zero field runs analysis run12 p+p 200GeV

Hidemitsu Asano

Beam offset measured by DCH

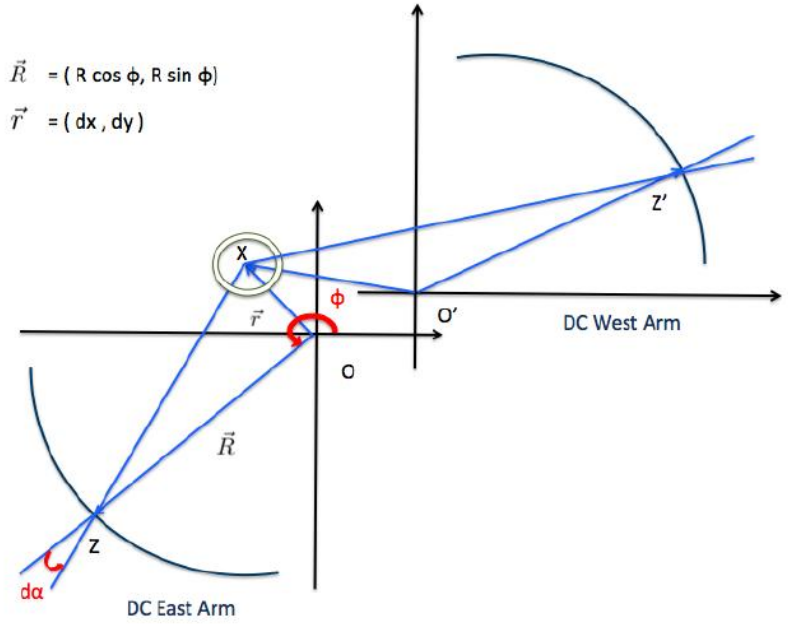


Figure 1: Geometry of Charged particle track and Beam offsets

Thanks to Ciprian and Okada-san

$$\alpha = \frac{-dy\cos\phi + dx\sin\phi}{R}$$

R: average radius of the DCH

R= 220cm

(dx,dy) : beam offset

>Plot α vs ϕ
>Fit with [0]*sin(ϕ)+[1]*cos(ϕ)

Where

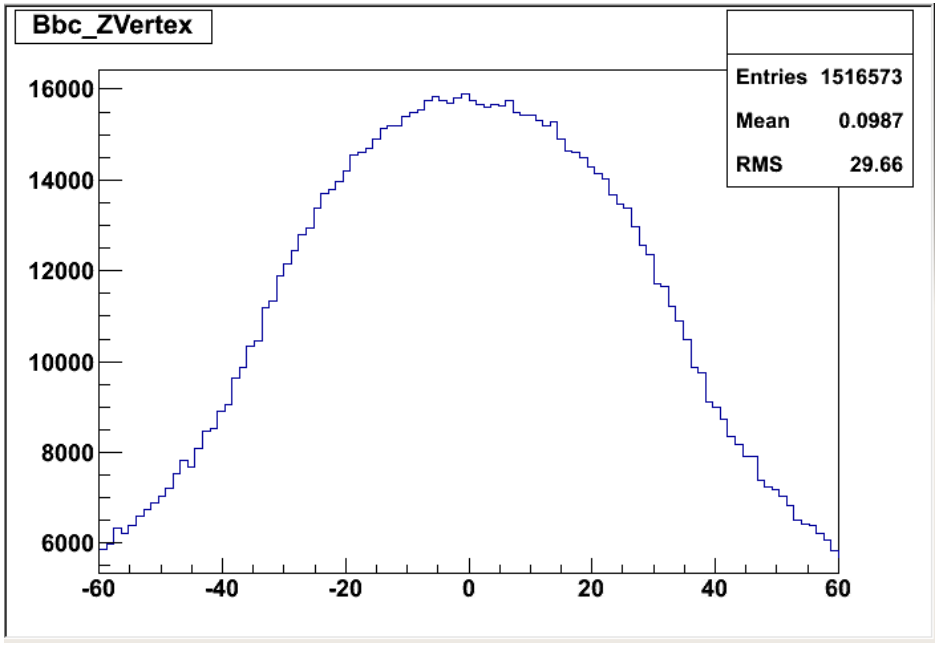
[0] = dx/R,[1]= -dy/R for west
[0] = dx/R, [1]= dy/R for east

