Beam Tilt & TFC: Can we see a (MC) beam tilt?

1. Plot <b> vs ϕ for different z (barrel) slices
2. Fit to form

$$\langle b \rangle = r^*\sin(\phi + \phi_0) + c$$

(here c is only a cross check.)

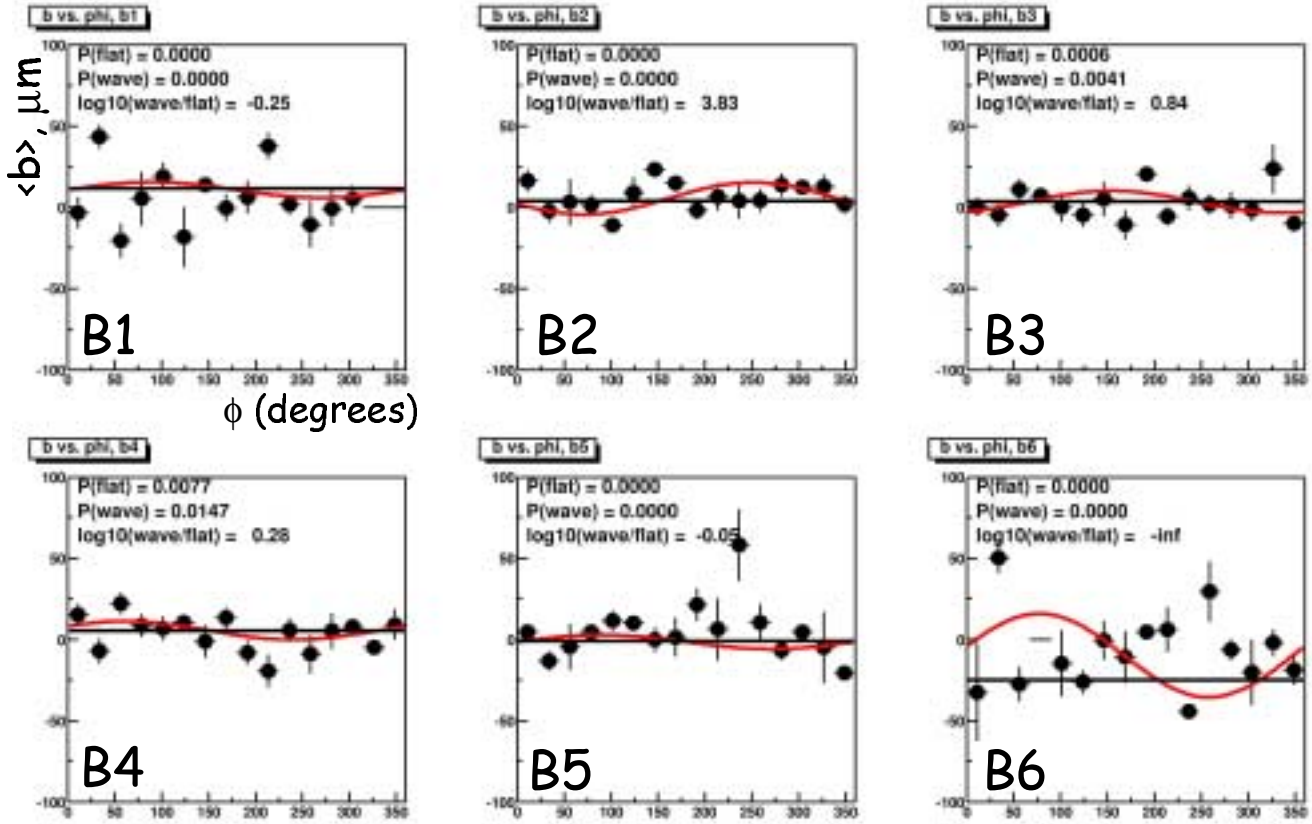
A beam offset: r = constant
$\phi_0 = 0$

