Calibration updates

05/26/2015

https://drupal.star.bnl.gov/STAR/system/files/userfiles/3475/05-12-15-updates-trigger-options(2).pdf

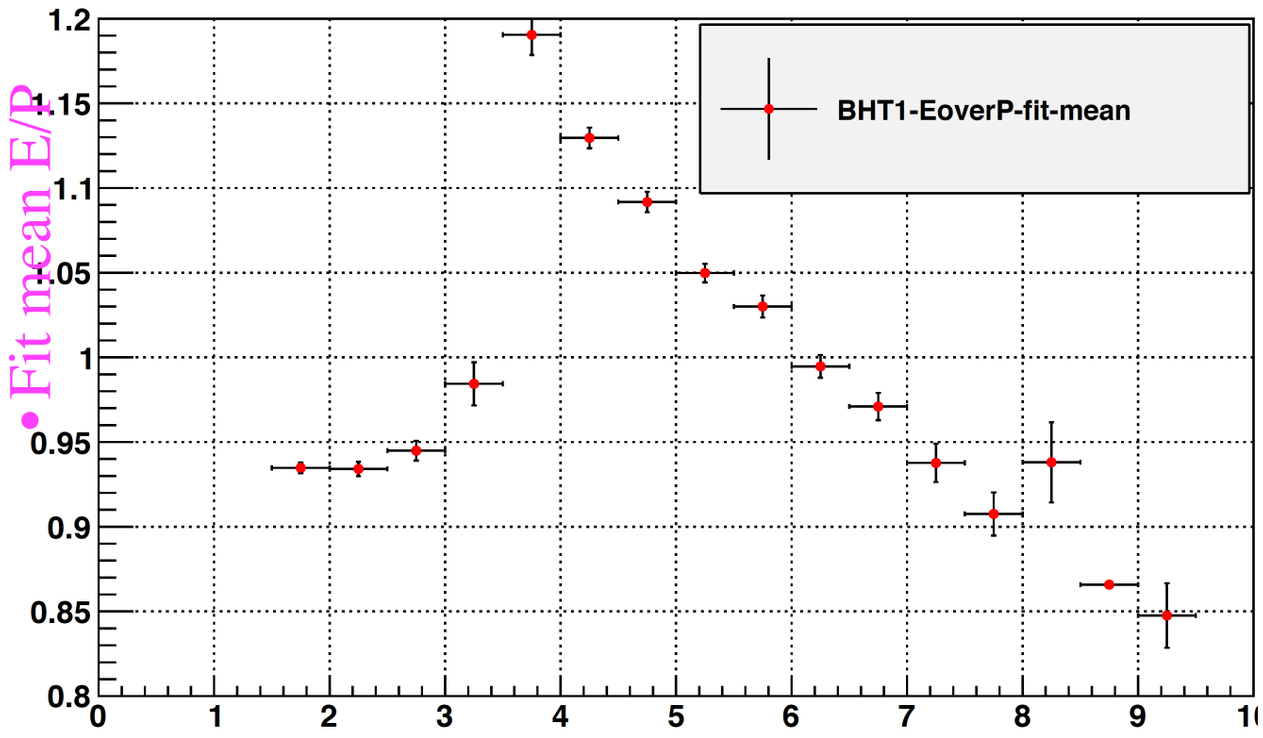
https://drupal.star.bnl.gov/STAR/system/files/userfiles/3475/cuts-05-11-15(6).pdf

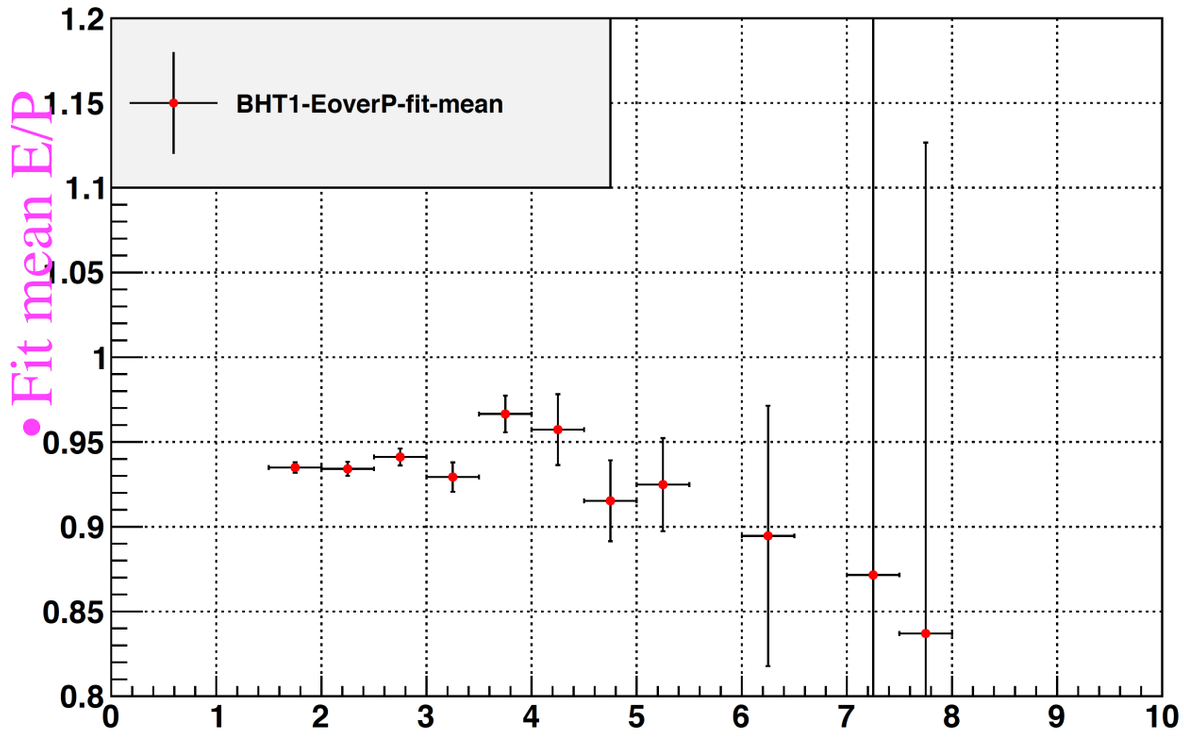
BHT1 Trigger

- *if(!triggerFire(BHT0) && triggerFire(BHT1) && !triggerFire(BHT2) && !triggerFire(BHT3) && !triggerFire(JP2))*

