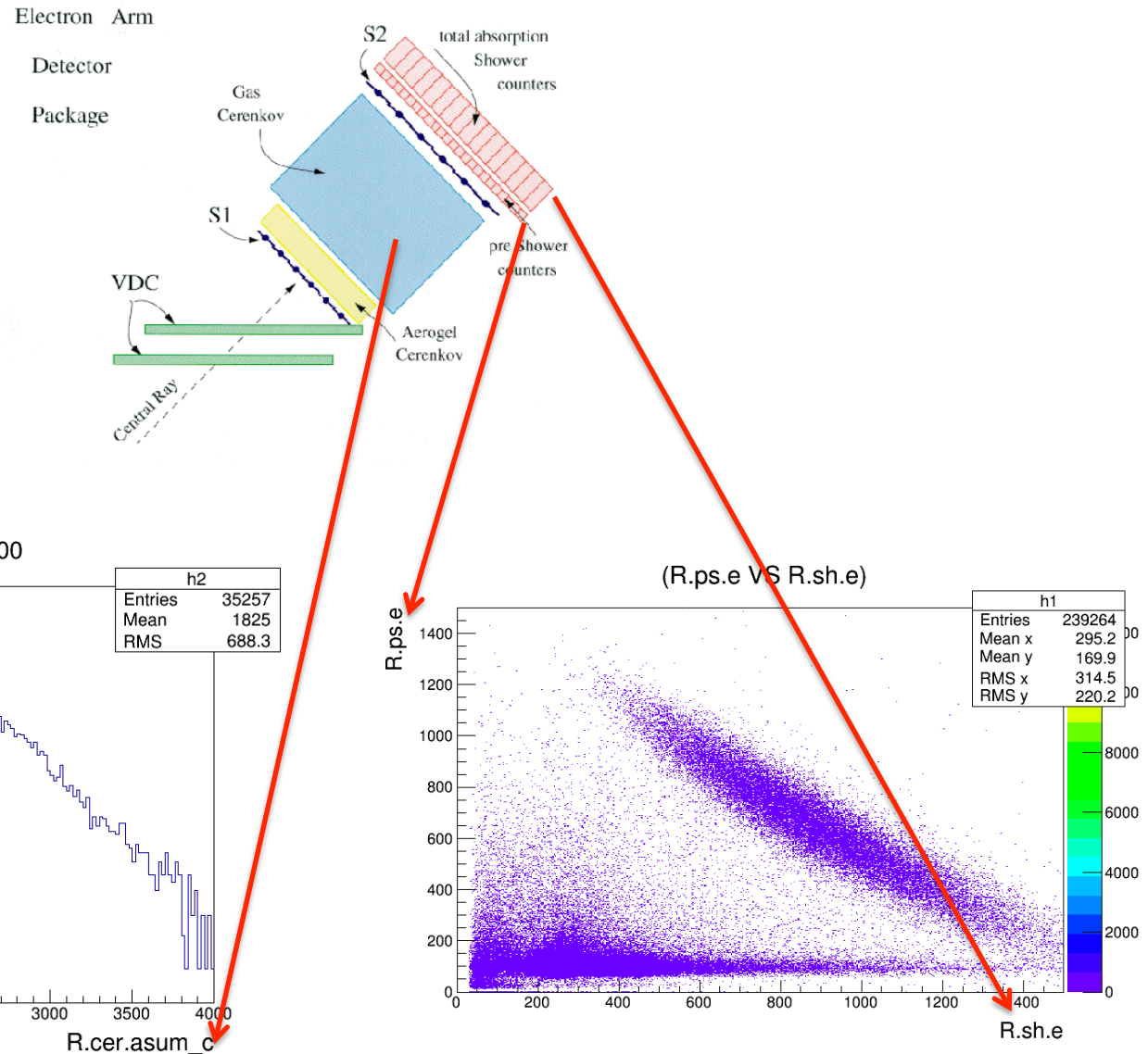
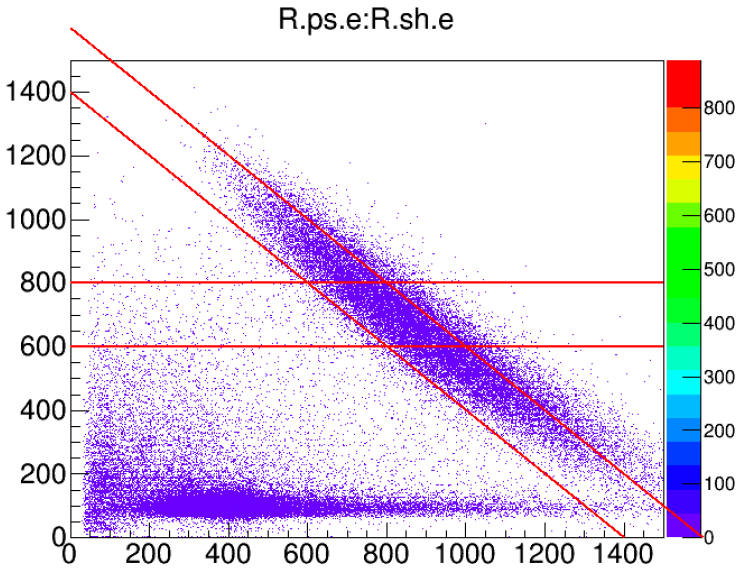
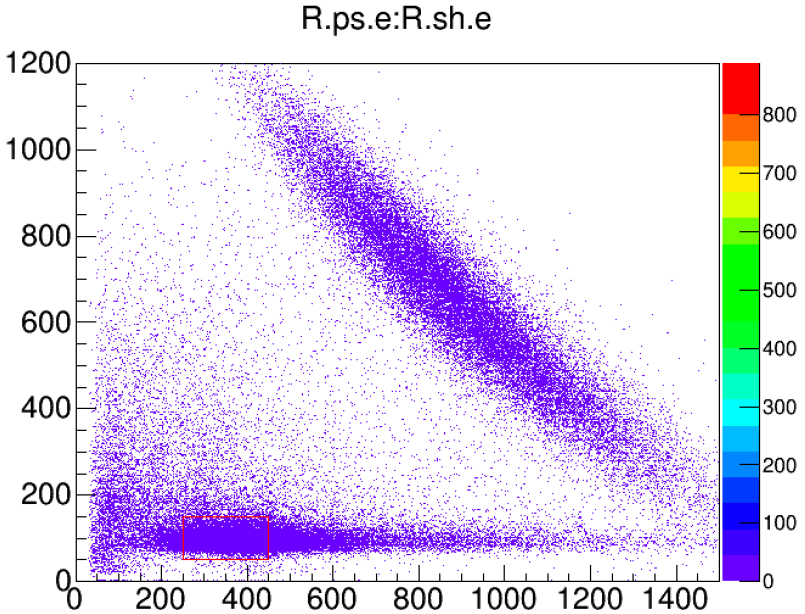
Right_gmp_21880	Right_gmp_21889	Right_gmp_21897
Right_gmp_21881	Right_gmp_21890	Right_gmp_21898
Right_gmp_21882	Right_gmp_21891	Right_gmp_21900
Right_gmp_21883	Right_gmp_21892	Right_gmp_21901
Right_gmp_21884	Right_gmp_21893	Right_gmp_21903
Right_gmp_21885	Right_gmp_21894	Right_gmp_21904
Right_gmp_21886	Right_gmp_21895	Right_gmp_21905
Right_gmp_21887	Right_gmp_21896	Right_gmp_21906

