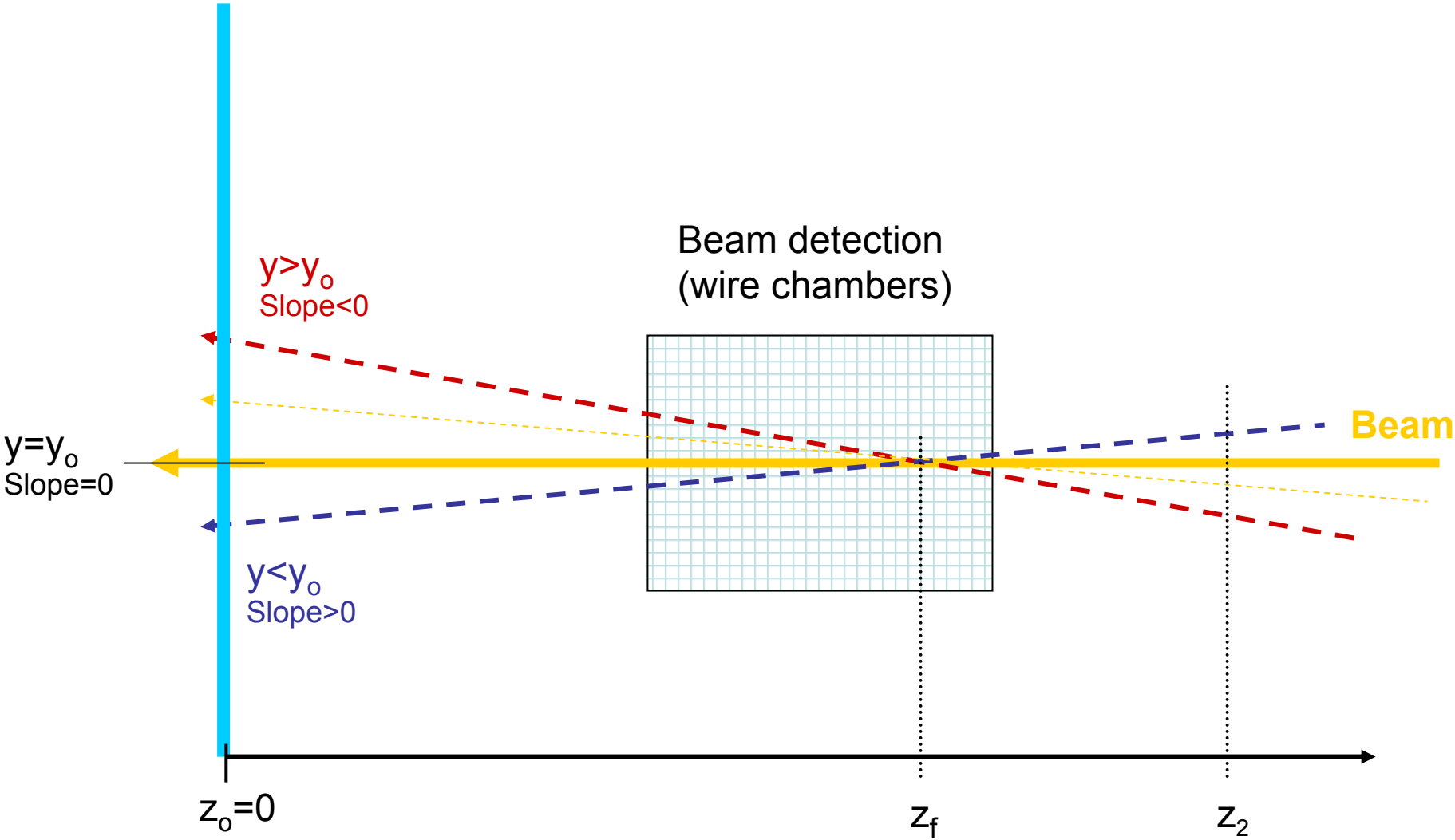
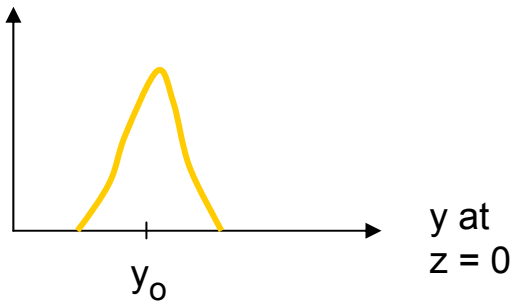
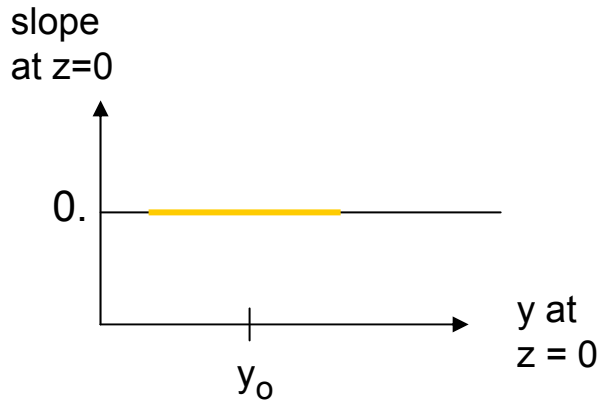
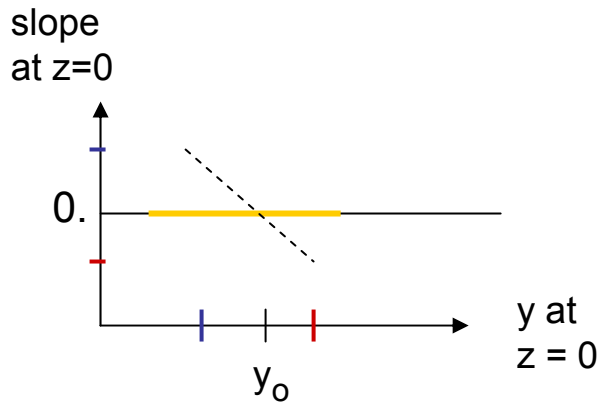
Beam Trajectories:

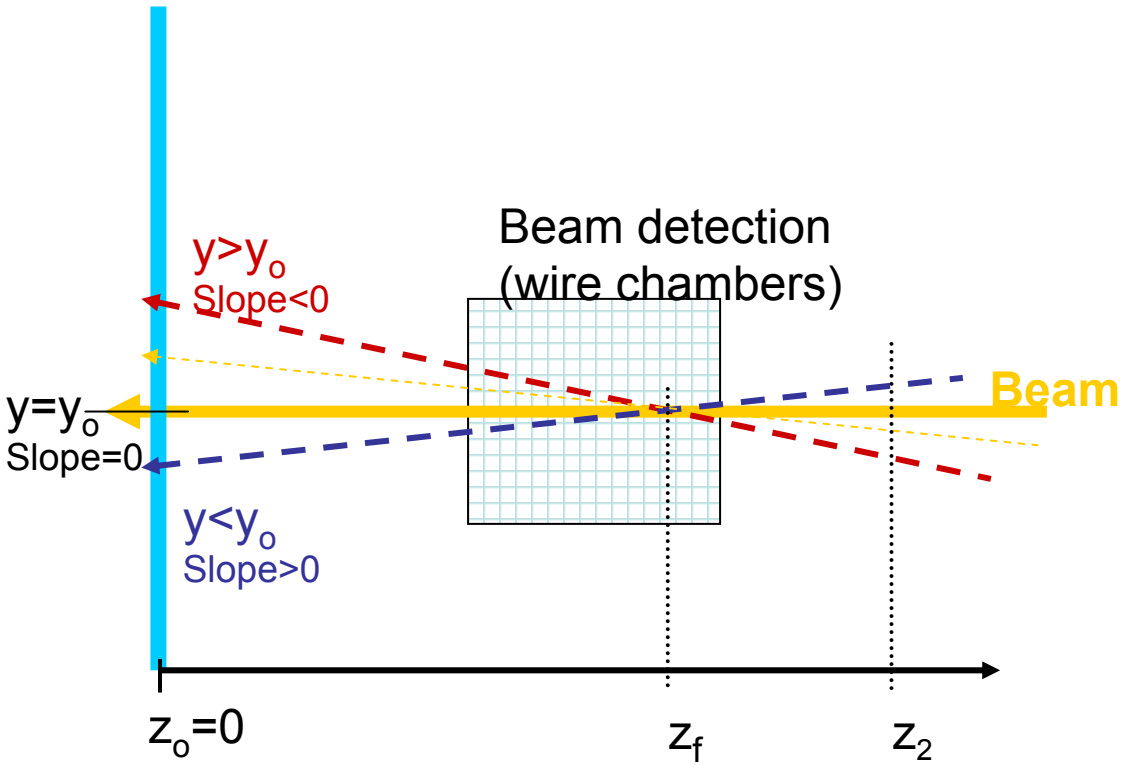


y-distribution at z=0 :