ref : AN923

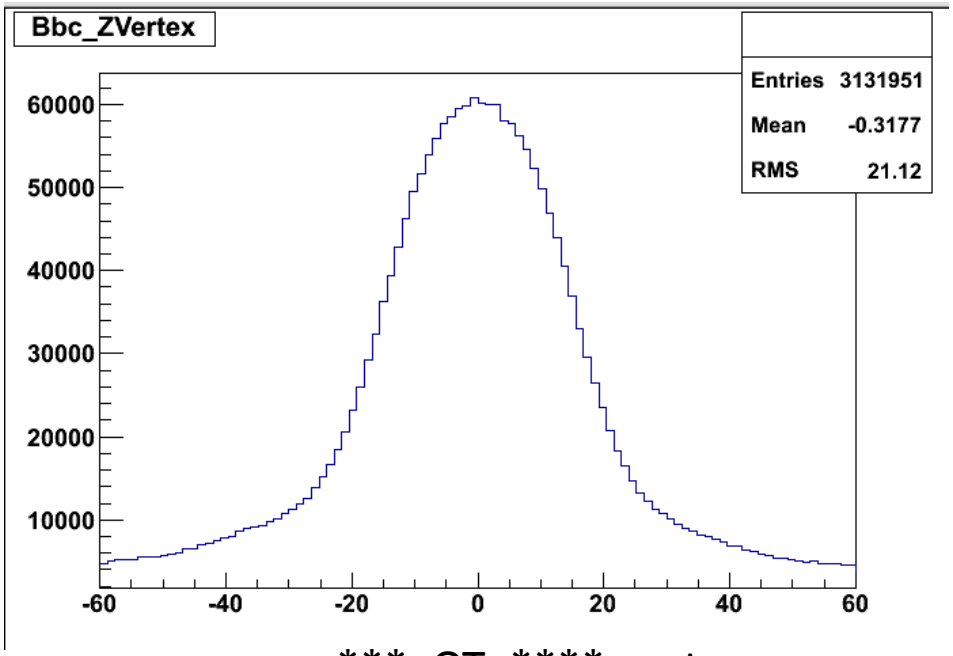
setup

- zero field run DSTs
- /phenix/zdata02/phnxreco/run12_200GeV_ZF_pro90_agg

trigger selection : other trigger (: probably narrow trigger ?)