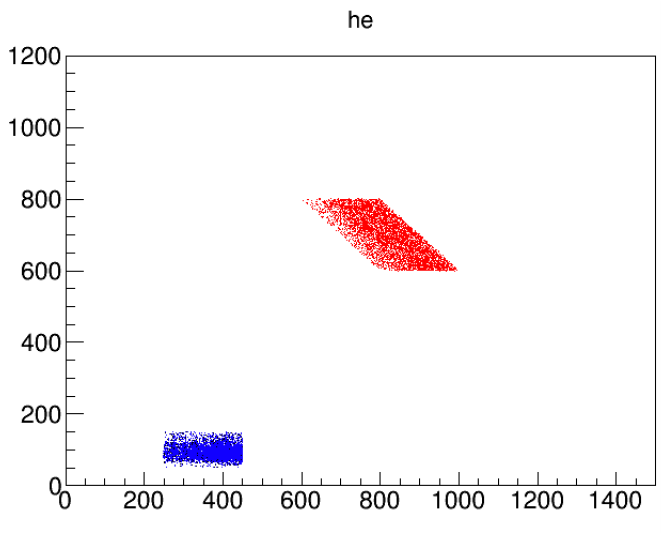
Target 15 cm LH2
E_{beam} 4.481 GeV
P_0 1.547 GeV
Theta 52.91 degree
Q^2 5.5 GeV^2