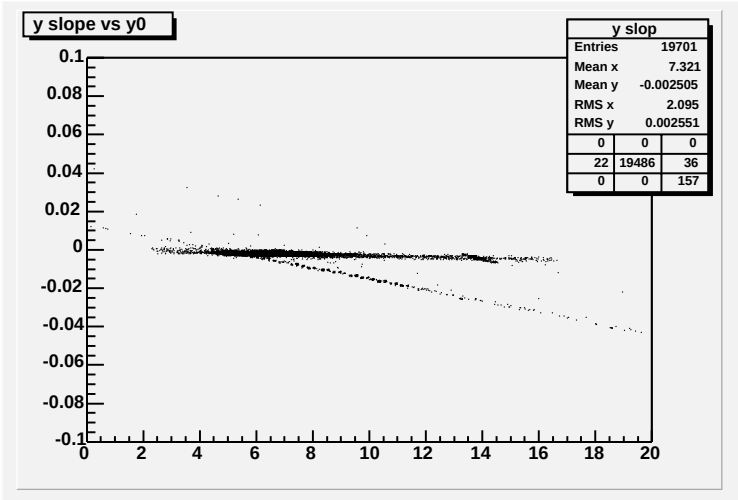


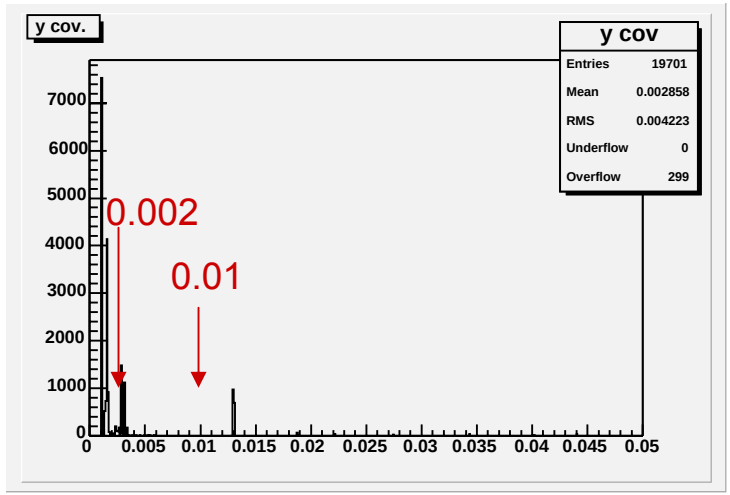




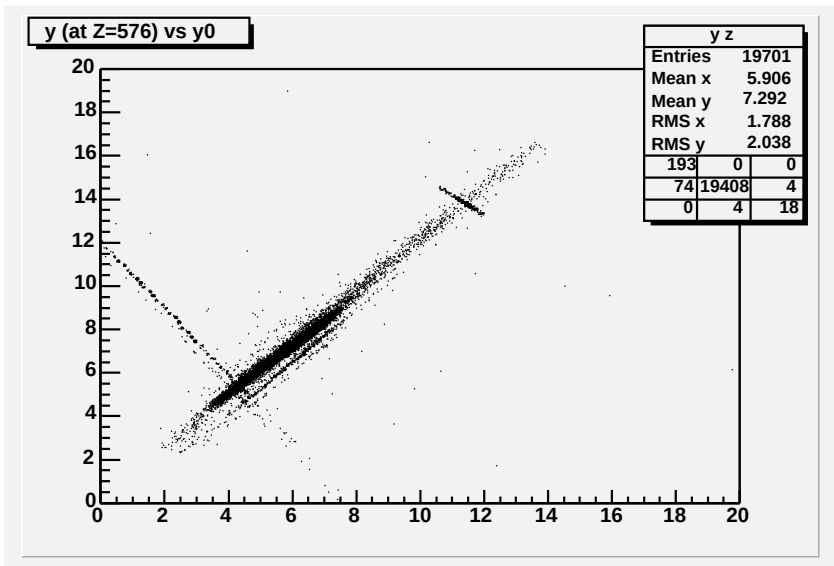


19701 entries (run 12531, 60Gev e, pt.E, $I_{B9} \neq 0$!)