_MB_*.root

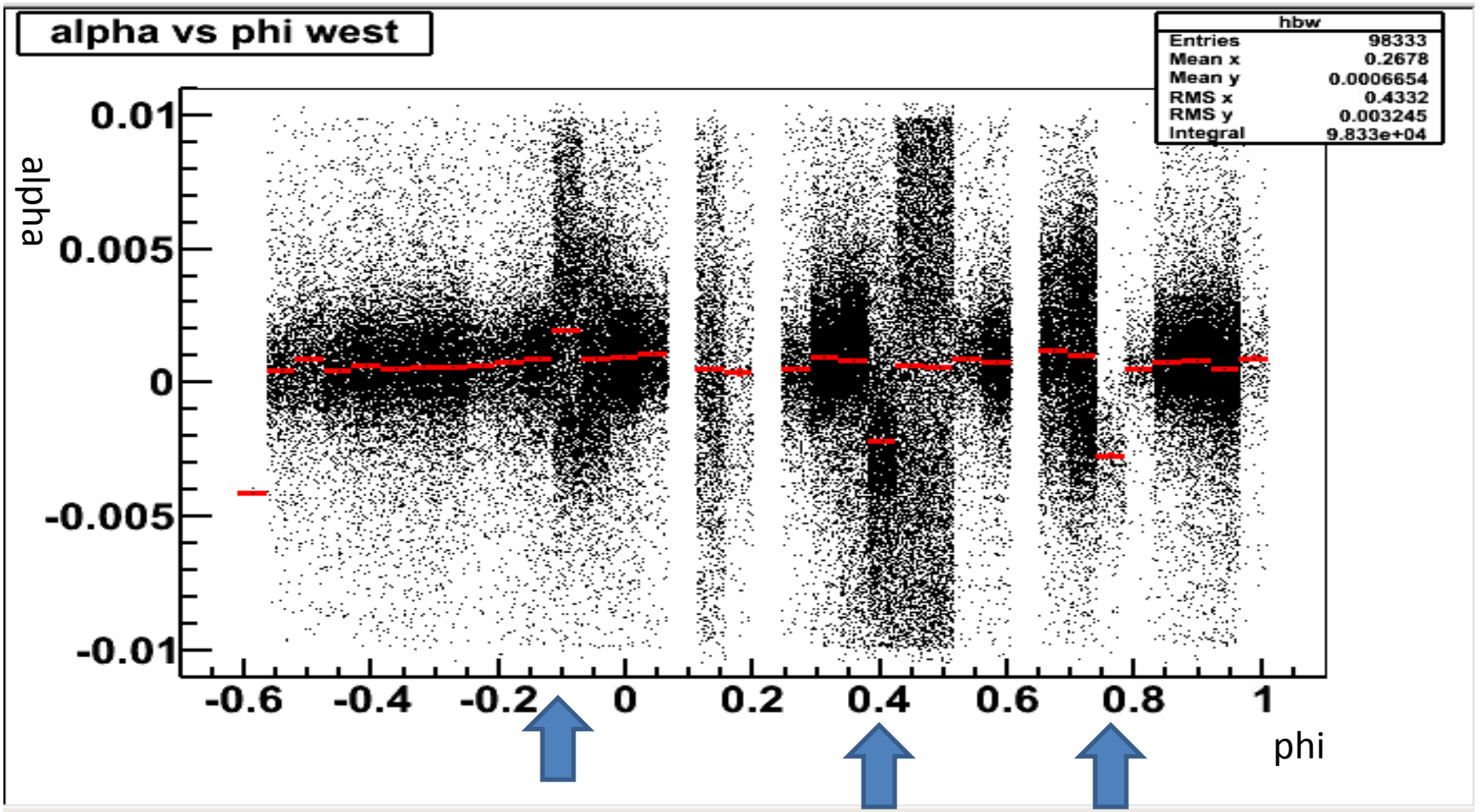


_OT_*.root

cut parameter for west arm

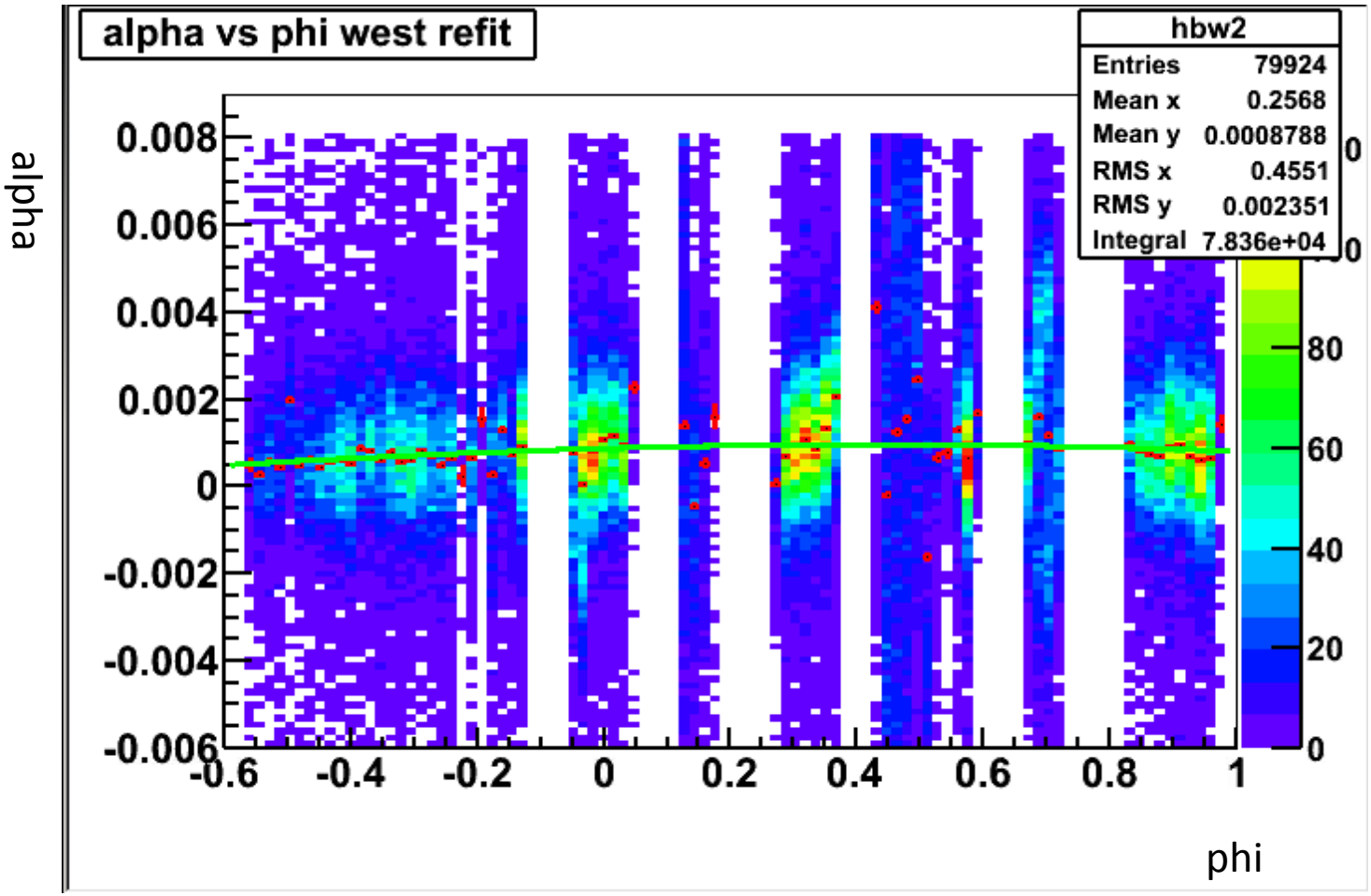
- |emcdphi| <0.016
- -8 < emcdz < 11
- ecore >0.3
- |pc3dphicut| <0.04
- |pc3dzcut| <20
- |zvtx|<10
- quality : 63 or 31
- n0<1

run 358908 (west)



still **problematic** region. DCH internal alignment has not been fixed yet.
temporary solution : remove from those data

run 358908 fit (west arm)