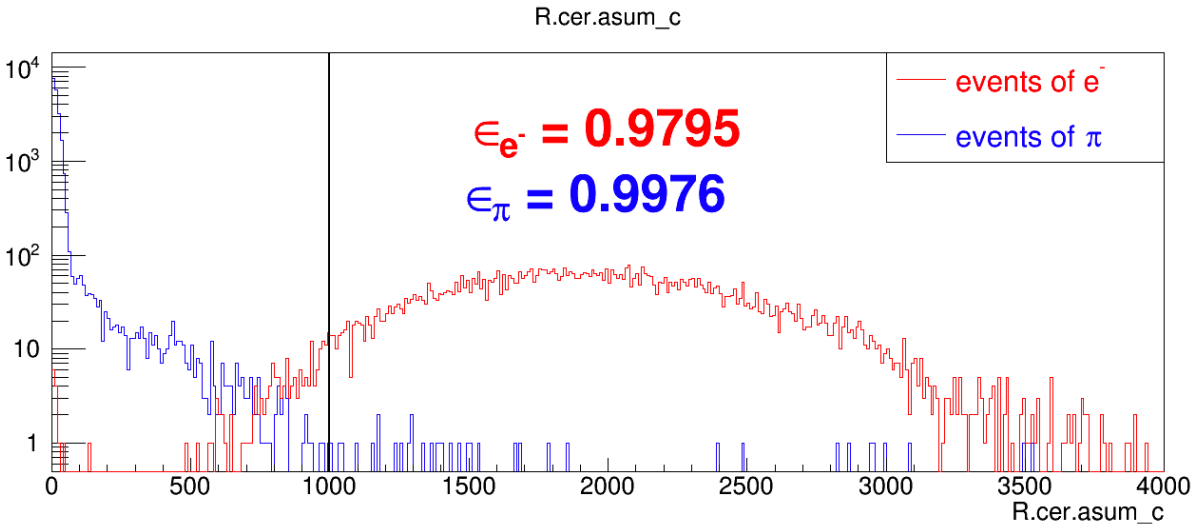
Acceptance Cut
Z ± 0.09
tan(θ) ± 0.075
tan(φ) ± 0.05
Δp ±0.05