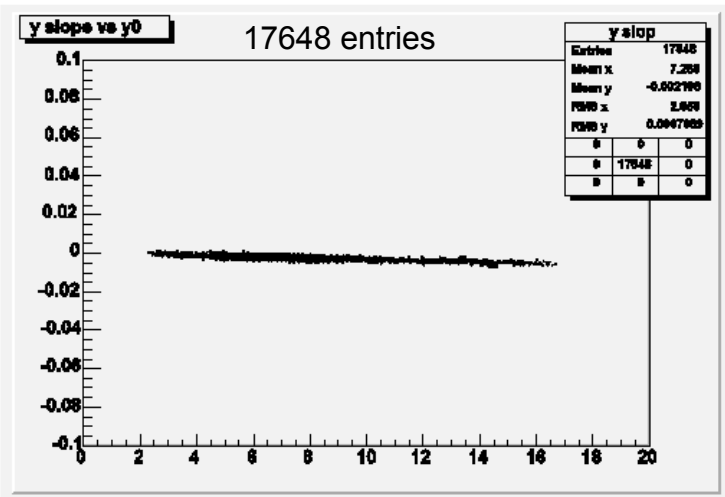


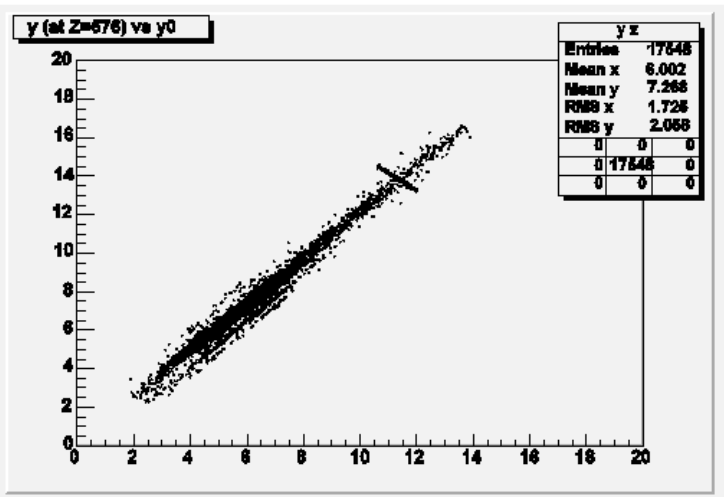


At some other (large) z,
Plot y vs y_o

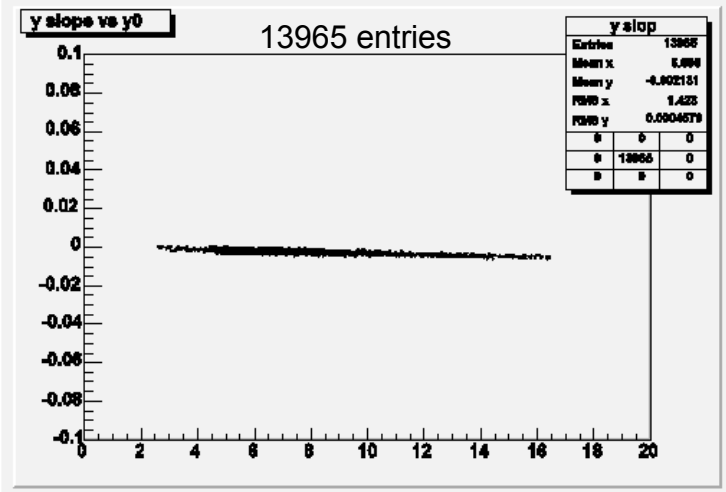


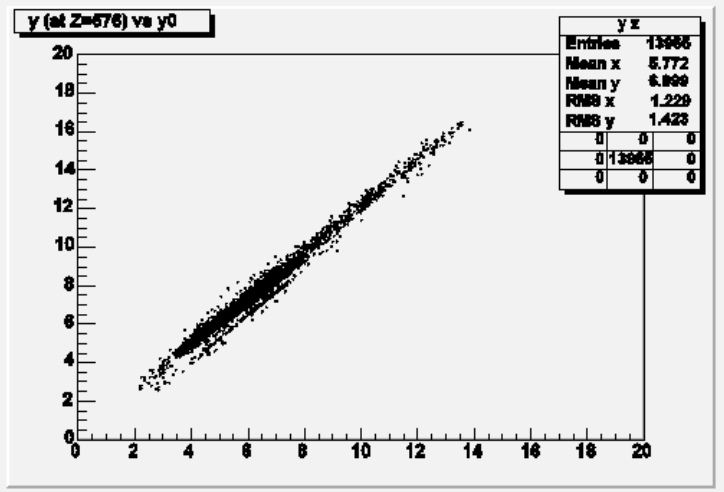
After requiring cov(y)<0.01





After requiring cov(y)<0.002





Describe a trajectory as a function of z:

$y(z) = a + b \cdot z$

Take two different points (y_1 , y_2) at z = 0:

$y_1 = a_1 + b_1 \cdot z$

$y_2 = a_2 + b_2 \cdot z$

These trajectories will cross over at: $y_1 = y_2$:

$a_1 + b_1 \cdot z = a_2 + b_2 \cdot z$

$\Rightarrow \quad z = (a_2 - a_1) / (b_1 - b_2)$

We have three "bands" :

1) a1=0. b1≈0. a2≈17. b2≈ -0.0052
2) a1=0. b1≈0.0125 a2≈20. b2≈ -0.04
3) a1=0. b1≈0.045 a2≈20. b2≈ -0.025

Which corresponds to intercepts in the region of:

1) $Z_f \approx$ 3269 cm around Bend 9 (could be ΔE dispersion …?)

2) $Z_f \approx$ 381 cm Fe beam dump: 397-718 (maybe some scattering here?)

3) $Z_f \approx$ 286 cm MWPC3: 278 MWPC4: 350

When cutting on the cov(y), the energy spectrum doesn't change much