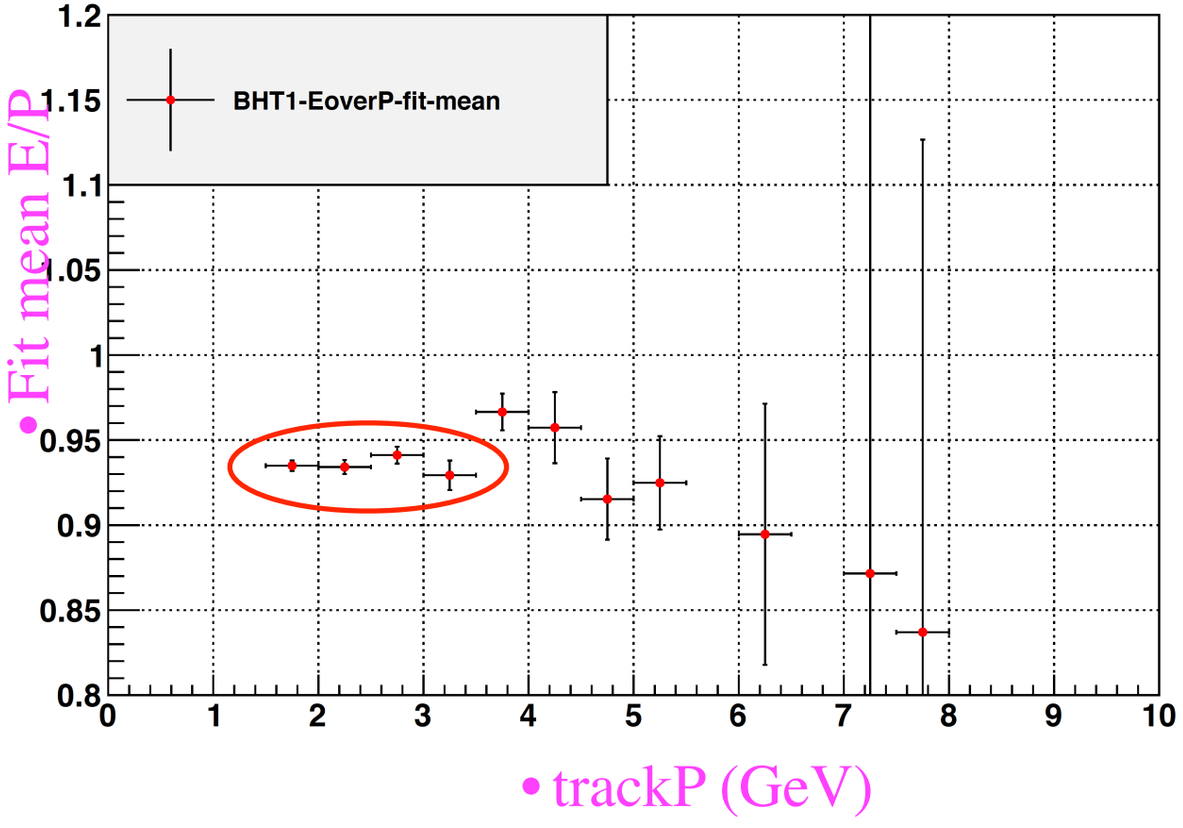
- **Trigger Threshold = 4.2**

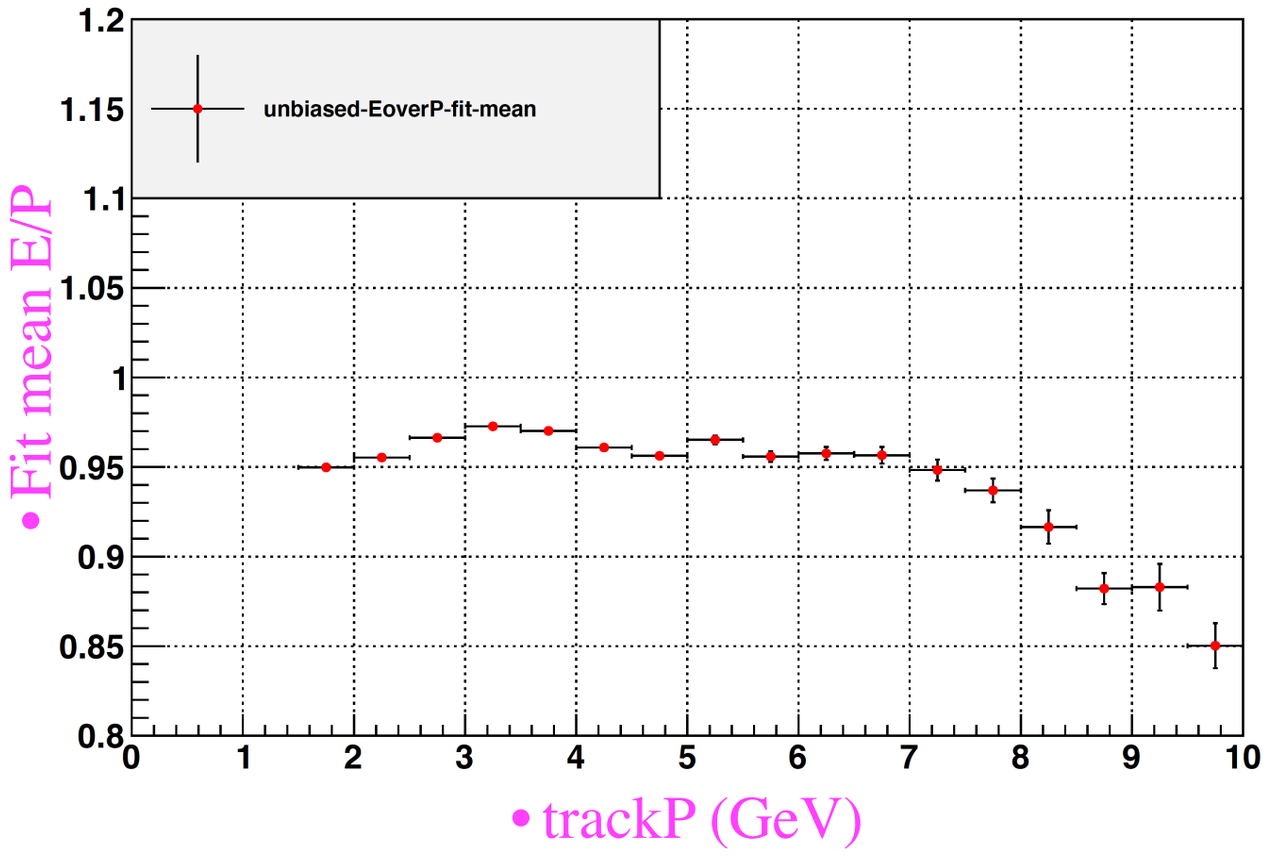
- **Matched tracks are Excluded !!**

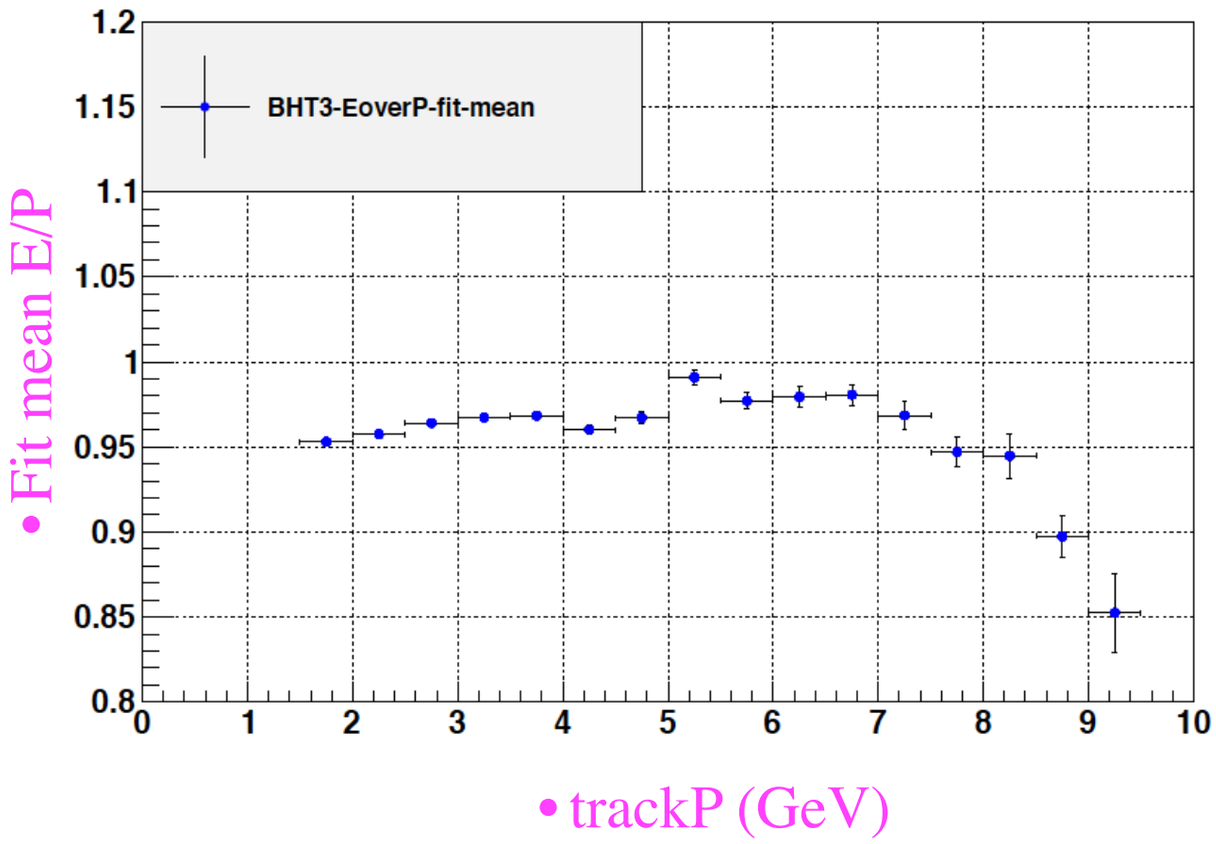


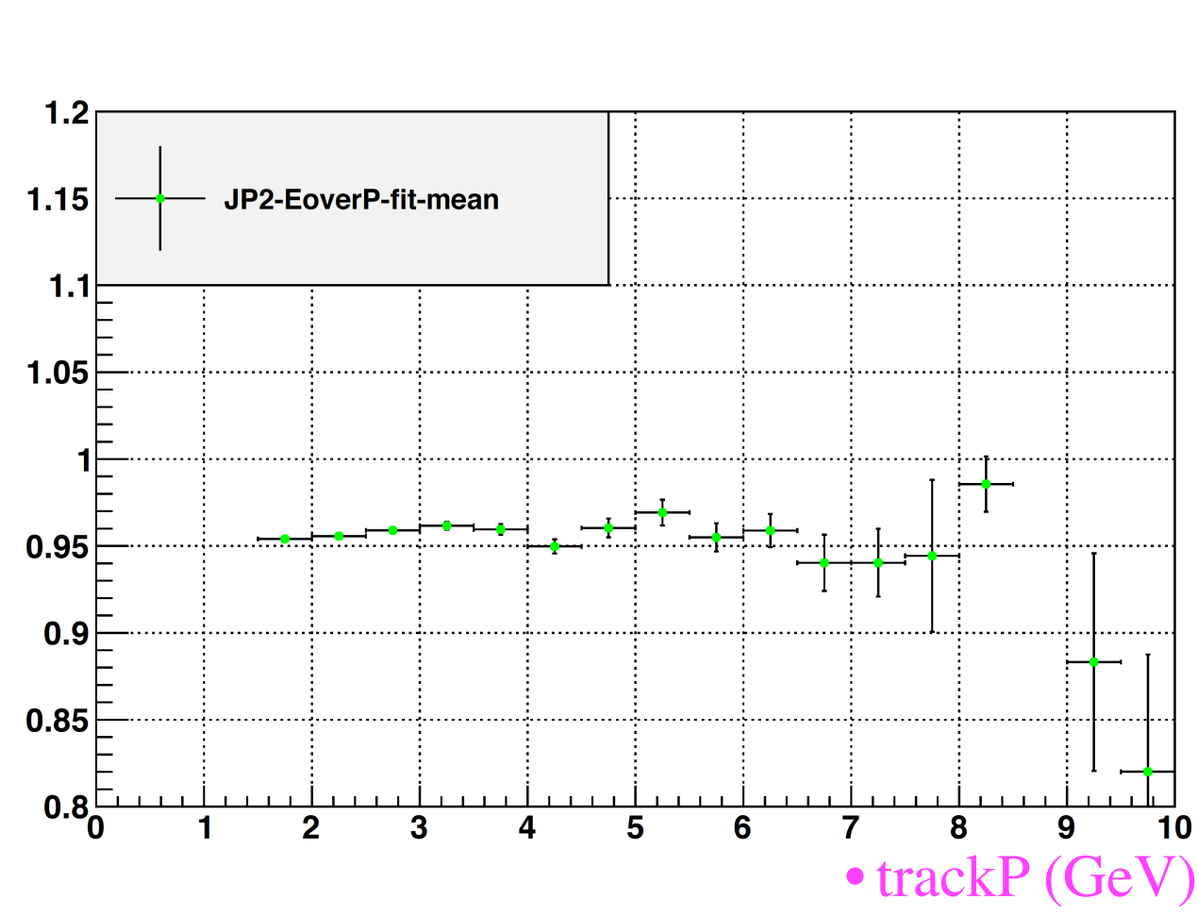


- When Matched tracks are **included** significant momentum dependance of E/P above the threshold value.
- Will not use since lower <E/P> compared to other triggers.


BHT1-EoverP-fit-mean
• Fit mean E/P
• trackP (GeV)

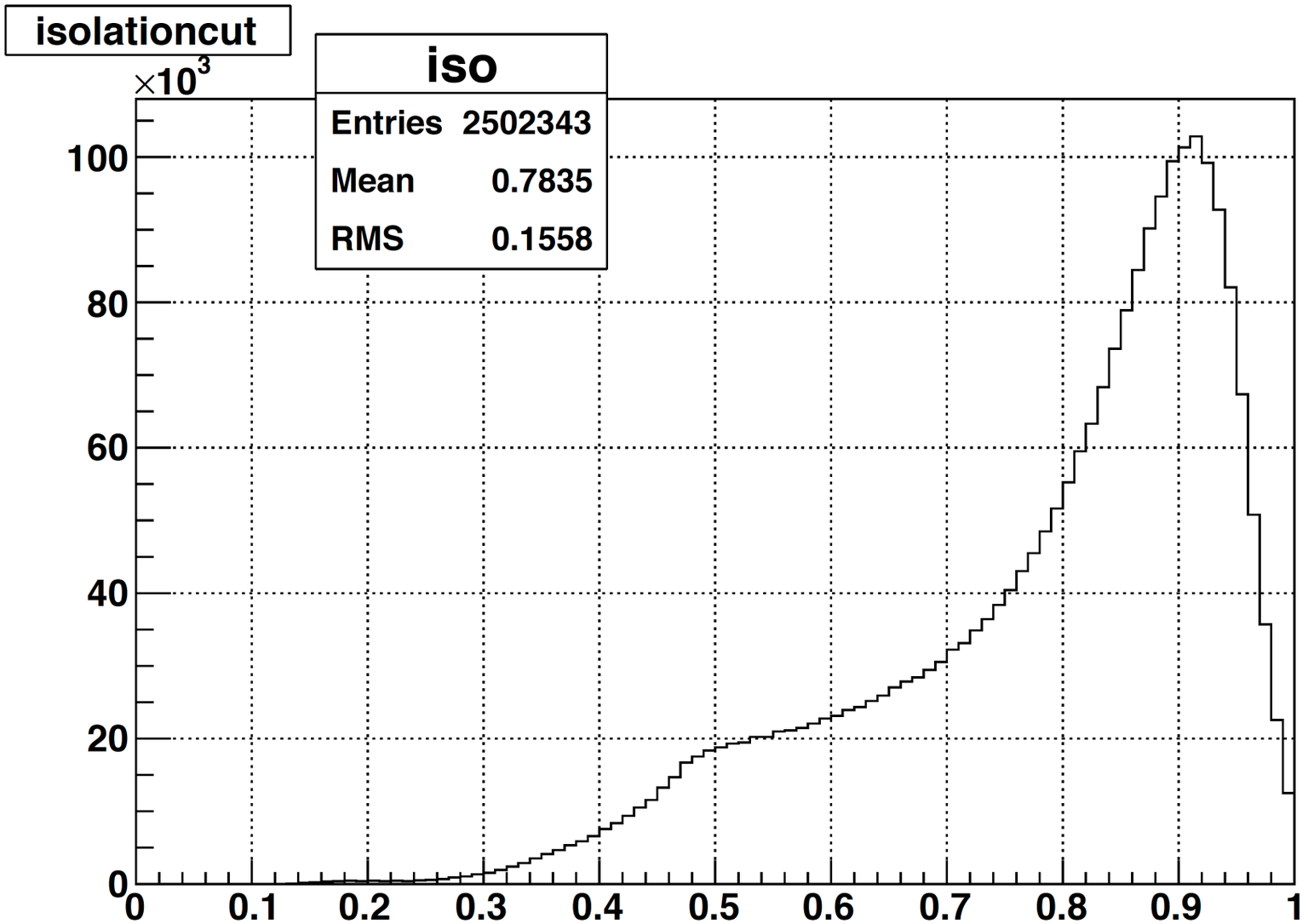

unbiased-EoverP-fit-mean
• Fit mean E/P
• trackP (GeV)


BHT3-EoverP-fit-mean
• Fit mean E/P
• trackP (GeV)

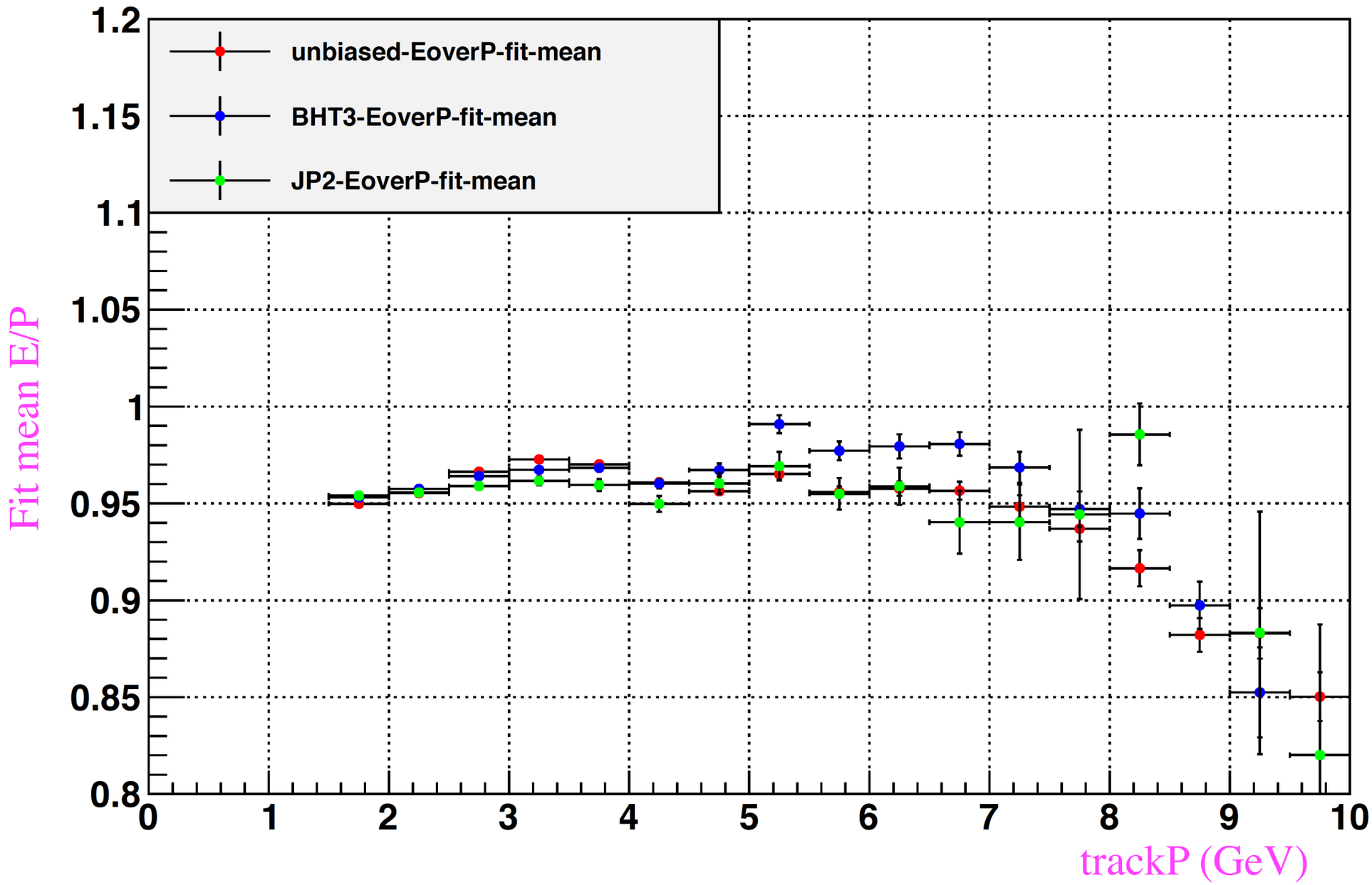

JP2-EoverP-fit-mean
• Fit mean E/P
• trackP (GeV)

Isolation cuts

Matched Tracks are NOT excluded here!!