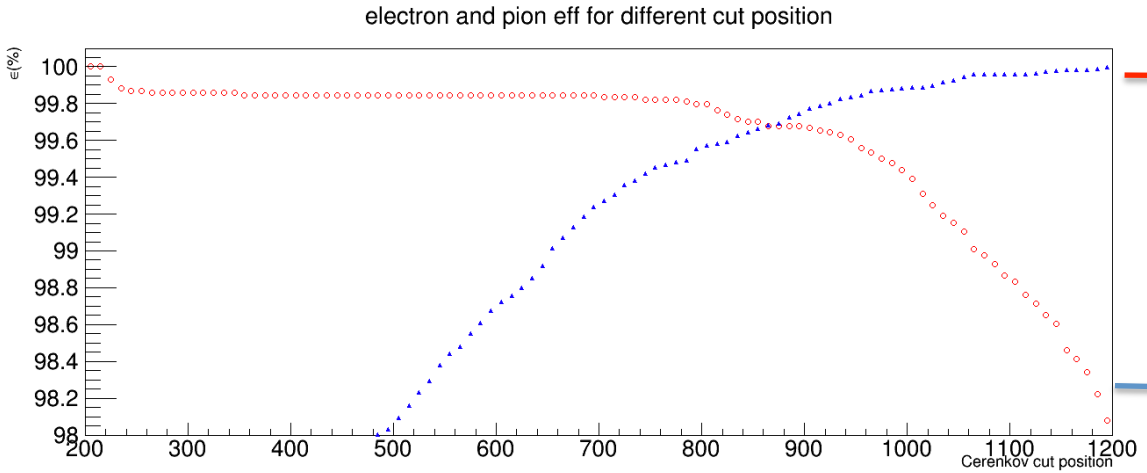

Electron Arm
Detector
Package
S2
total absorption
Shower
counters
Gas
Cerenkov
S1
pre Shower
counters
VDC
Aerogel
Cerenkov
Central Ray
cut2: R.cer.asum_c>1000
h2
Entries 35257
Mean 1825
RMS 688.3
R.cer.asum_c
(R.ps.e VS R.sh.e)
h1
Entries 239264
Mean x 295.2
Mean y 169.9
RMS x 314.5
RMS y 220.2
R.ps.e
R.sh.e