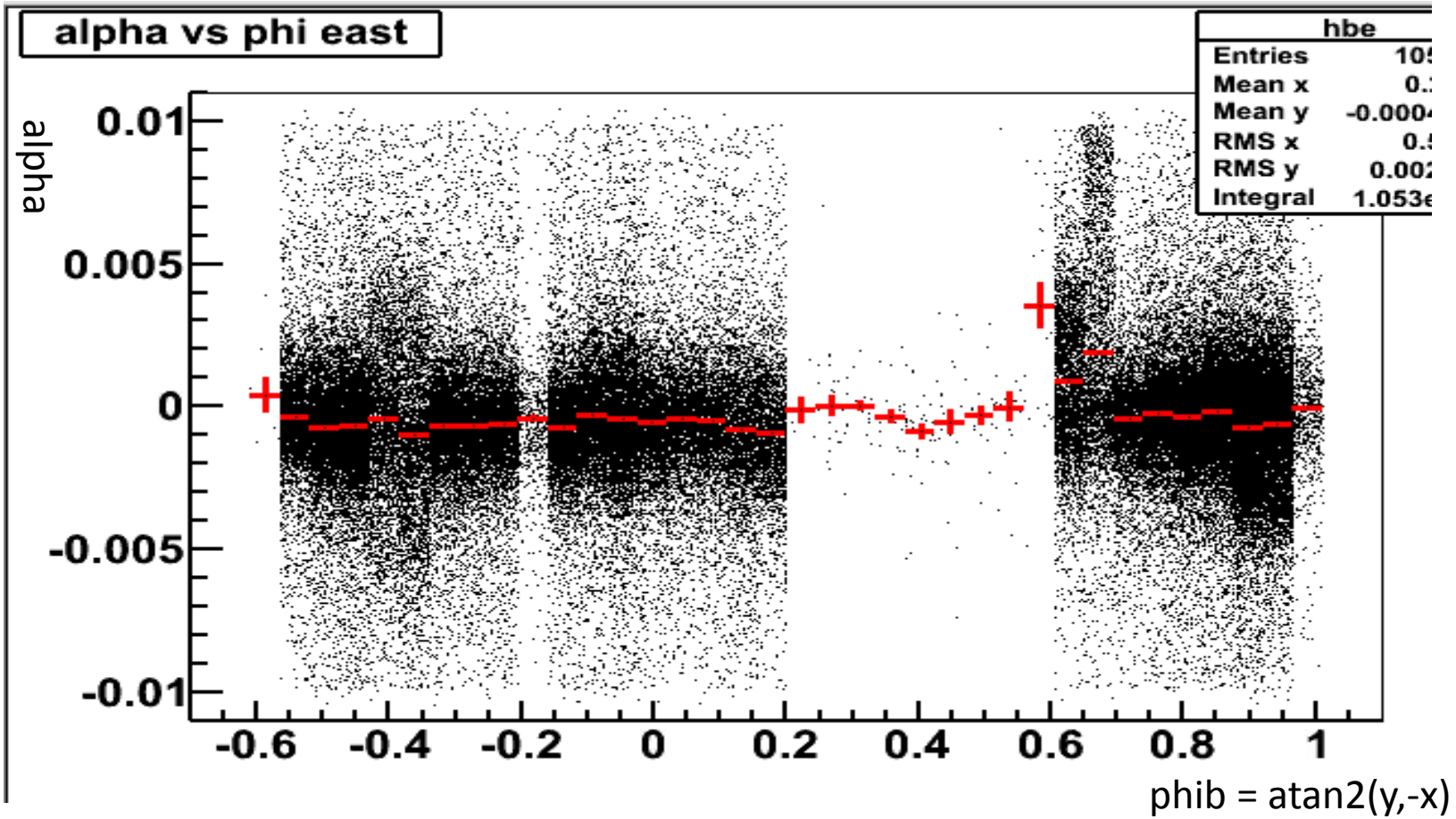


fitting function : [0]*sin(ϕ)+[1]*cos(ϕ)
xoffset : 0.089 +- 0.004 (cm)
yoffset: -0.194 +- 0.002 (cm)