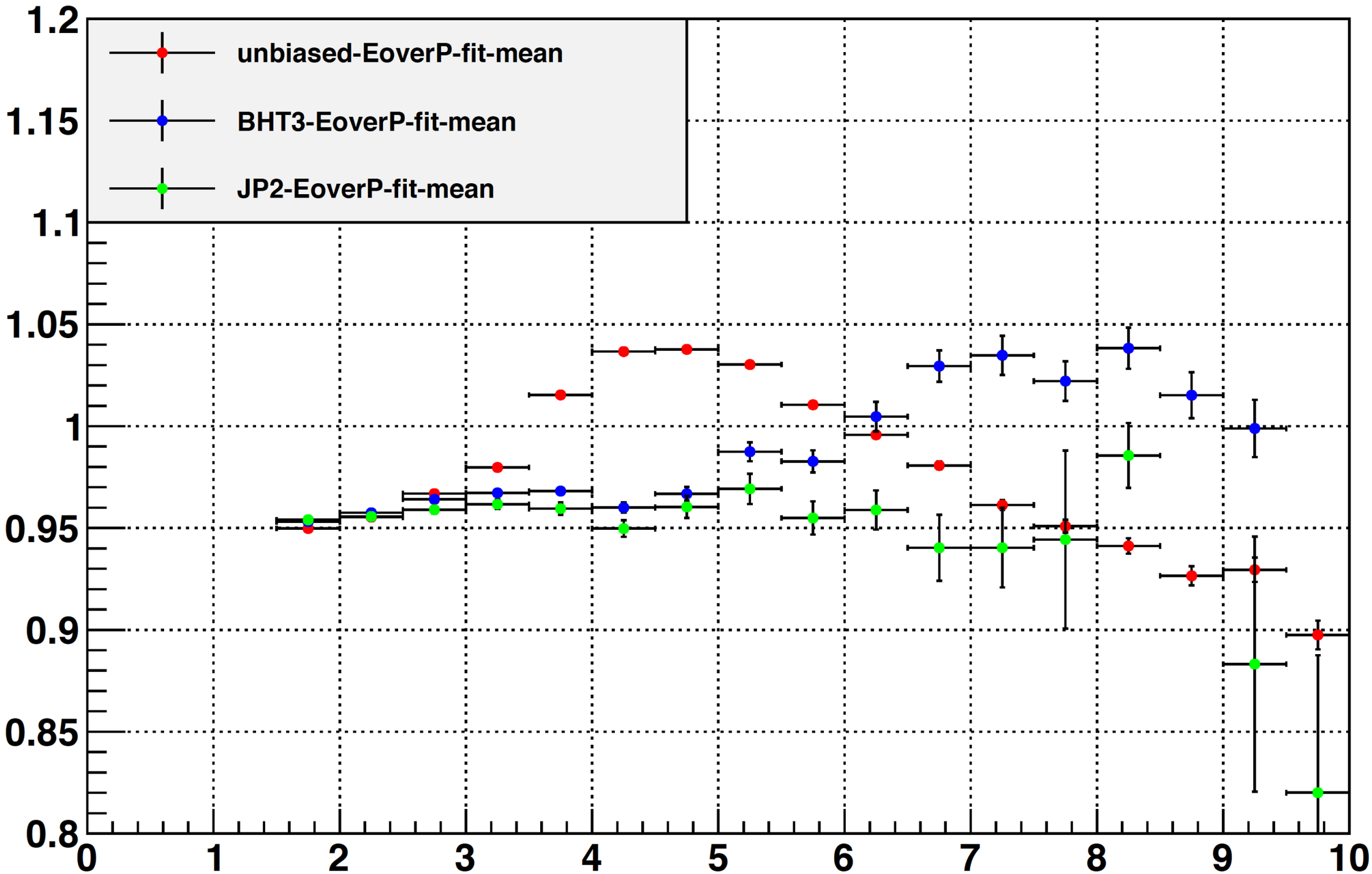


Unbiased, JP2, BHT3 after Matched Tracks are Excluded!

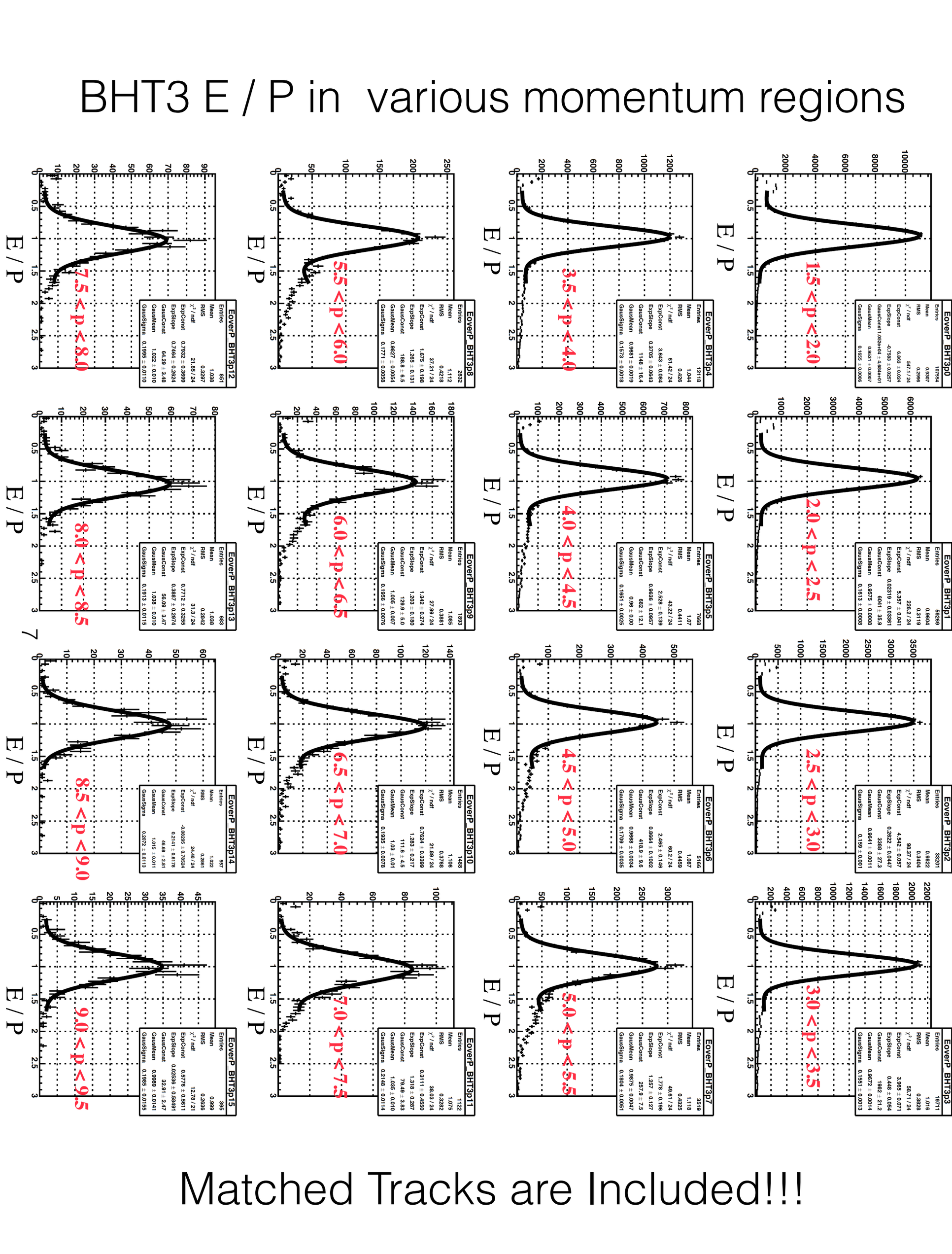


- It is obvious that Tower Matched Tracks should be excluded to avoid trigger biases and to have stable E/P
- We have enough statistics only from Unbiased, JP2, BHT3 triggers

- All Events (Matched+Unmatched Tracks)

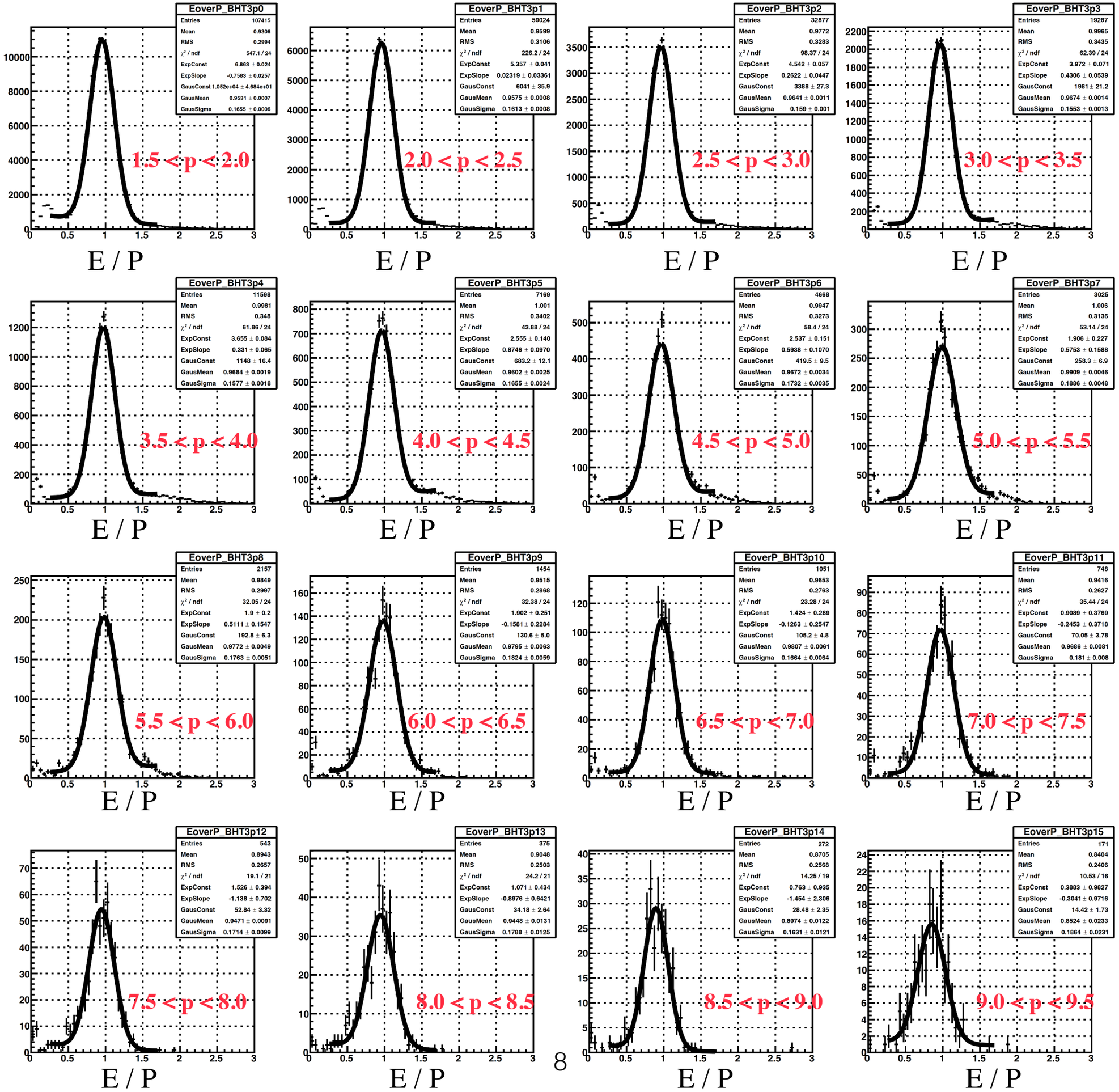


BHT3 E / P in various momentum regions



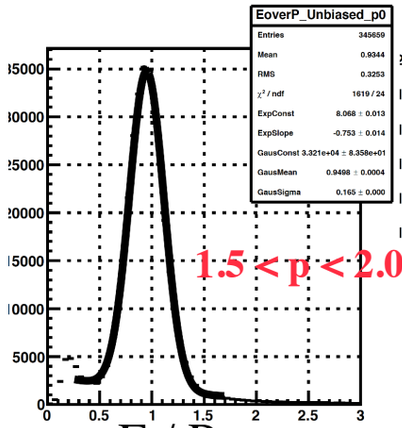
Matched Tracks are Included!!!

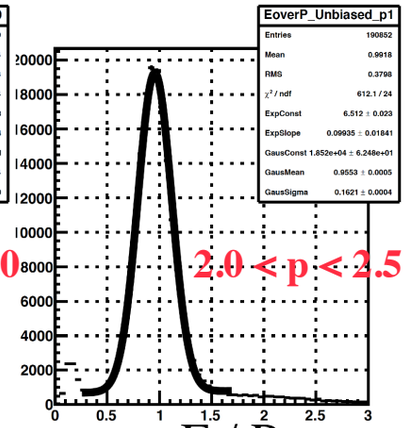
BHT3 E / P in various momentum regions

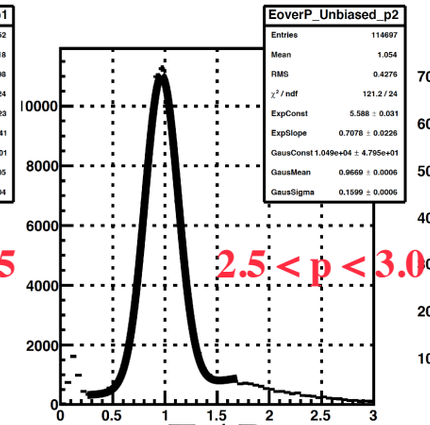


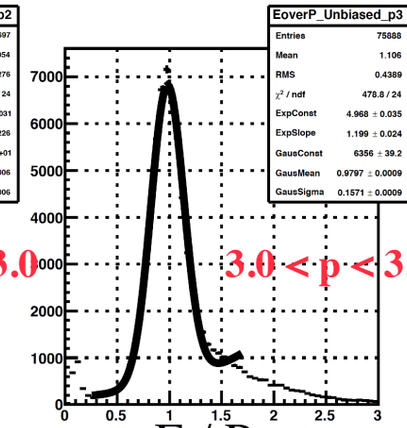
Matched Tracks are Removed!!!