R.ps.e:R.sh.e
0
200
400
600
800
1000
1200
1400
100
300
500
700


R.ps.e:R.sh.e
0
200
400
600
800
1000
1200
1400
100
300
500
700

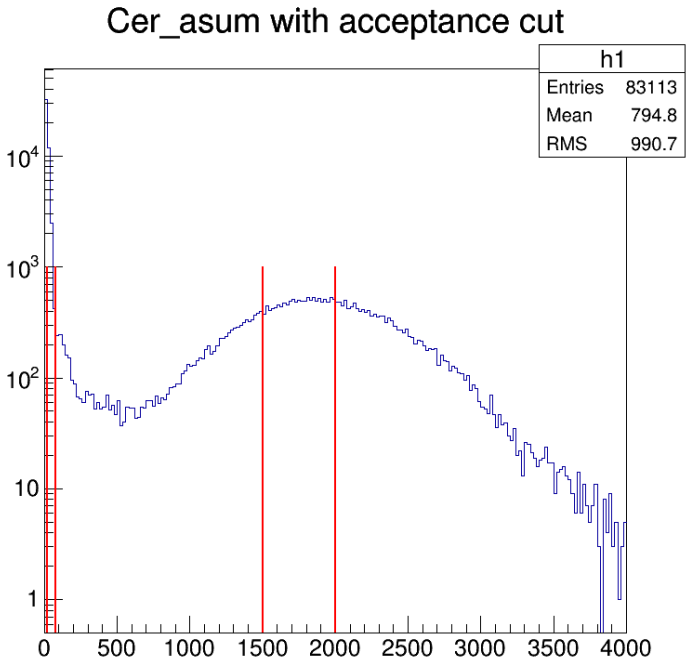

he
0
200
400
600
800
1000
1200
1400

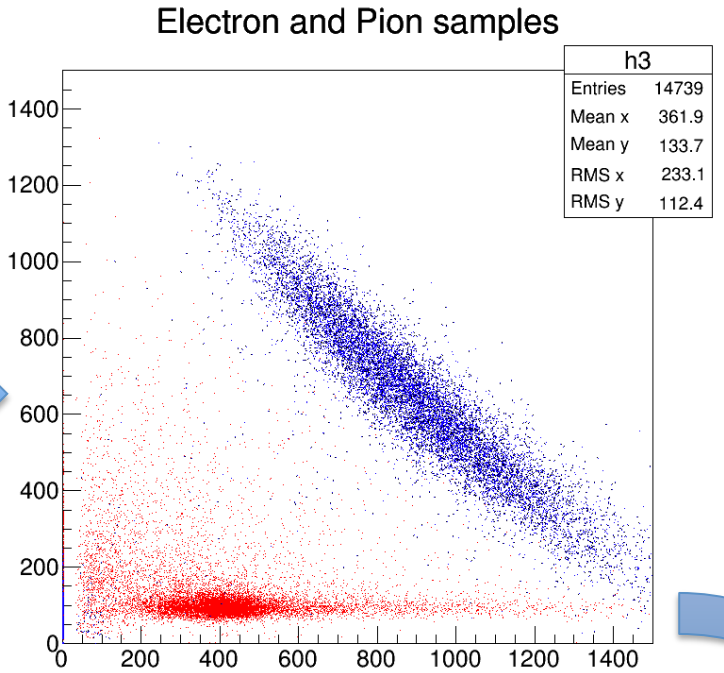


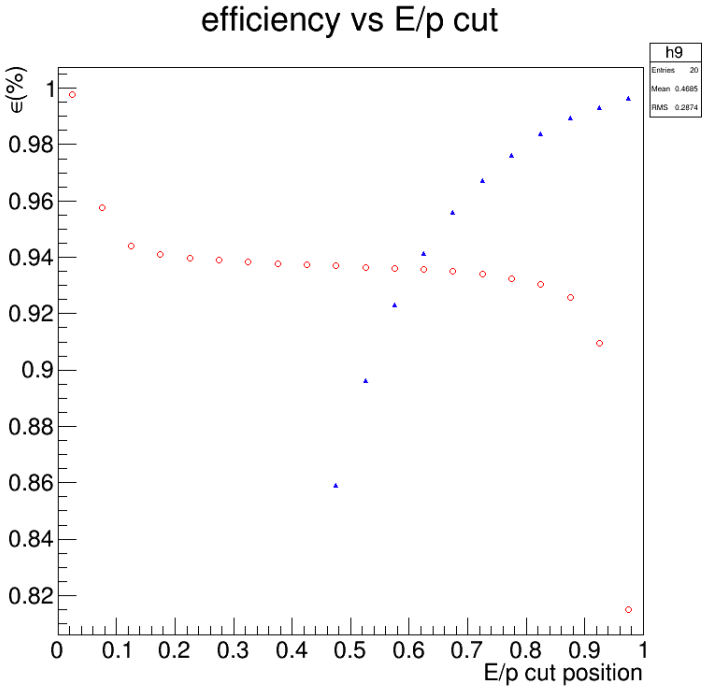


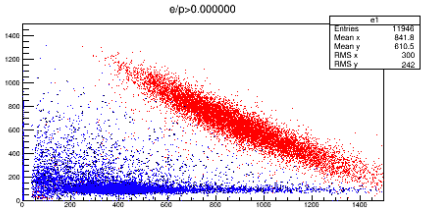
pion

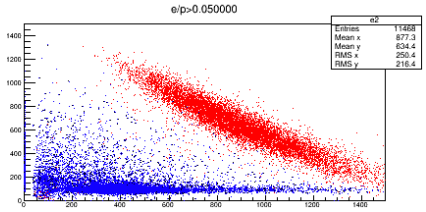
electron

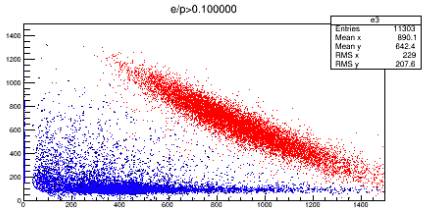

Cer_asum with acceptance cut
h1
Entries 83113
Mean 794.8
RMS 990.7
10^4
10^3
10^2
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

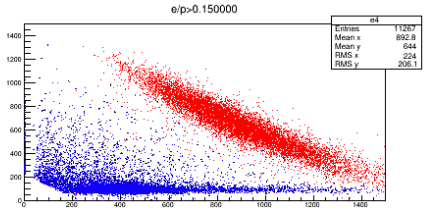

Electron and Pion samples
h3
Entries 14739
Mean x 361.9
Mean y 133.7
RMS x 233.1
RMS y 112.4
1400
1200
1000
800
600
400
200
0
0 200 400 600 800 1000 1200 1400