cut parameter for east arm

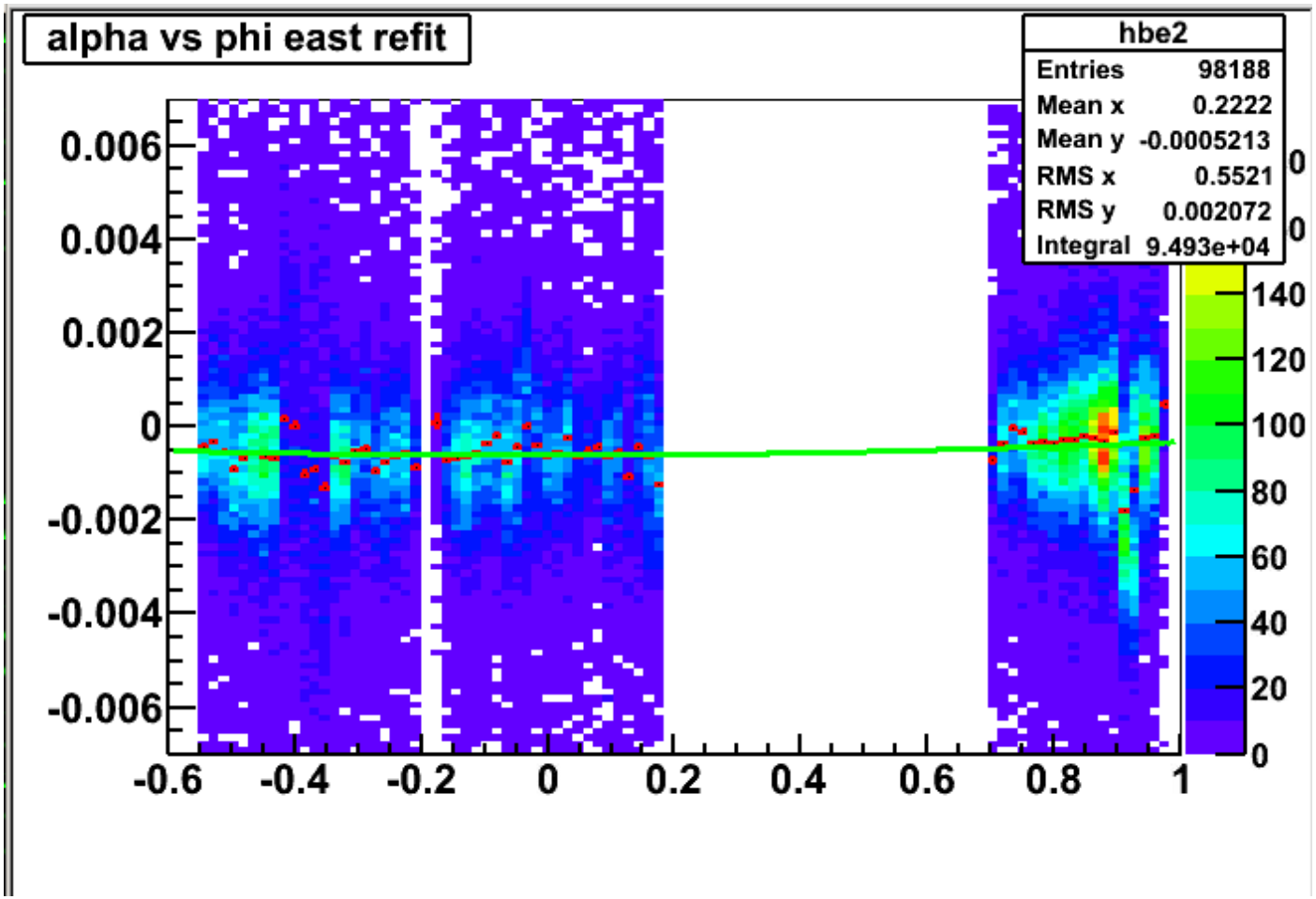
- -0.014 < emcdphi <0.020
- -10 < emcdz < 10
- ecore >0.3
- |pc3dphicut| <0.04
- |pc3dzcut| <20
- |zvtx|<10
- quality : 63 or 31
- n0<1

run 358908 (east)



large dead area ….

run 358908 fit (east arm)