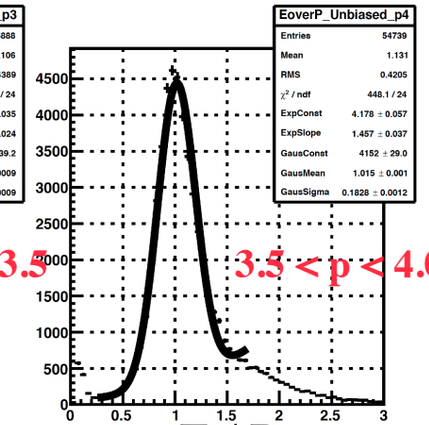
Unbiased E / P in various momentum regions

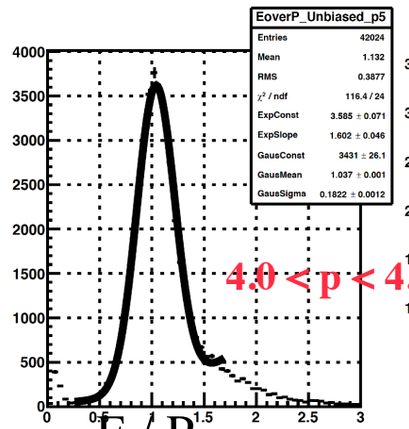


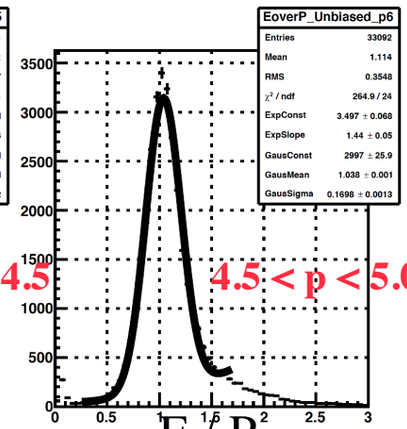


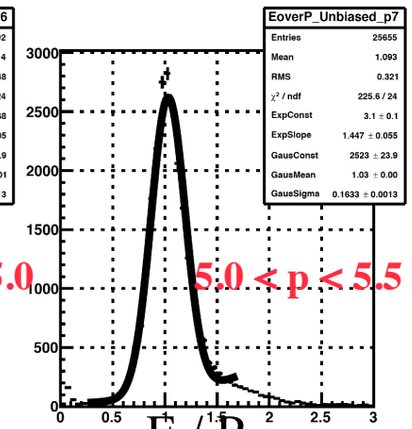


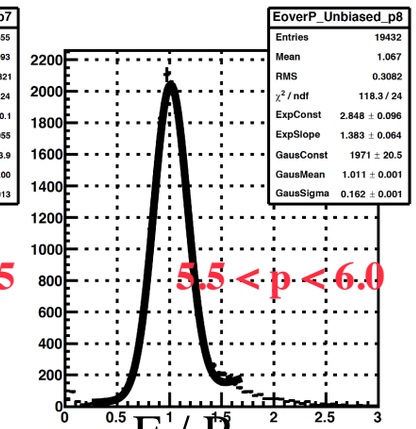


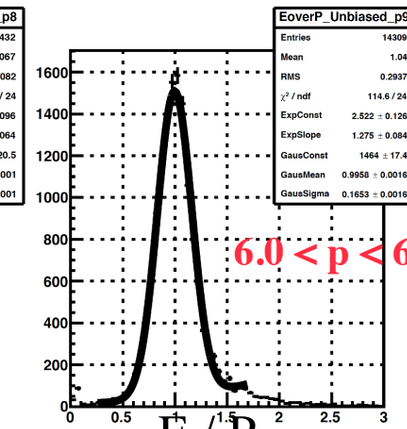


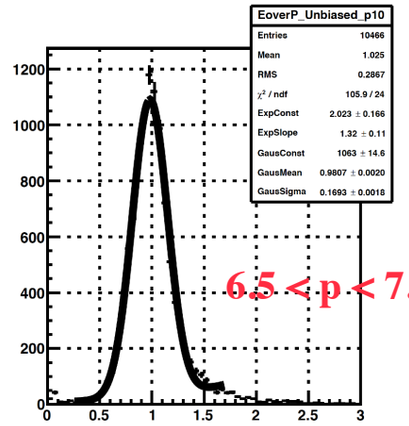


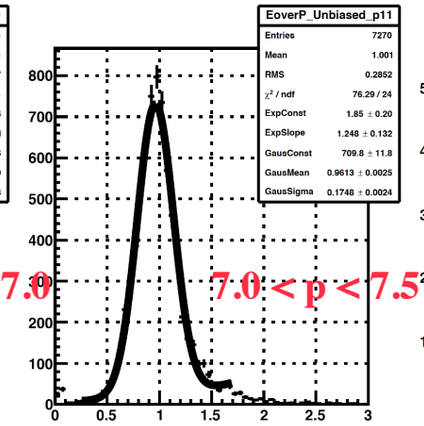


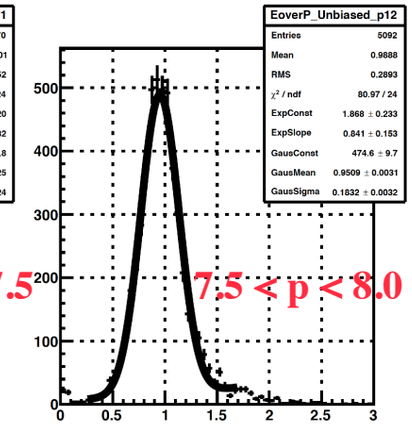


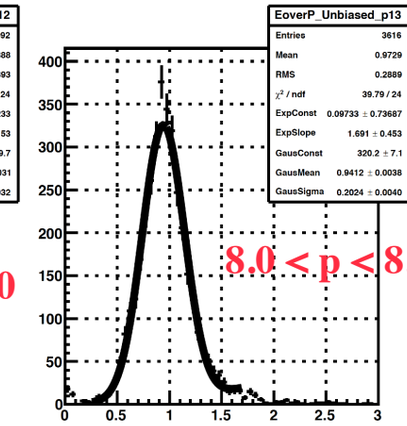


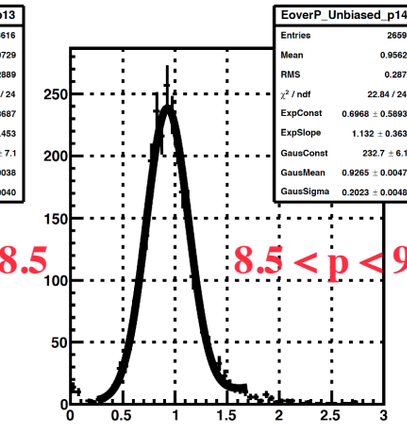


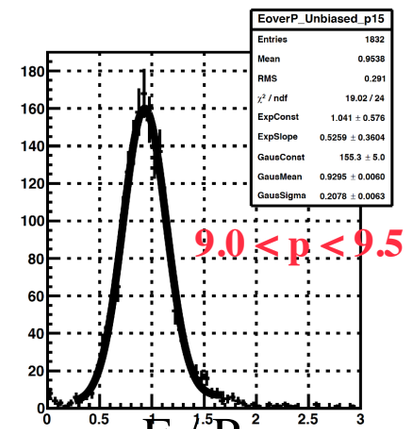


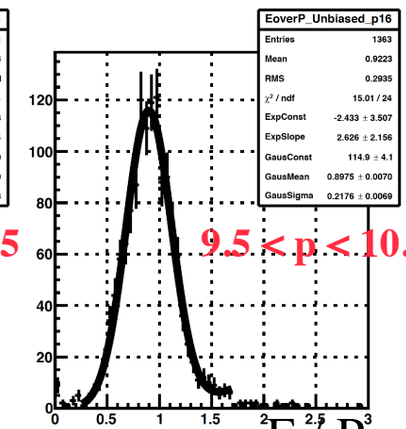






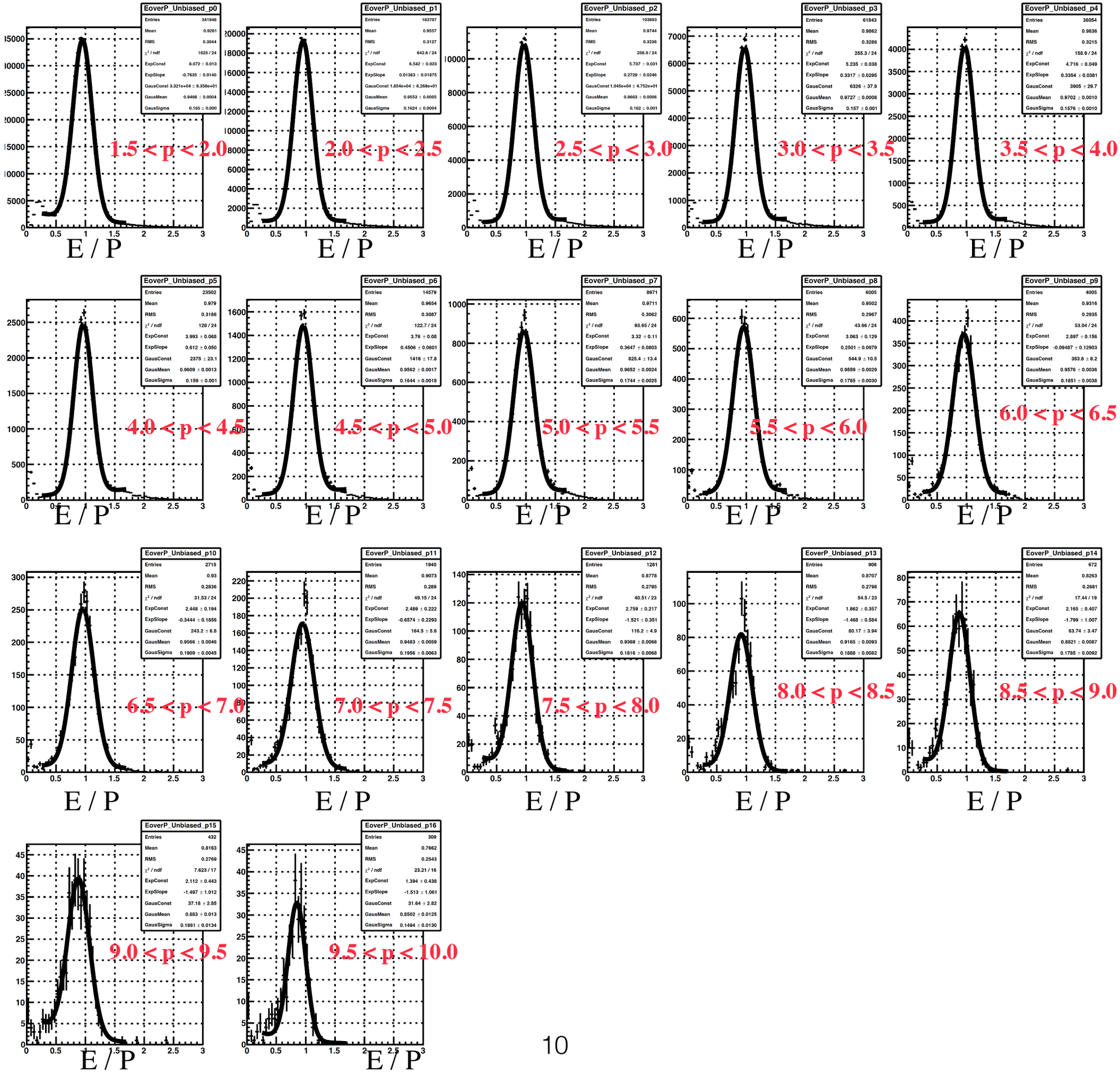






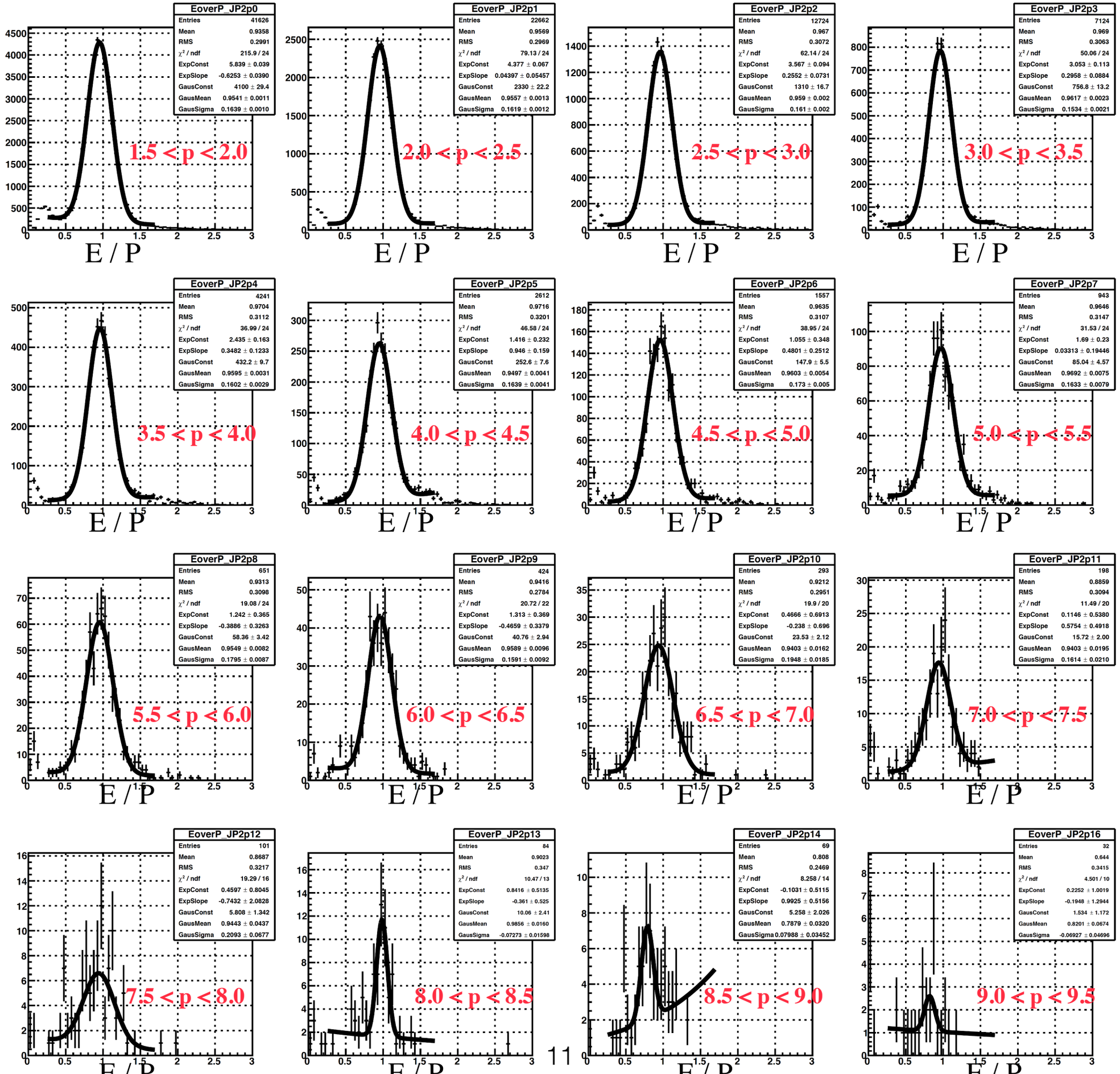
Matched Tracks are Included!!!