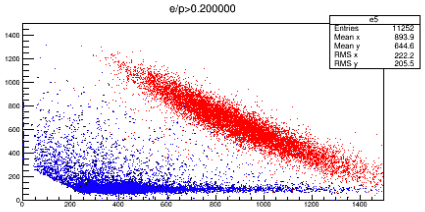

efficiency vs E/p cut
h9
Entries 20
Mean 0.4685
RMS 0.2874
ϵ(%)
1
0.98
0.96
0.94
0.92
0.9
0.88
0.86
0.84
0.82
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
E/p cut position

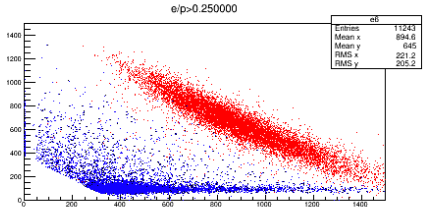

e/p>0.000000
e1
Entries 11946
Mean x 841.8
Mean y 610.5
RMS x 300
RMS y 242

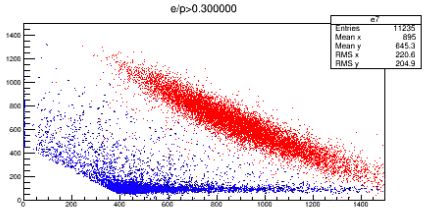

e/p>0.050000
e2
Entries 11468
Mean x 877.3
Mean y 634.4
RMS x 250.4
RMS y 216.4

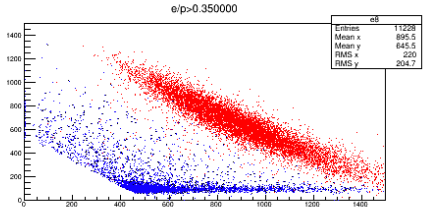

e/p>0.100000
e3
Entries 11303
Mean x 890.1
Mean y 642.4
RMS x 229
RMS y 207.6

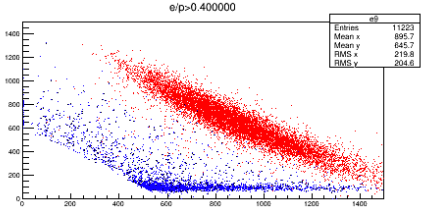

e/p>0.150000
e4
Entries 11267
Mean x 892.8
Mean y 644
RMS x 224
RMS y 206.1

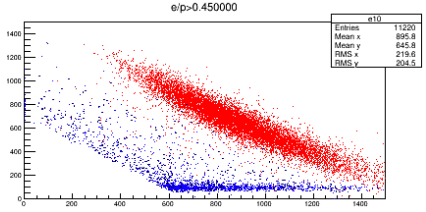

e/p>0.200000
e5
Entries 11252
Mean x 893.9
Mean y 644.6
RMS x 222.2
RMS y 205.5

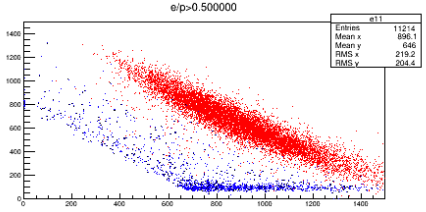

e/p>0.250000
e6
Entries 11243
Mean x 894.6
Mean y 645
RMS x 221.2
RMS y 205.2

