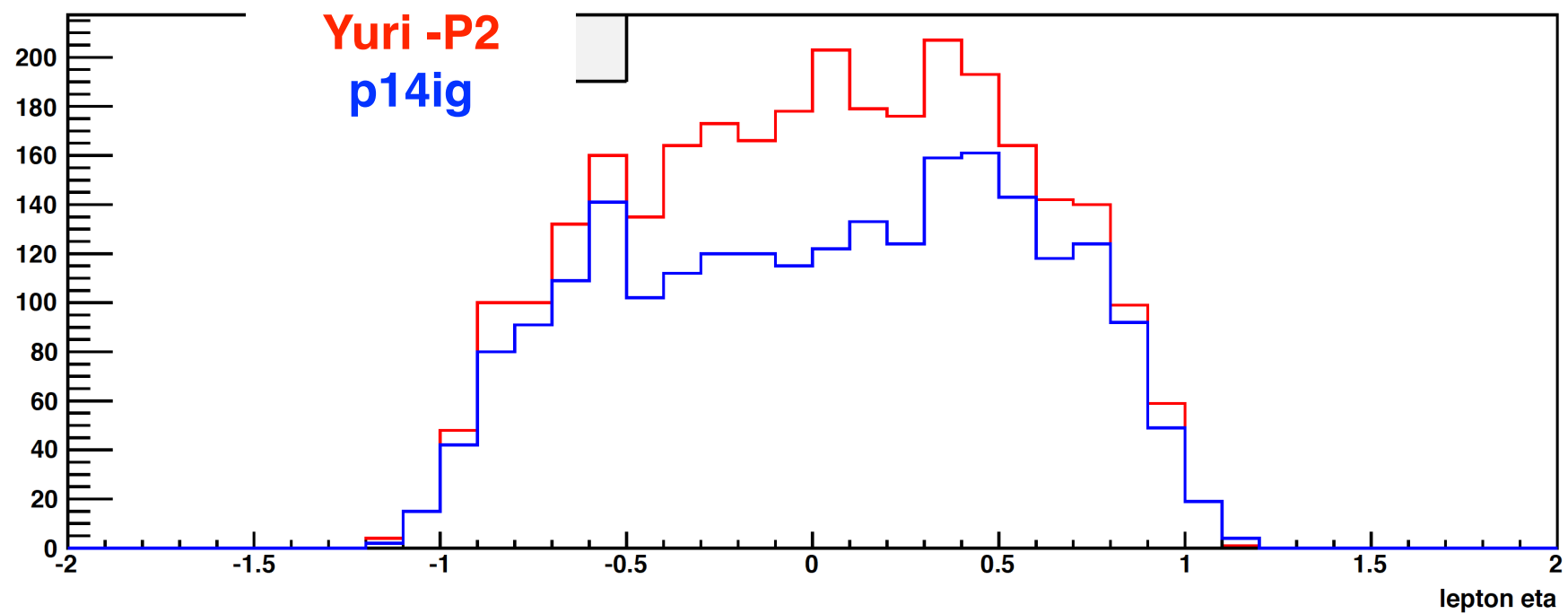
New / Old



Yuri -P2 / p14ig

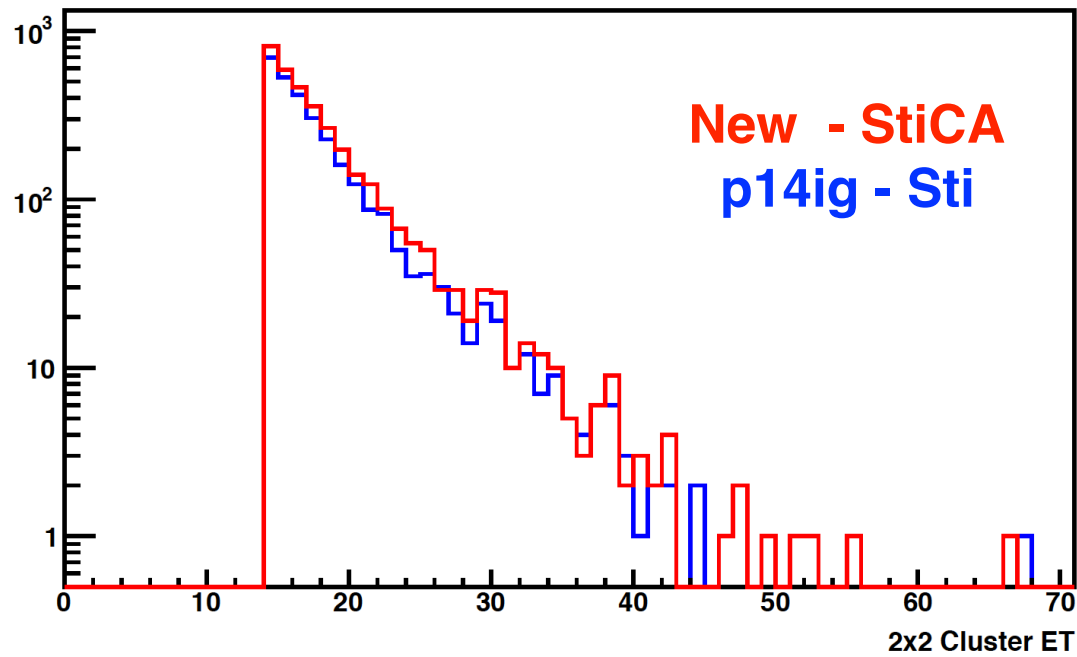


Final W Eta

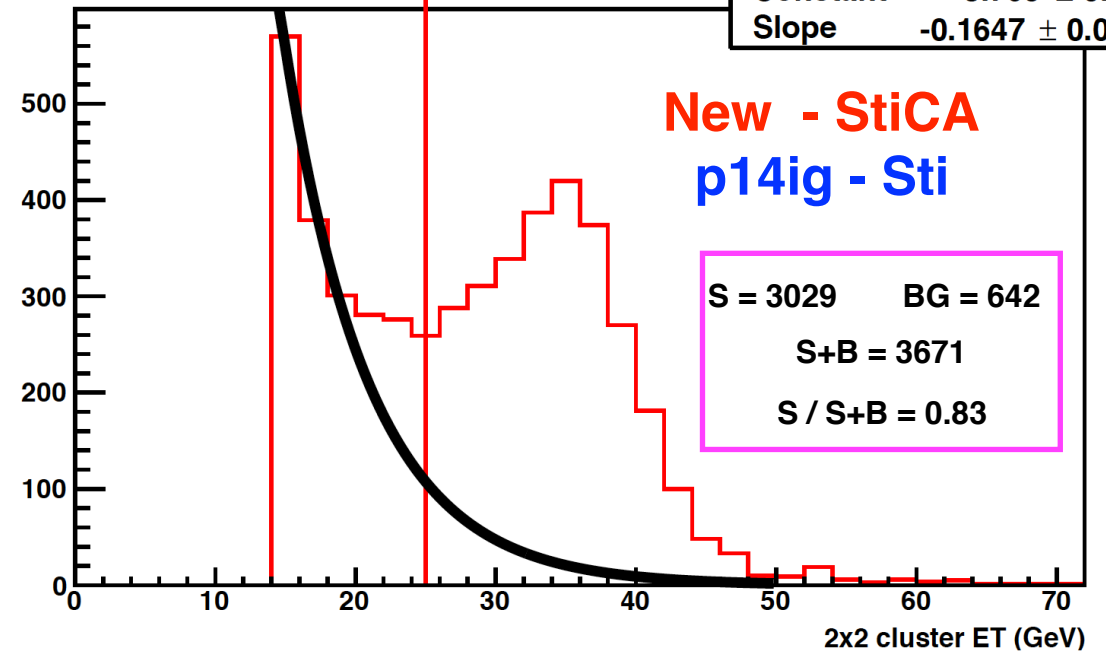


QCD BG

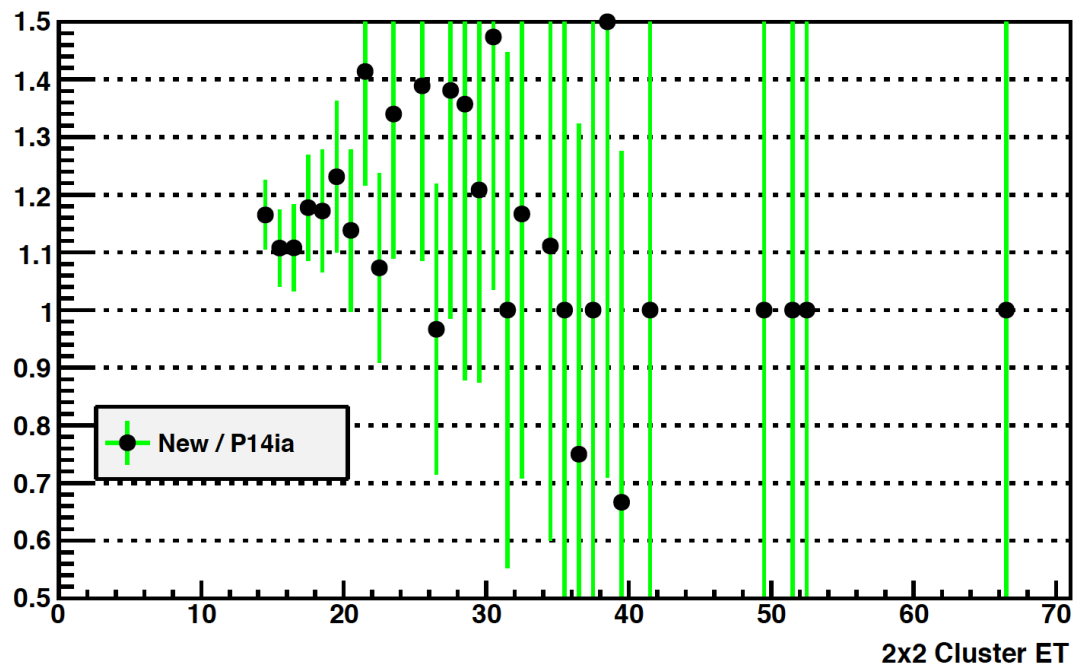
Barrel: PT Balance < 14.0



χ^2 / ndf 2.075 / 1
Constant 8.795 ± 0.308
Slope -0.1647 ± 0.0185