Unbiased E / P in various momentum regions

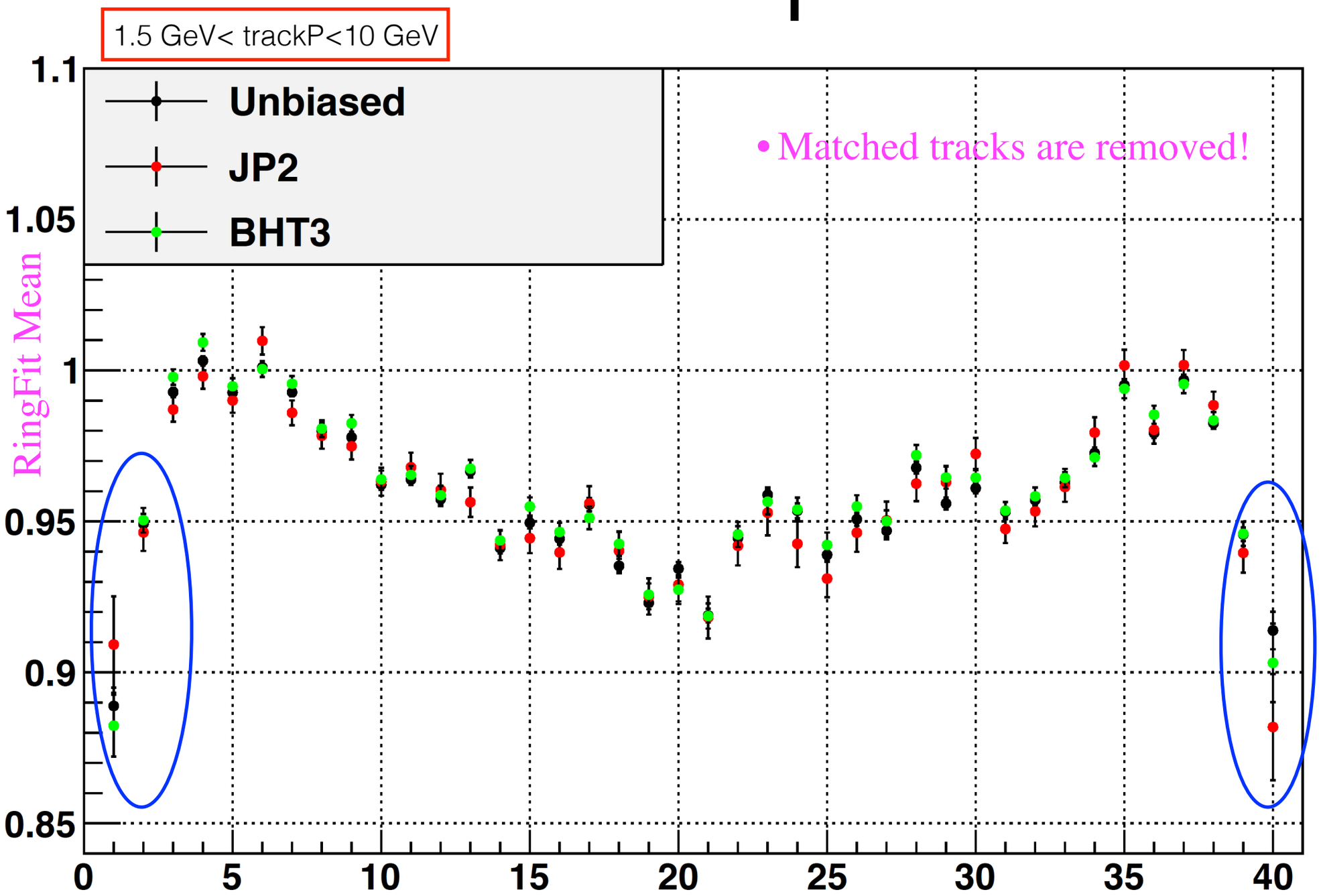


Matched Tracks are Removed!!!

JP2 E / P in various momentum regions



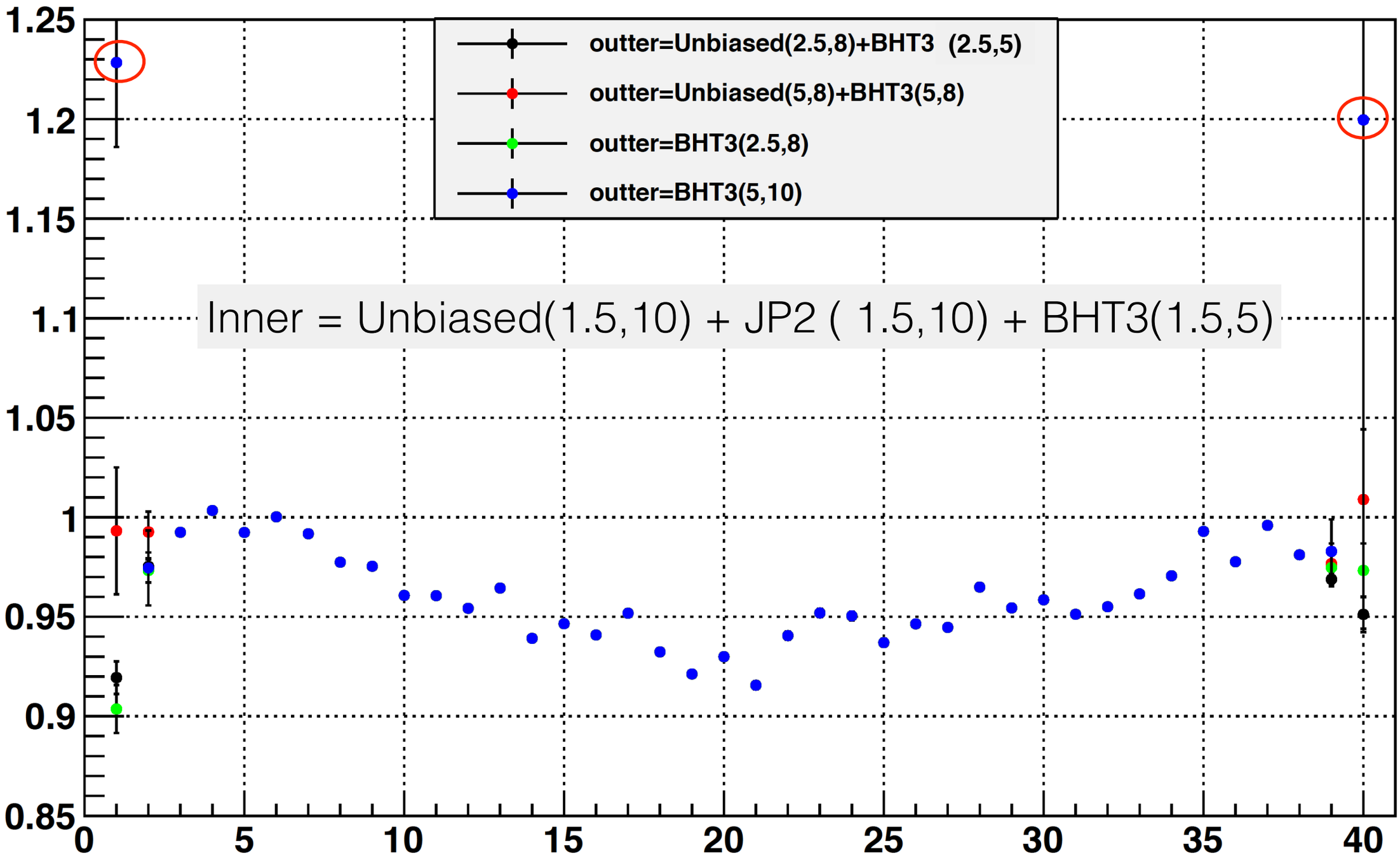
Eta Dependance

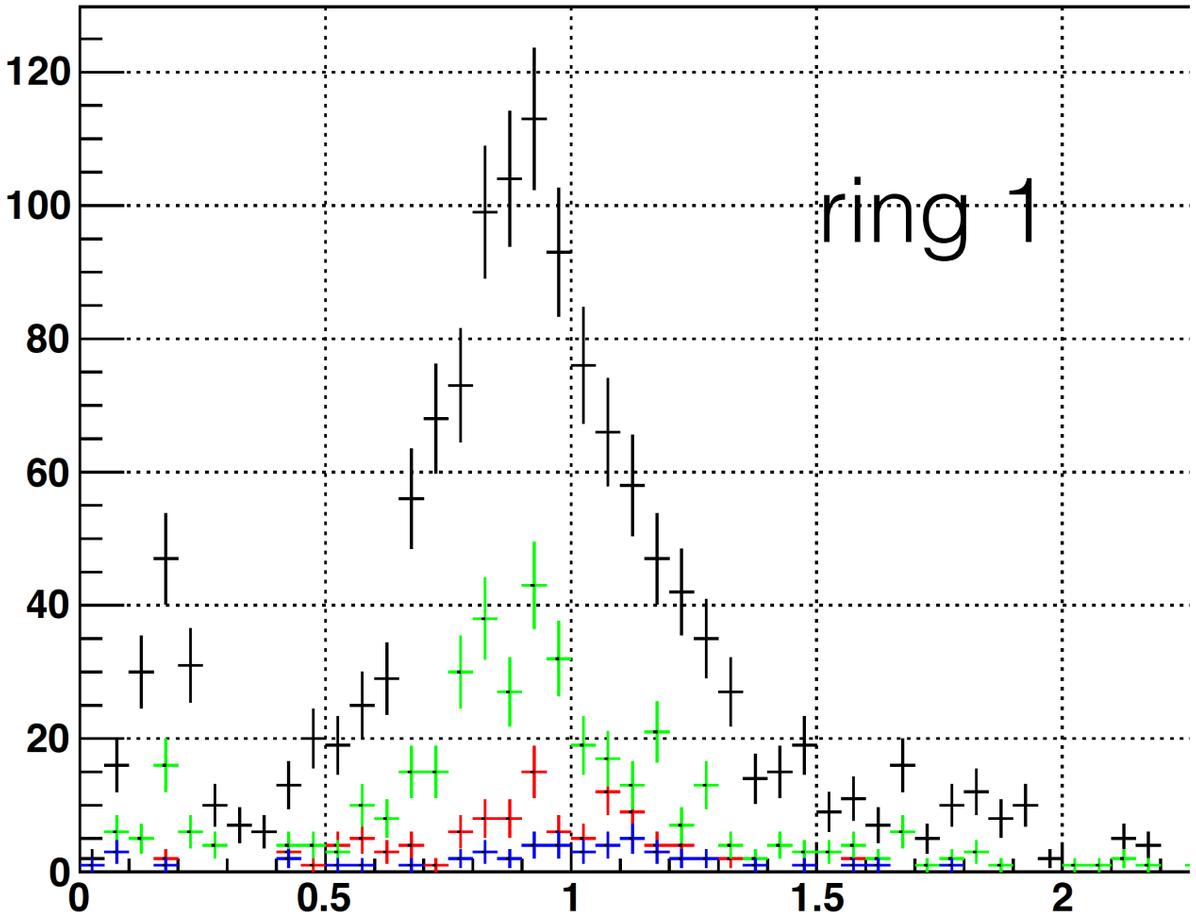


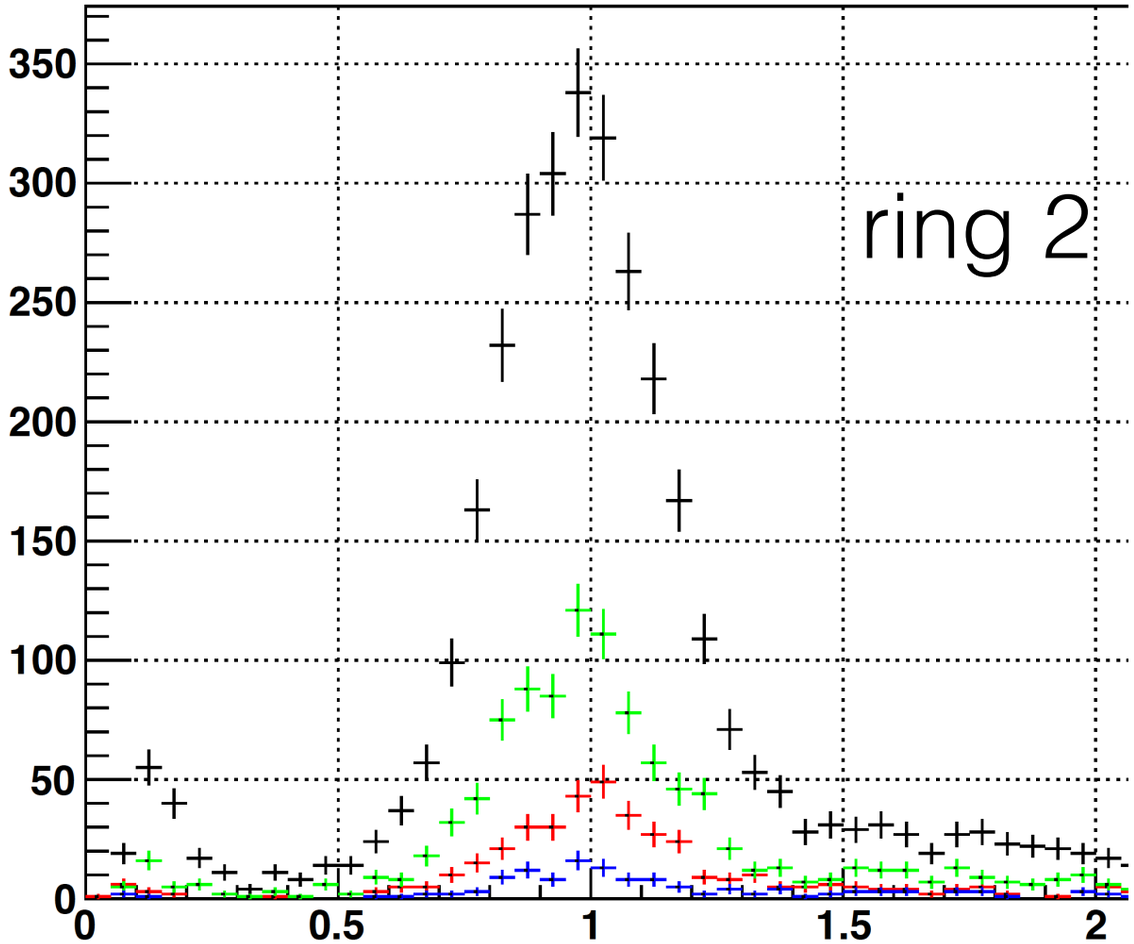
- All 3 triggers shows similar Eta dependance.
- Outermost 2 Eta rings (each side) shows systematically low <E/P>.
- Some cuts shows significant impact in forward eta rings.