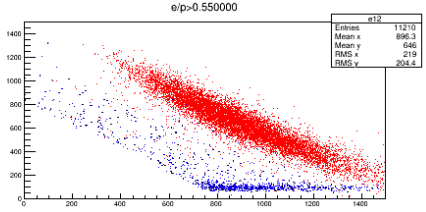

e/p>0.300000
e7
Entries 11235
Mean x 895
Mean y 645.3
RMS x 220.6
RMS y 204.9

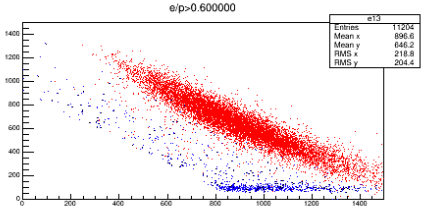

e/p>0.350000
e8
Entries 11228
Mean x 895.5
Mean y 645.5
RMS x 220
RMS y 204.7

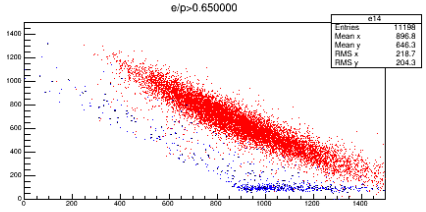

e/p>0.400000
e9
Entries 11223
Mean x 895.7
Mean y 645.7
RMS x 219.8
RMS y 204.6

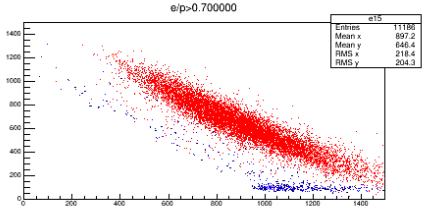

e/p>0.450000
e10
Entries 11220
Mean x 895.8
Mean y 645.8
RMS x 219.6
RMS y 204.5

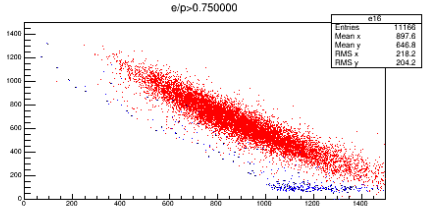

e/p>0.500000
e11
Entries 11214
Mean x 896.1
Mean y 646
RMS x 219.2
RMS y 204.4

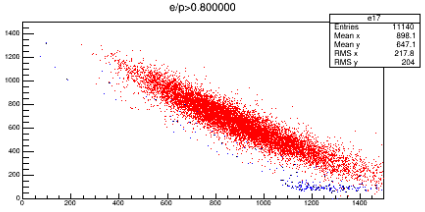

e/p>0.550000
e12
Entries 11210
Mean x 896.3
Mean y 646
RMS x 219
RMS y 204.4

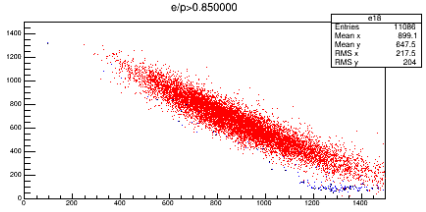

e/p>0.600000
e13
Entries 11204
Mean x 896.6
Mean y 646.2
RMS x 218.8
RMS y 204.4

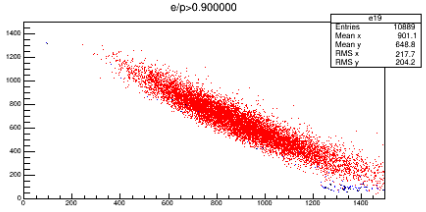

e/p>0.650000
e14
Entries 11198
Mean x 896.8
Mean y 646.3
RMS x 218.7
RMS y 204.3