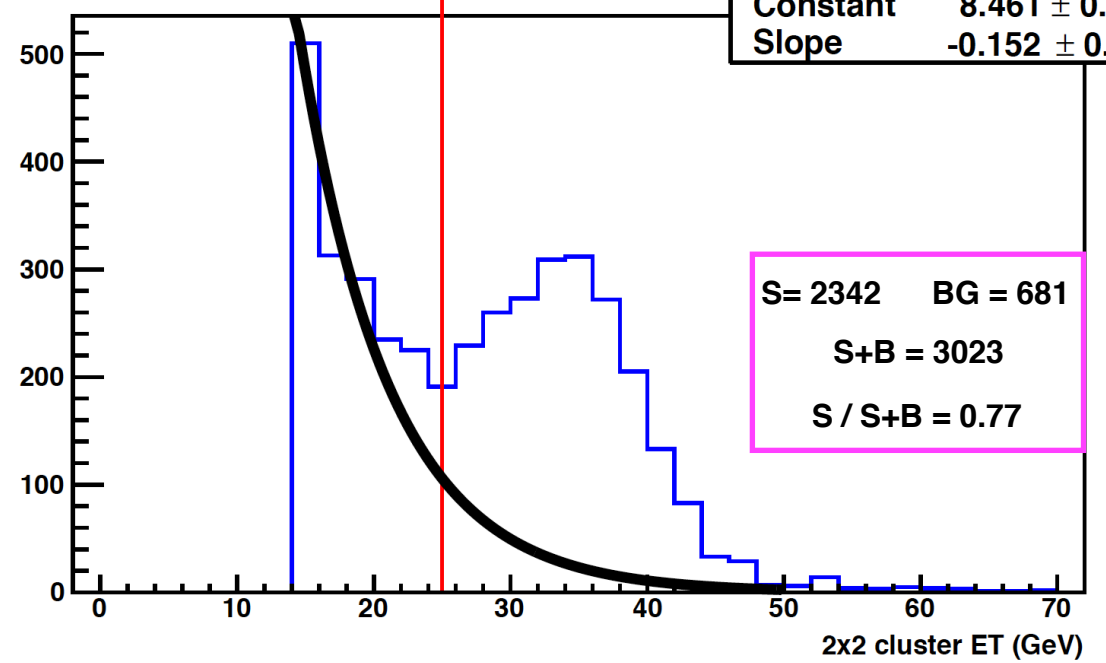


New / Old



Barrel W: Final Selection : 2011Walgo

χ^2 / ndf 10.14 / 1
Constant 8.461 ± 0.346
Slope -0.152 ± 0.021



Summary

- ~29 % enhancement in tracks above $P_t = 10$ GeV and similar enhancement in final W [> 25 GeV] tracks. So this enhancement is since the official run 13 - period 2 production. If a new test production were to made using EVAL for period 2 I would expect enhancement of [29% - ~4%] ~ 25 %.
- Significant enhancement of final W Eta in mid rapidity region where a “dip” was observed previously.
- Significant improvement in signal to background ratio .