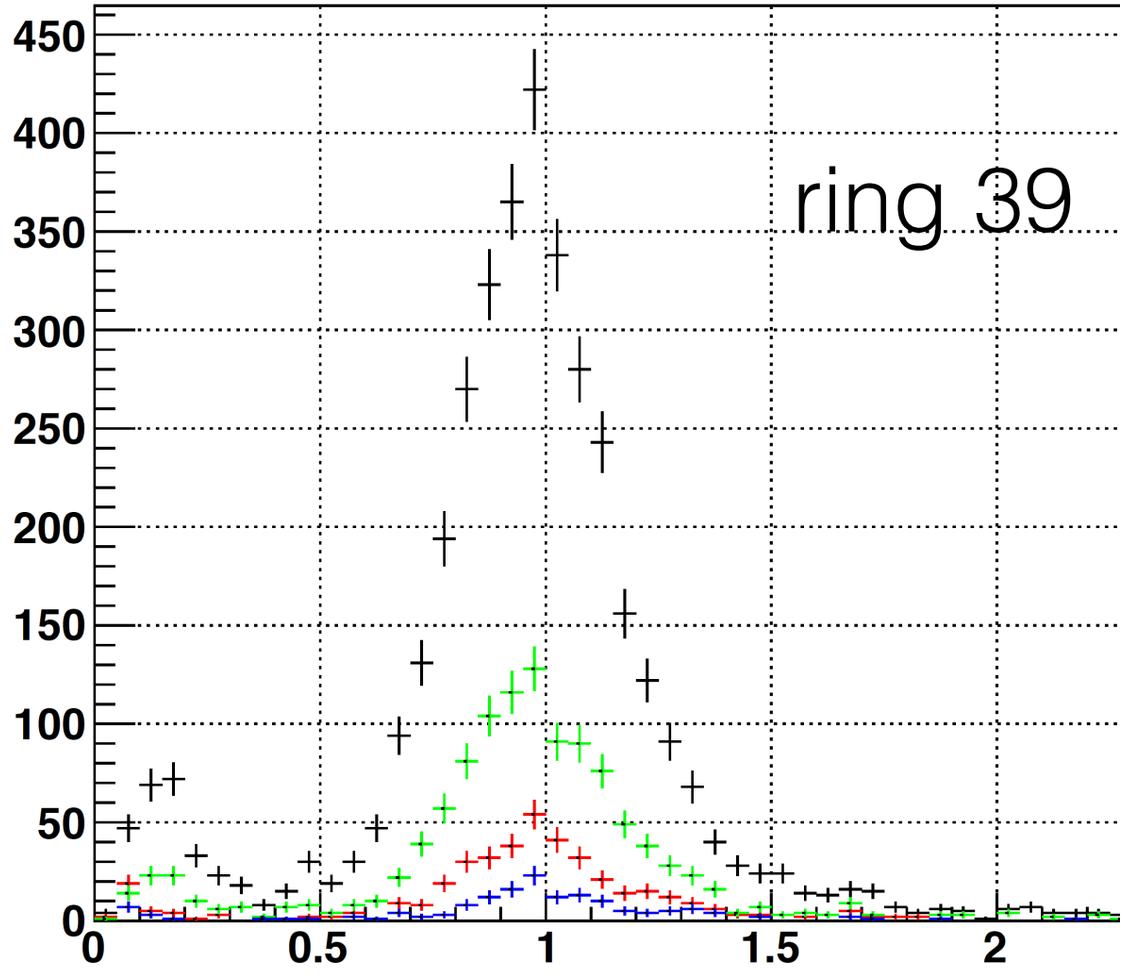
ringIndex	Eta
1	-0.975
2	-0.925
3	-0.875
4	-0.825
5	-0.775
6	-0.725
7	-0.675
8	-0.625
9	-0.575
10	-0.525
11	-0.475
12	-0.425
13	-0.375
14	-0.325
15	-0.275
16	-0.225
17	-0.175
18	-0.125
19	-0.075
20	-0.025
21	0.025
22	0.075
23	0.125
24	0.175
25	0.225
26	0.275
27	0.325
28	0.375
29	0.425
30	0.475
31	0.525
32	0.575
33	0.625
34	0.675
35	0.725
36	0.775
37	0.825
38	0.875
39	0.925
40	0.975