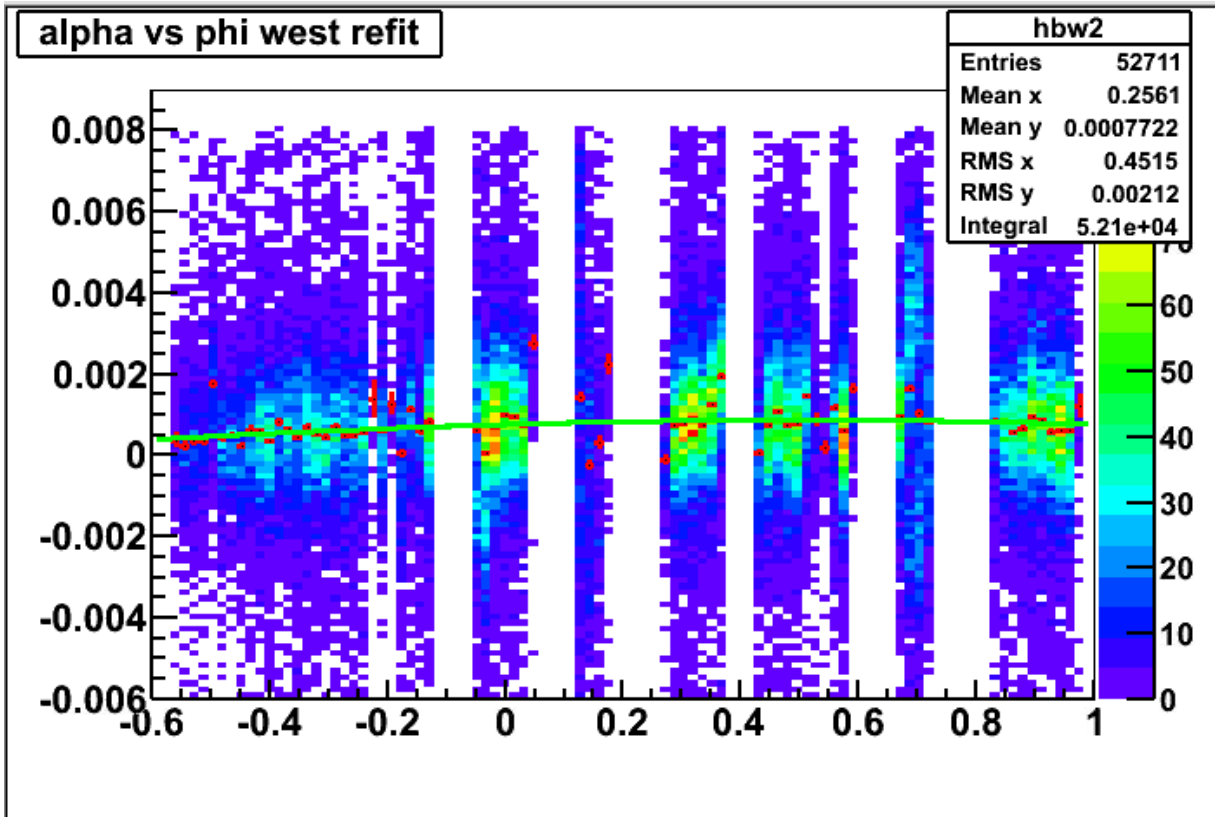
xoffset: 0.002+- 0.003 (cm)
yoffset: -0.133 +- 0.002 (cm)