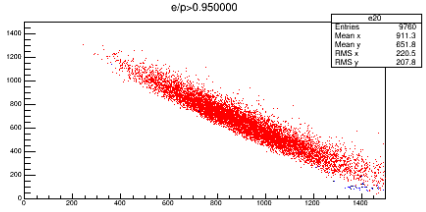

e/p>0.700000
e15
Entries 11186
Mean x 897.2
Mean y 646.4
RMS x 218.4
RMS y 204.3


e/p>0.750000
e16
Entries 11166
Mean x 897.6
Mean y 646.8
RMS x 218.2
RMS y 204.2


e/p>0.800000
e17
Entries 11140
Mean x 898.1
Mean y 647.1
RMS x 217.8
RMS y 204


e/p>0.850000
e18
Entries 11086
Mean x 899.1
Mean y 647.5
RMS x 217.5
RMS y 204


e/p>0.900000
e19
Entries 10889
Mean x 901.1
Mean y 648.8
RMS x 217.7
RMS y 204.2


e/p>0.950000
e20
Entries 9760
Mean x 911.3
Mean y 651.8
RMS x 220.5
RMS y 207.8

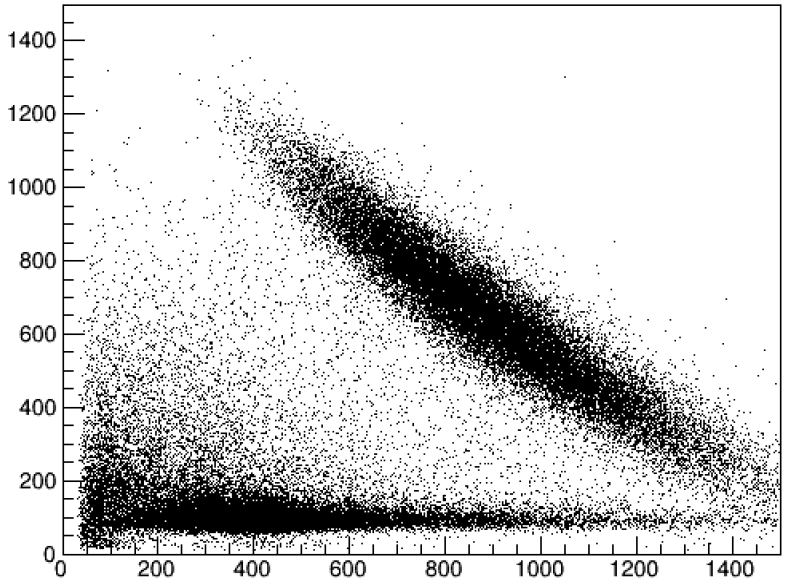
take (cer_asum>500)&&(E/p>0.7) as an example

	cer	E/p
ε_e	0.9983	0.9342
ε_π	0.9904	0.9671

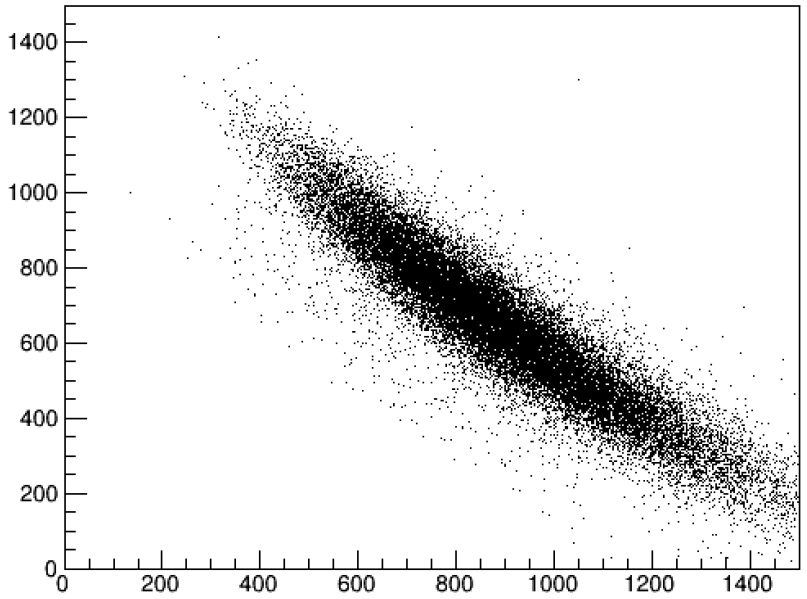
$$\varepsilon_e=\varepsilon_e^{cer} \times \varepsilon_e^{cal}$$

$$\varepsilon_\pi=1-(1-\varepsilon_\pi^{cer})\times(1-\varepsilon_\pi^{cal})$$

Just acceptance Cut



Acceptance+cer+cal



$N_i = e_i + \pi_i$

$N_f = e_f + \pi_f$

$(\pi/e)_i = 1.71$

$(\pi/e)_f = 0.07$