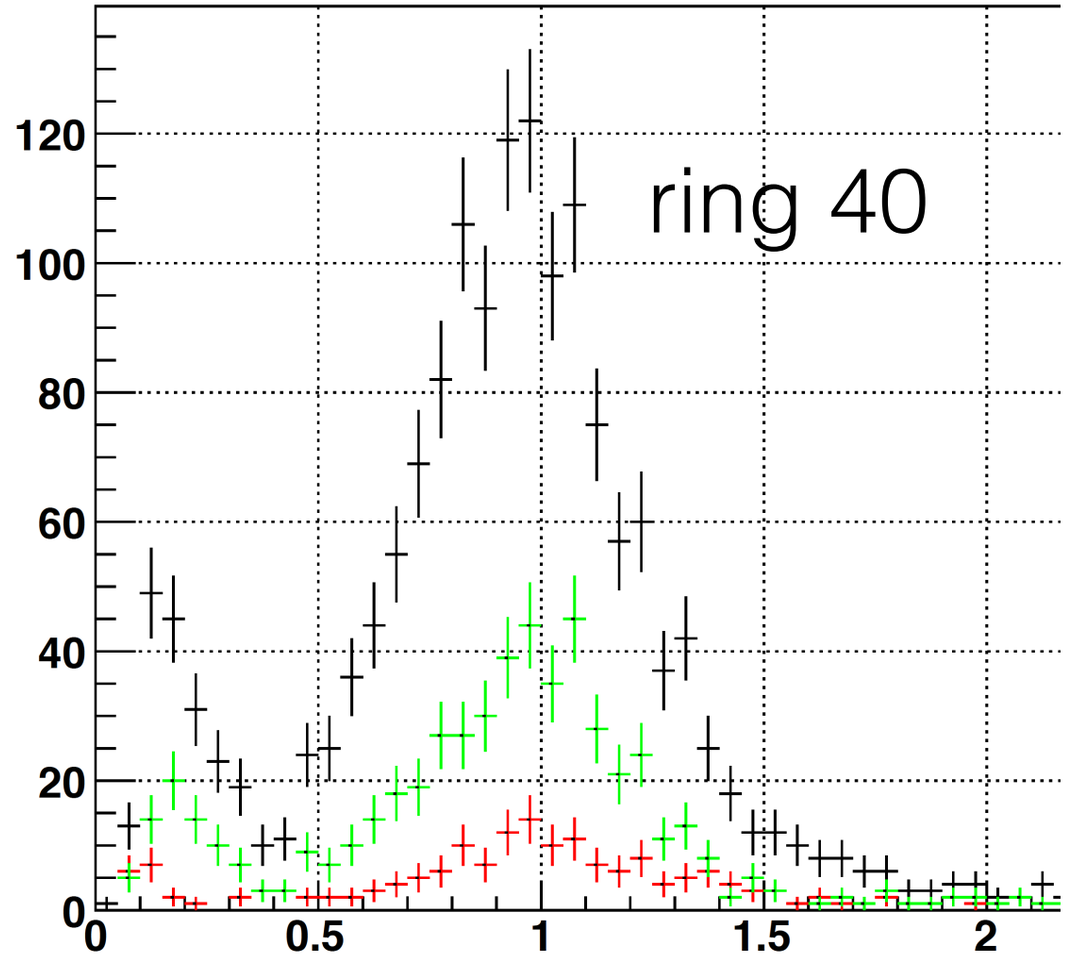
Trigger Options based on eta region



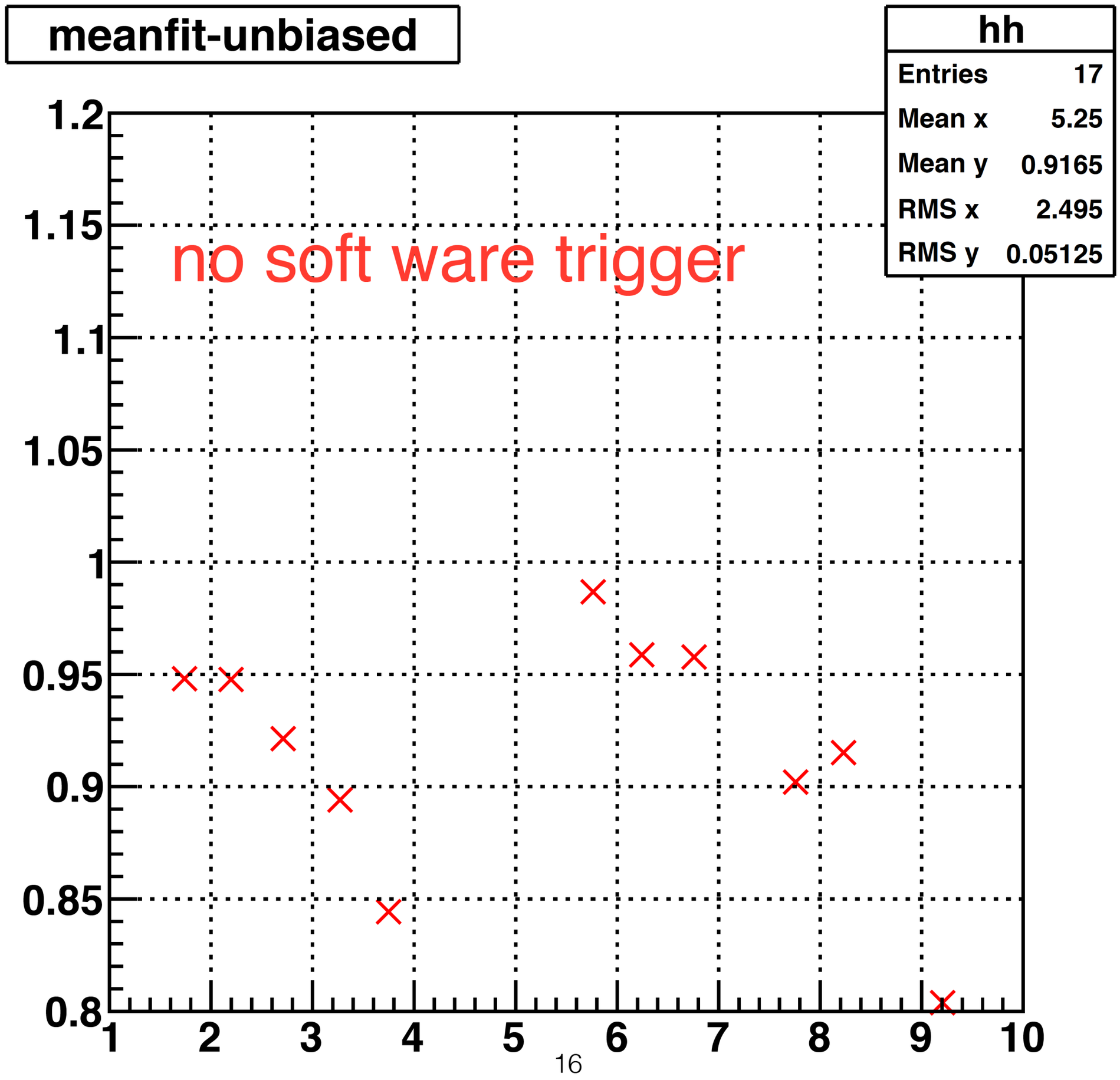

ring 1


ring 2

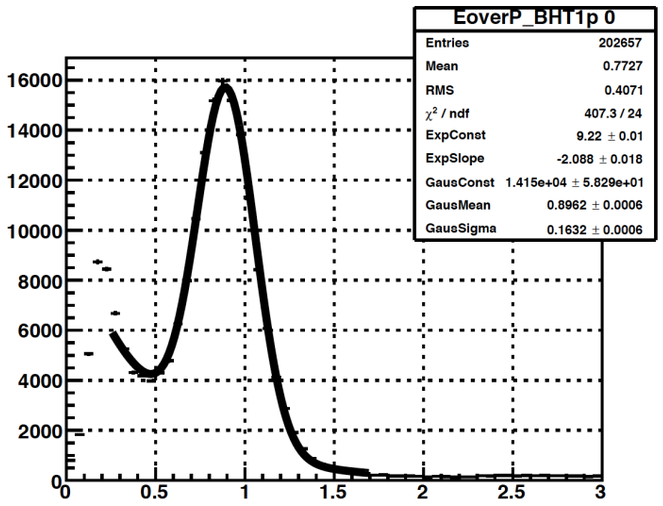

ring 39

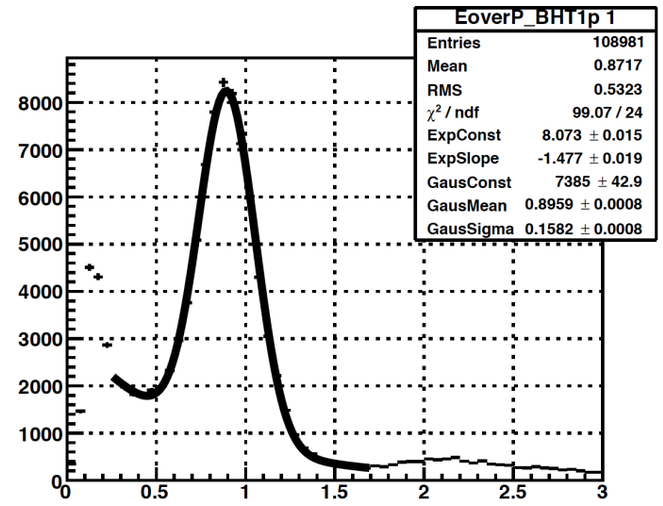

ring 40

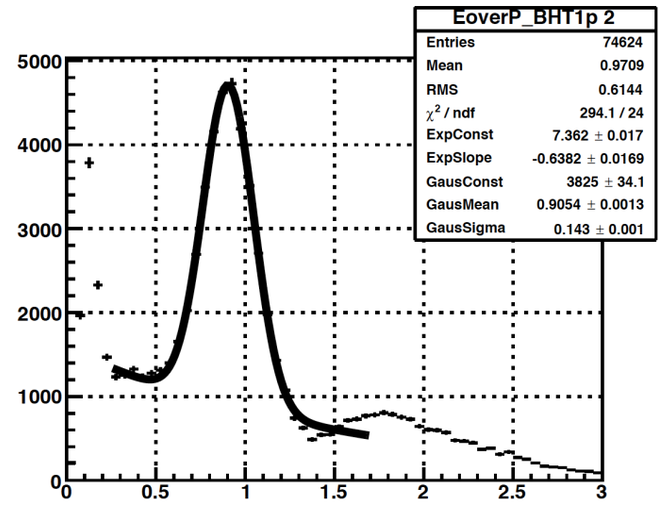
Backup

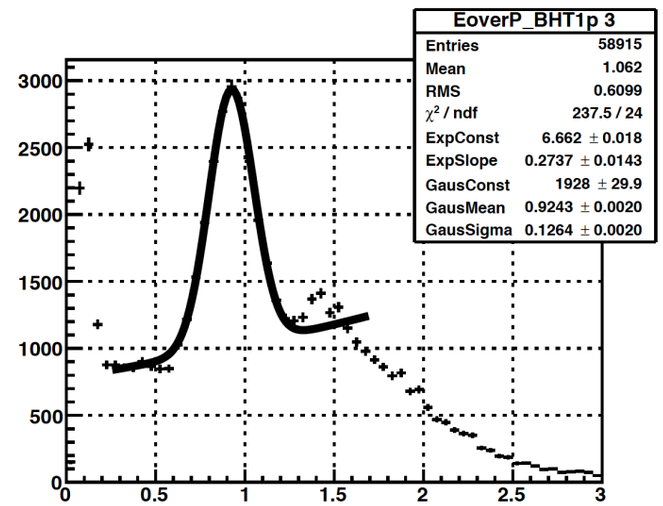

meanfit-unbiased
hh
Entries 17
Mean x 5.25
Mean y 0.9165
RMS x 2.495
RMS y 0.05125
no soft ware trigger
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
1
2
3
4
5
6
7
8
9
10

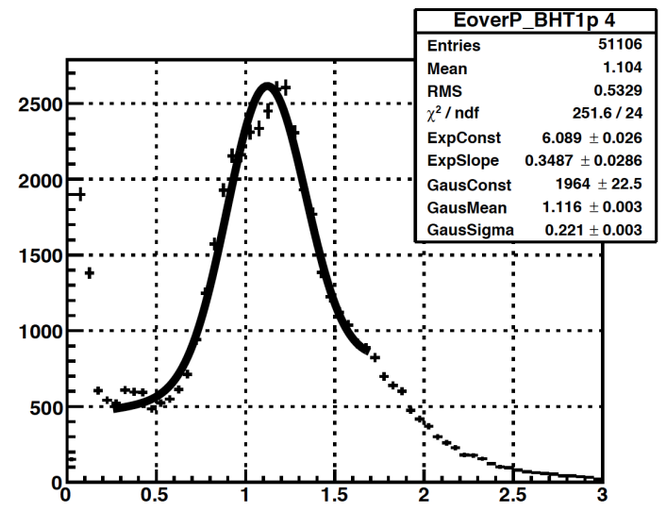
if (triggerFire(BHT1)->Fill()

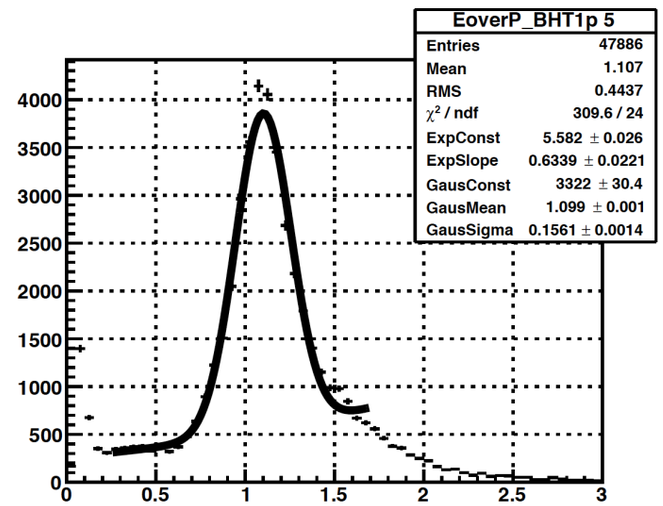


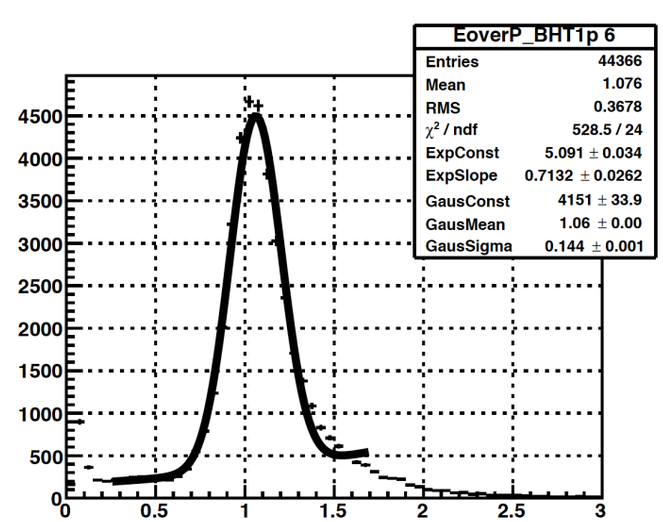


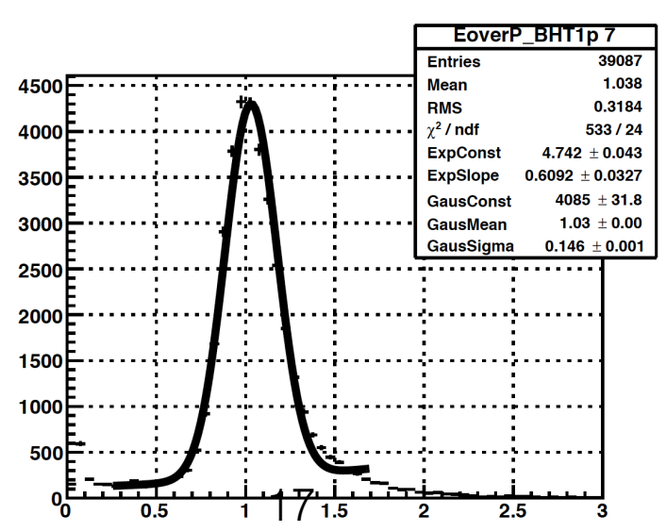


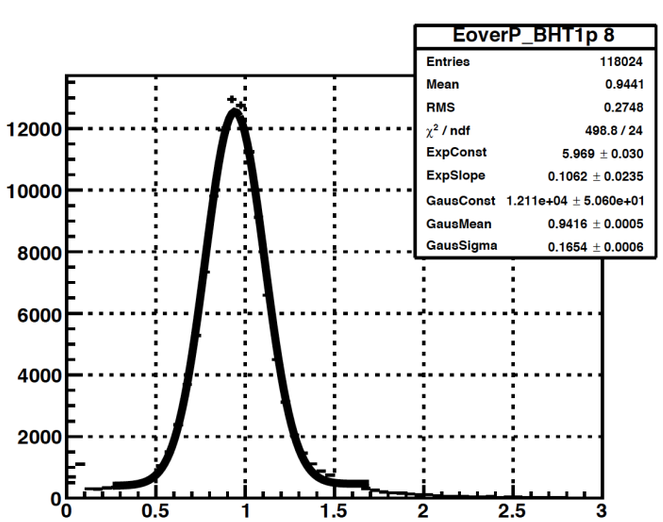




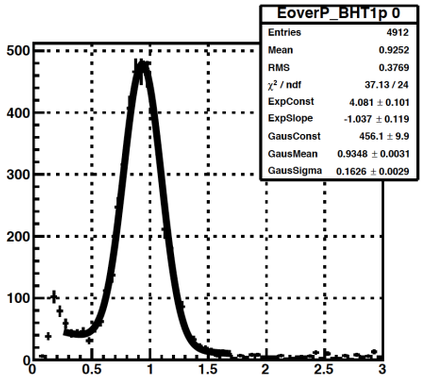


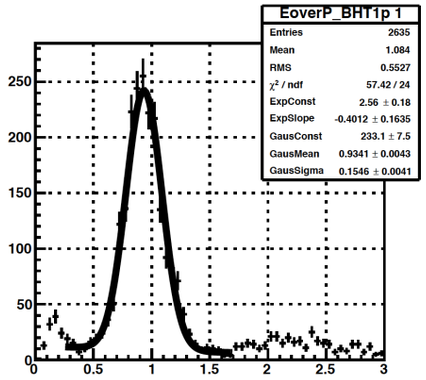


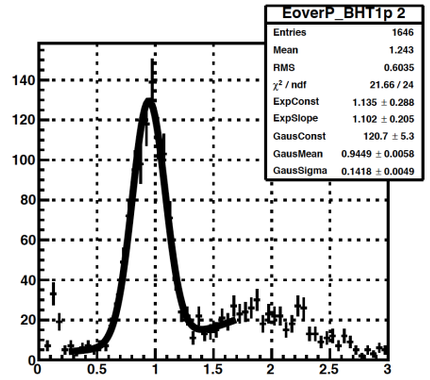


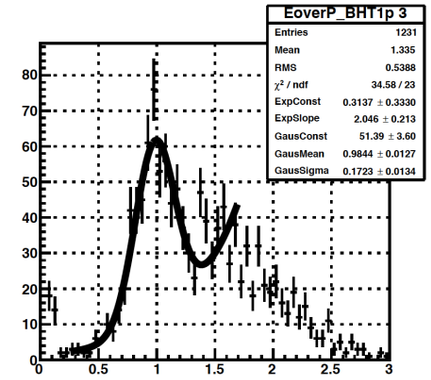


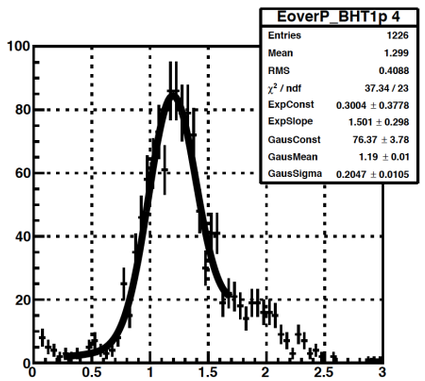
if (triggerFire(BHT1) && !triggerFire(BHT0) && !triggerFire(BHT2) && ! triggerFire(BHT3) && !triggerFire(JP2))->Fill()