うーん

summary

- 残りのランも頑張る。

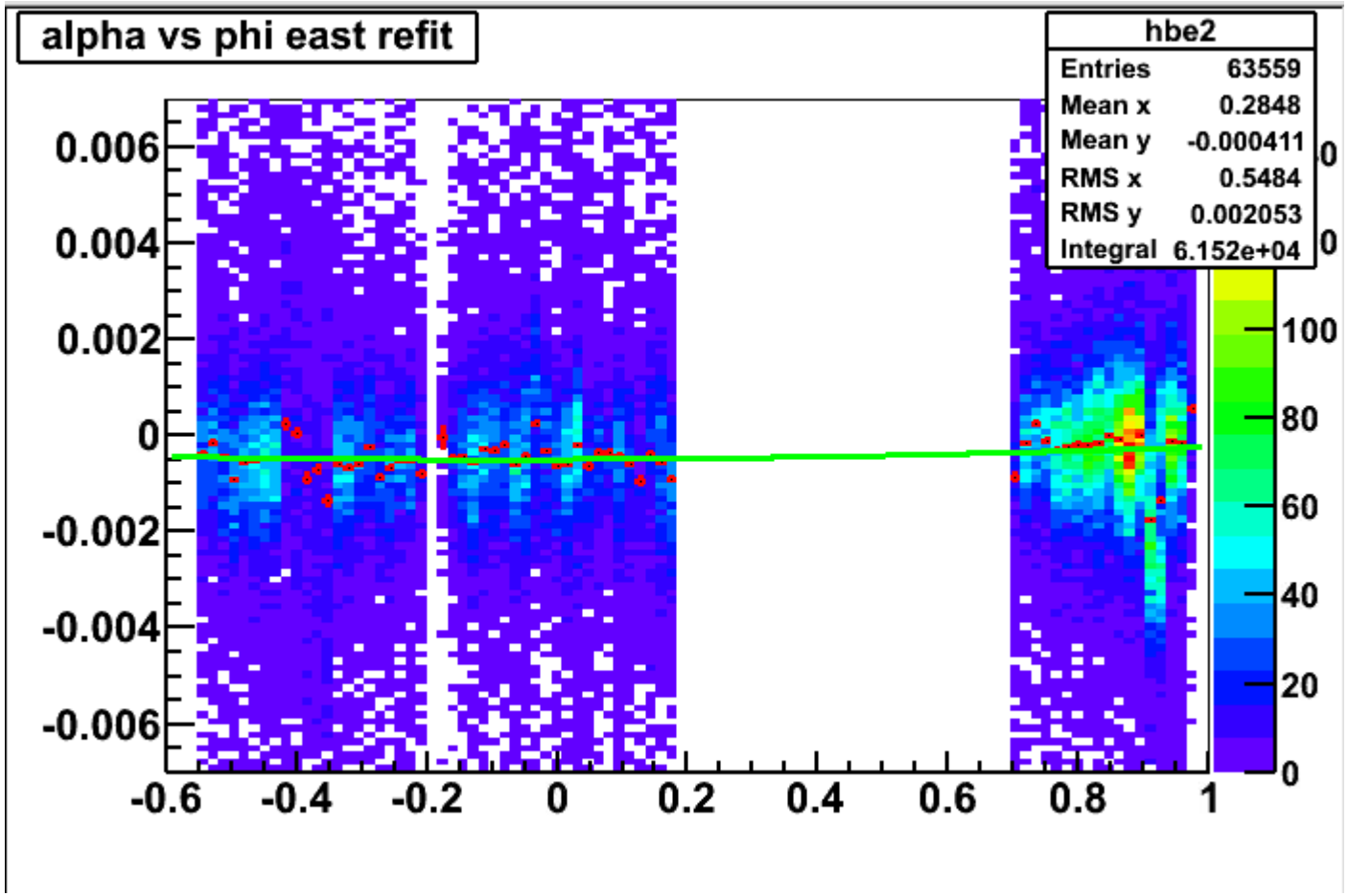
run 359326 west



west xoffset: 0.0925434 +- 0.00435534

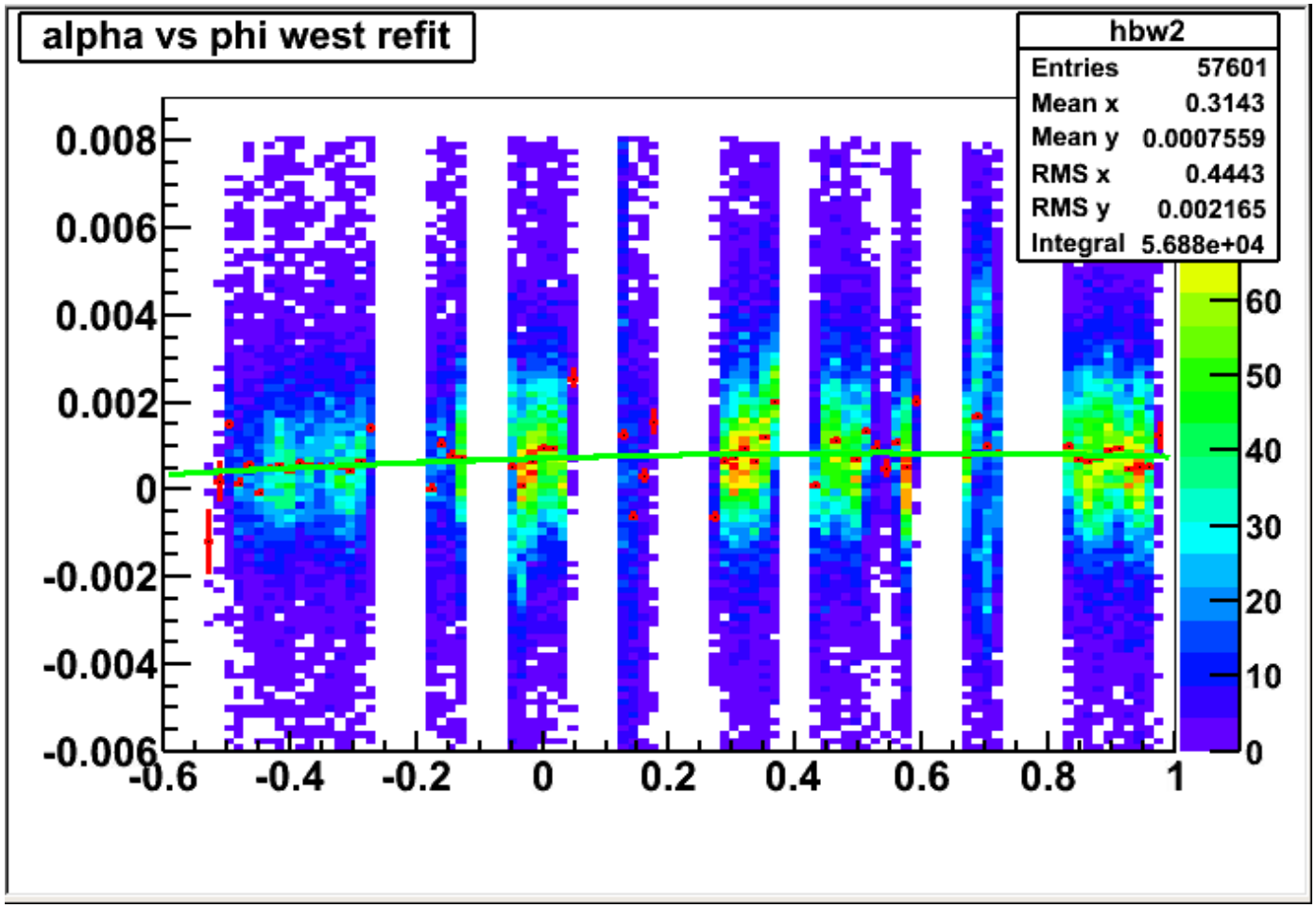
west yoffset: -0.168369 +- 0.00232814

run 359326 east



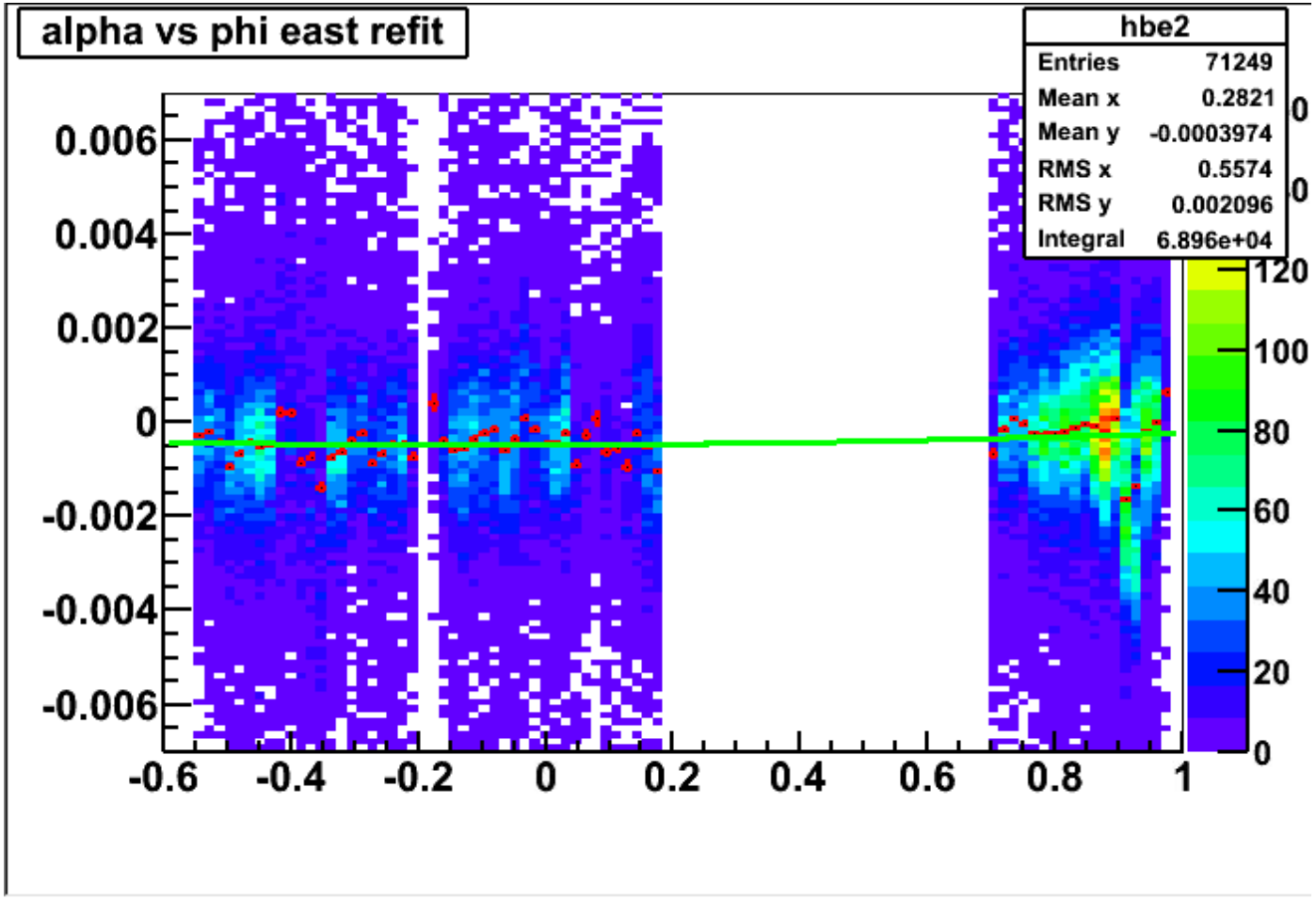
east xoffset: 0.0100128 +- 0.0032843
east yoffset: -0.107615 +- 0.00221705

run 361245 west



west xoffset: 0.0949498 +- 0.00428764
west yoffset: -0.160906 +- 0.00243146

run 361245 east



east xoffset: 0.00853018 +- 0.00310736
east yoffset: -0.104059 +- 0.00214997

run 361652 west

run 361652 east