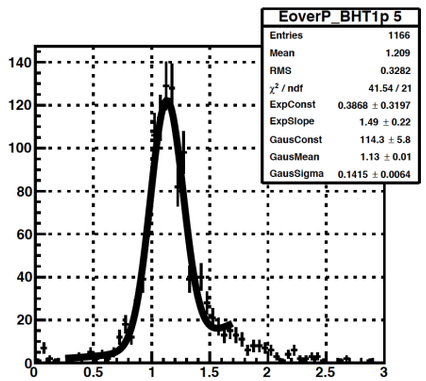


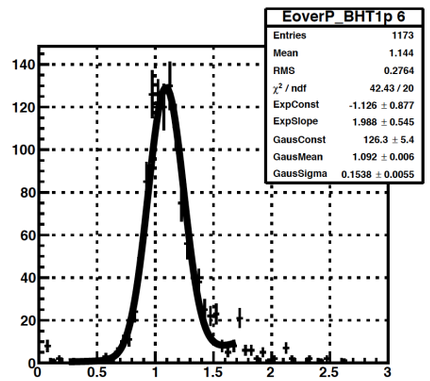


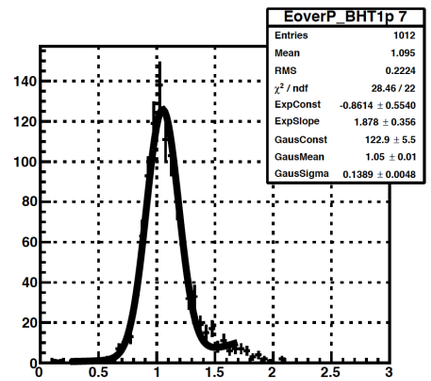


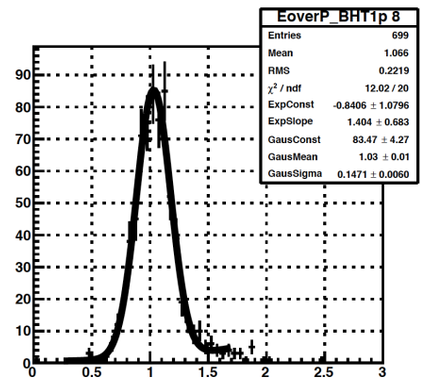


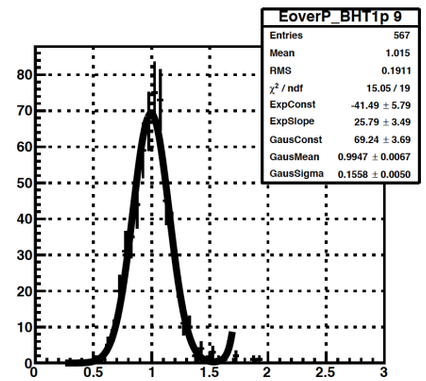


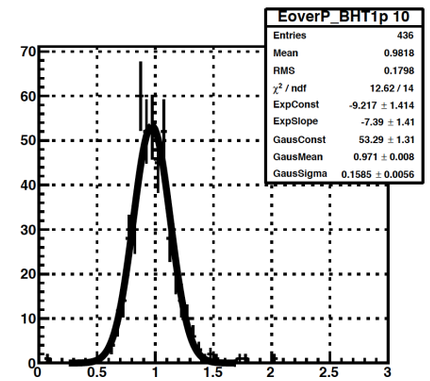


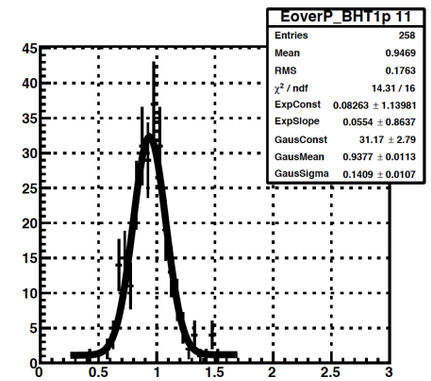


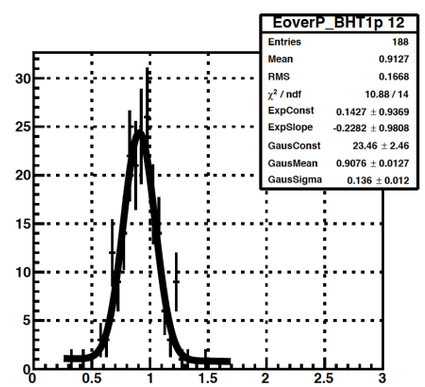


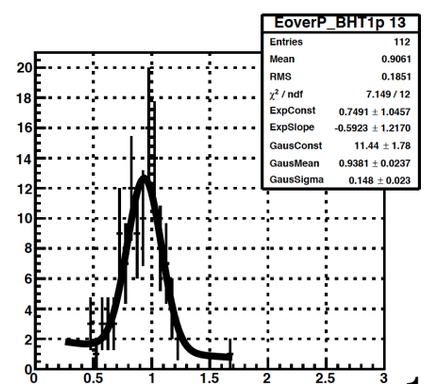


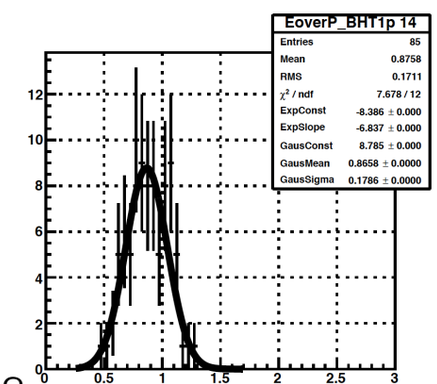


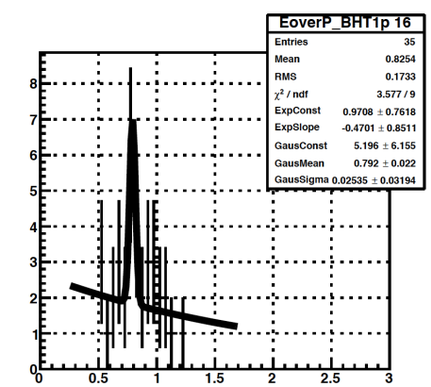




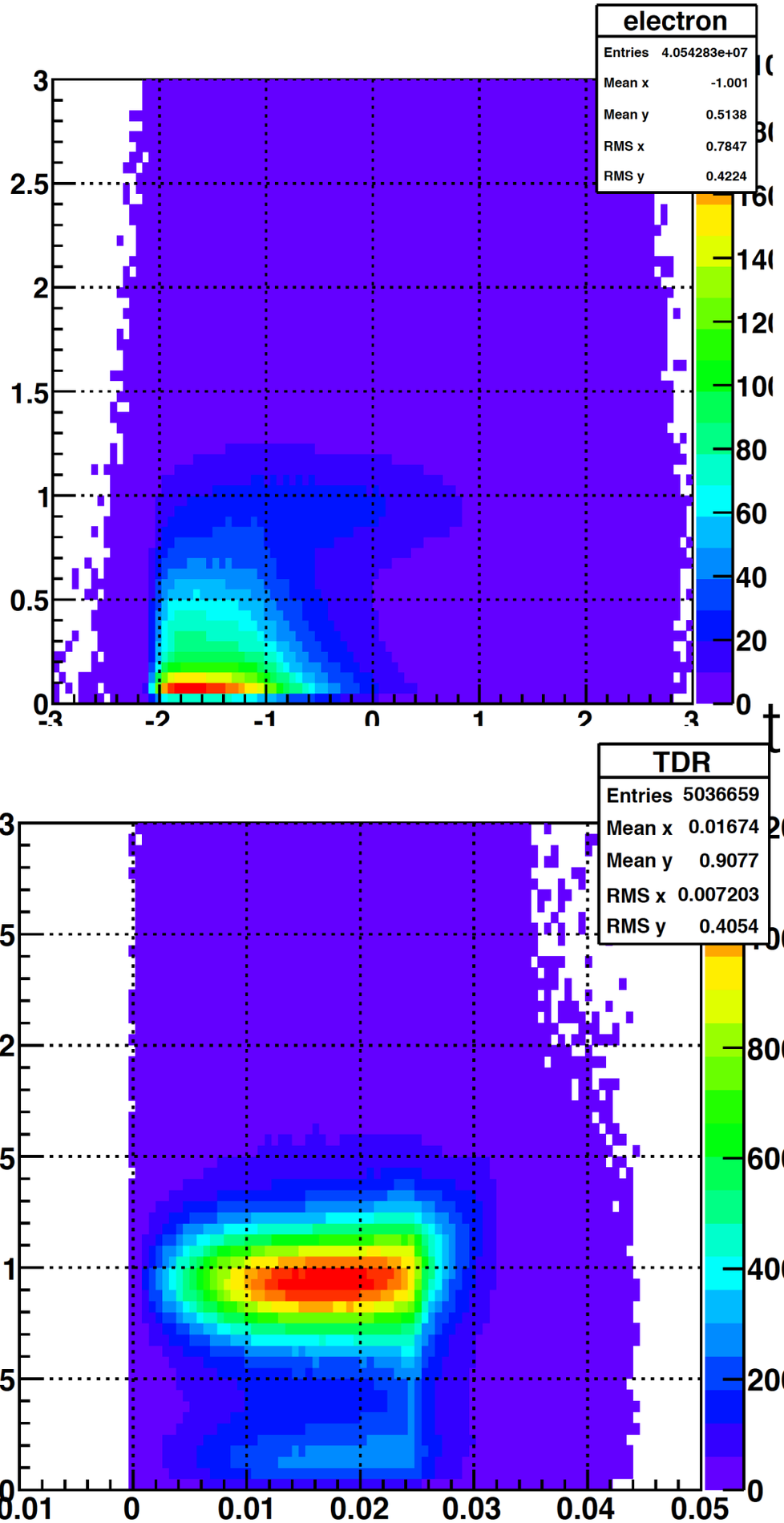


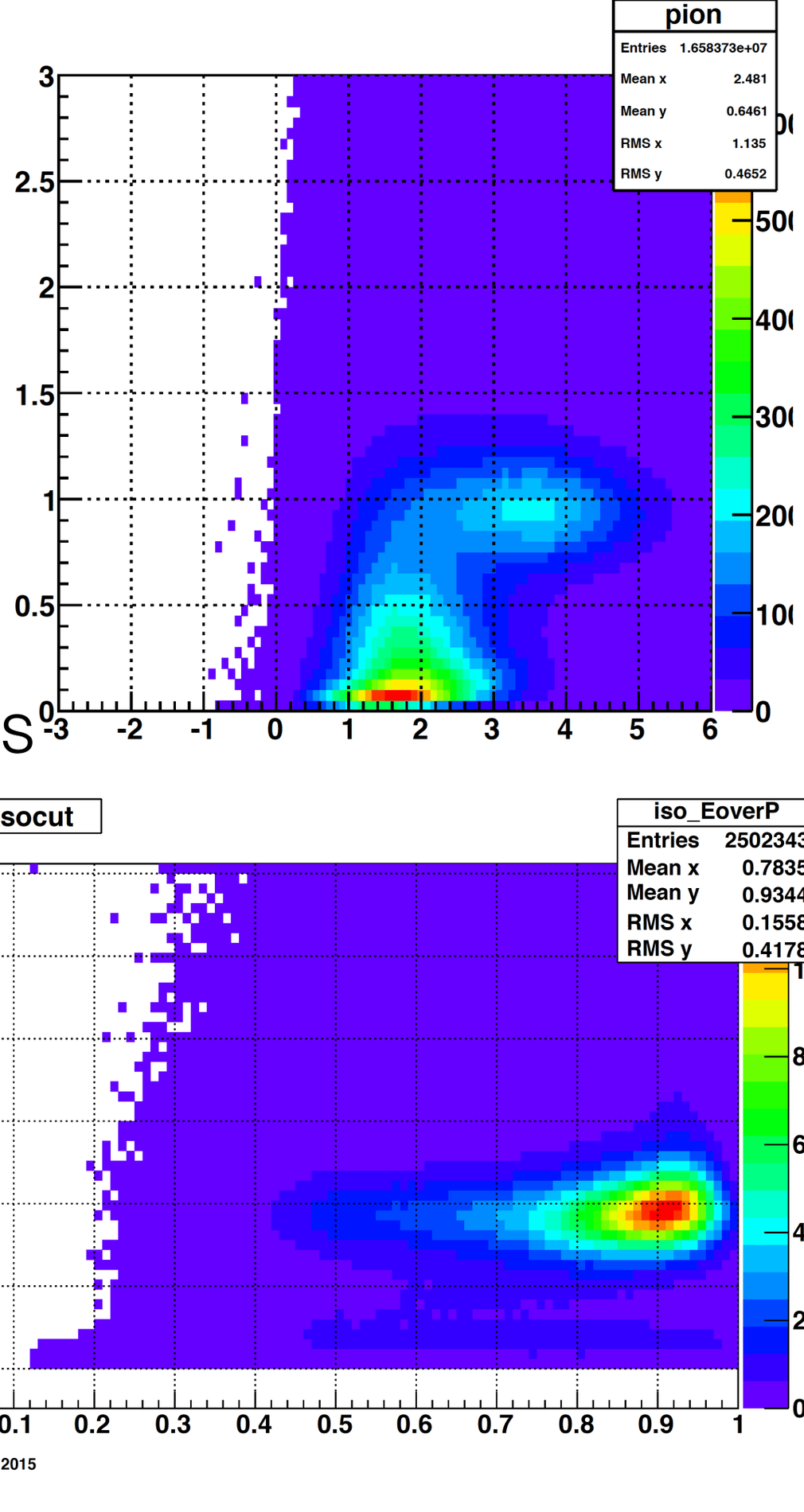


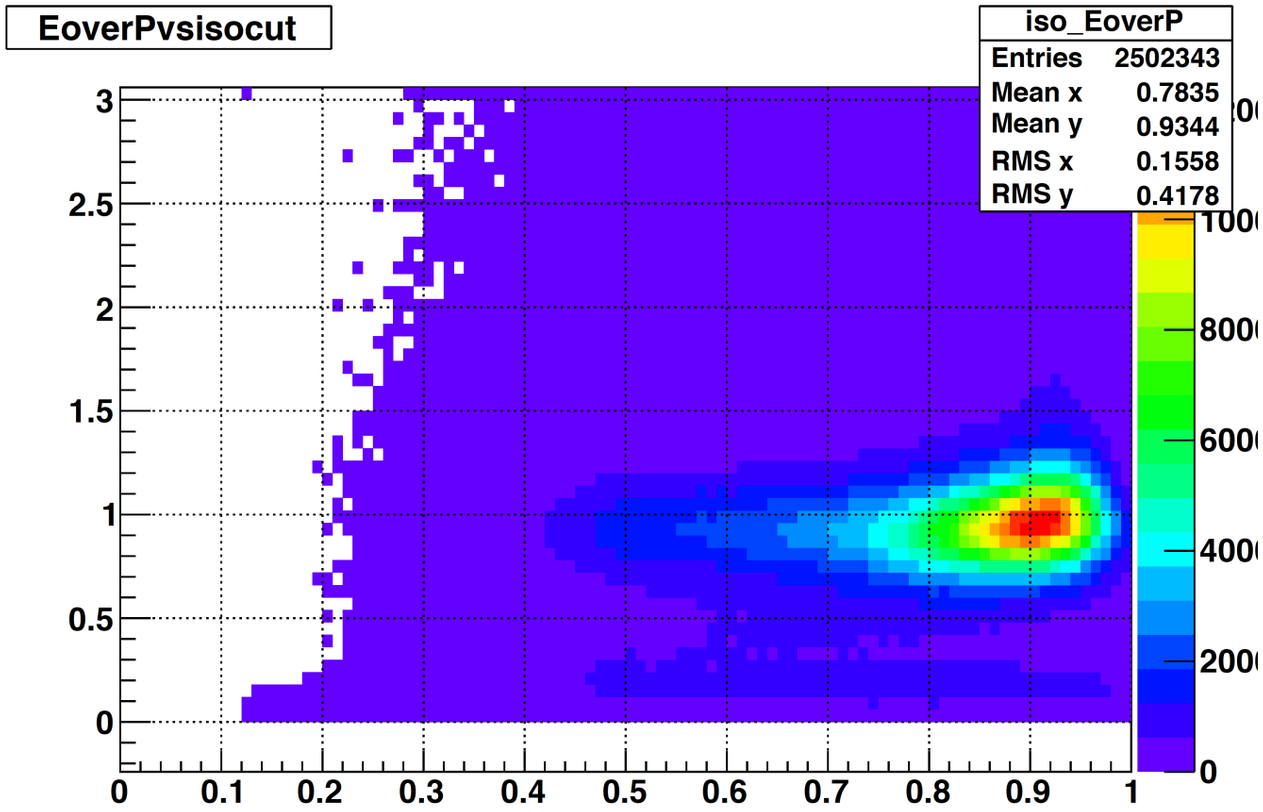




track cuts







Tue May 12 09:15:00 2015