A beam tilt: $r = m_r^*z + \eta$
ϕ_0 = angle from x axis

50 GeV μ

no tilt

6 for barrels

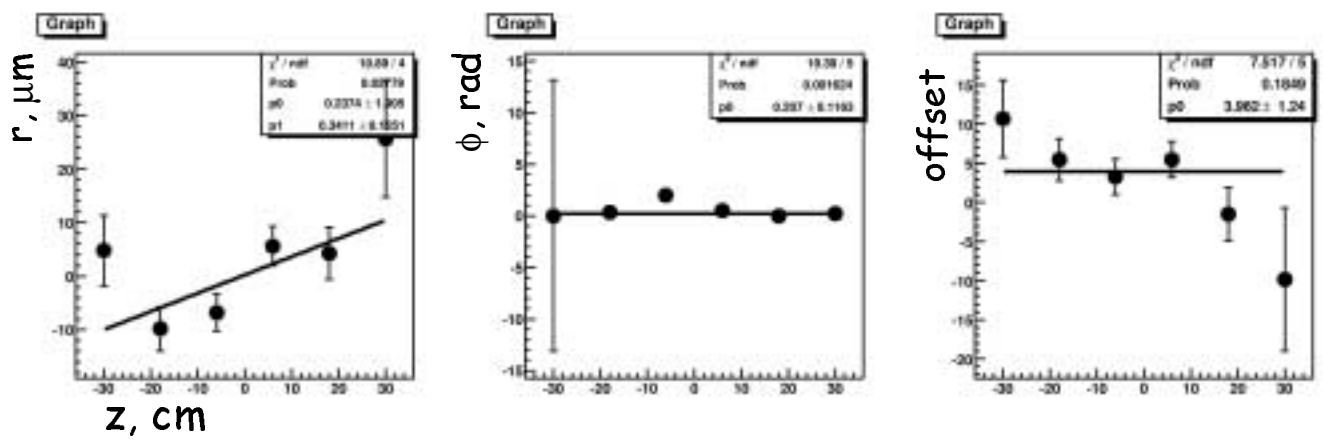


3 summary

if no tilt, r constant

ϕ = 0

offset = 0



Tilt sample

(Lorenzo)

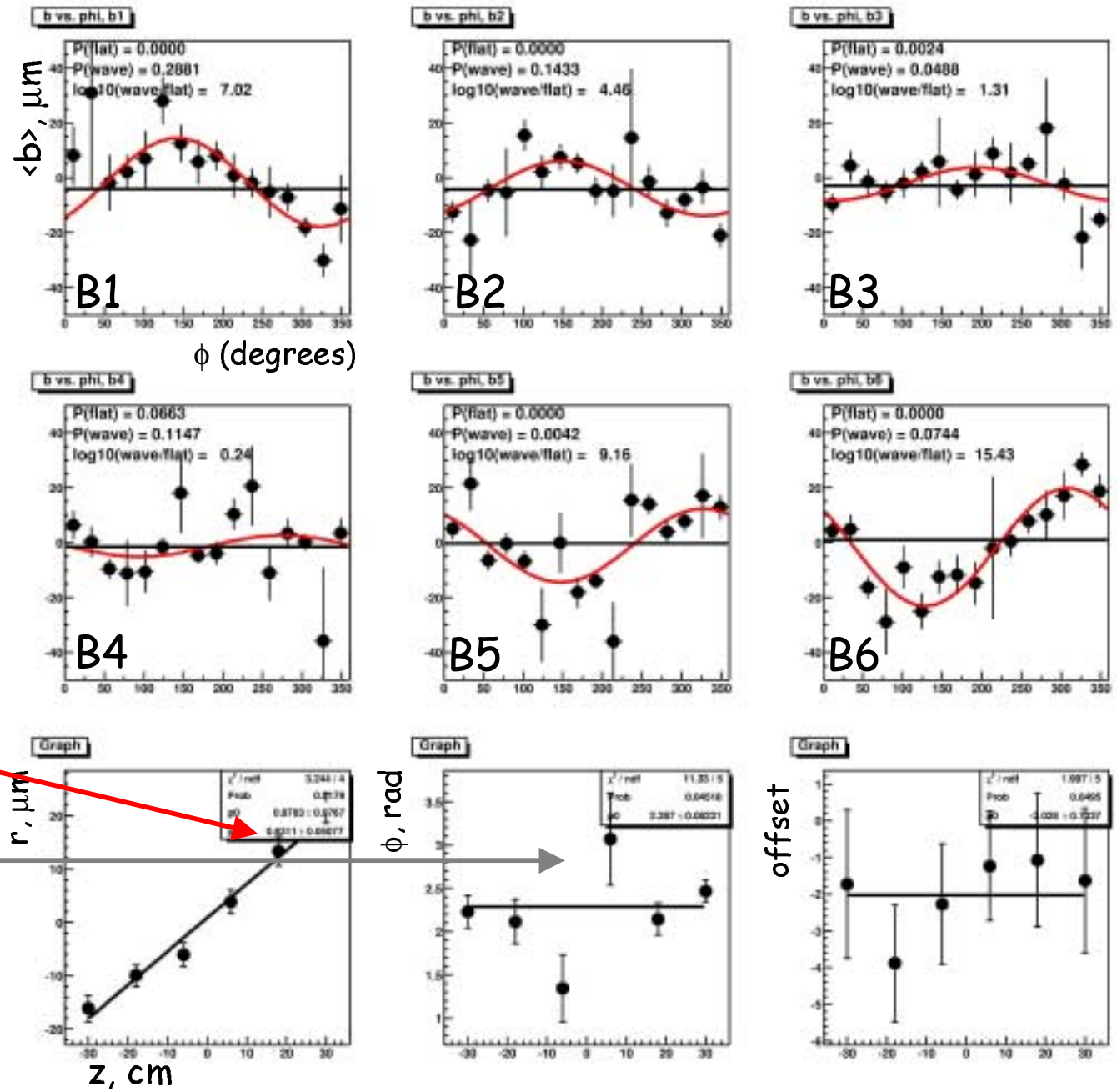
x, y=.5 μm/cm

so expect

m_r=.7 μm/cm

ϕ=2.35 rad(?)

c=0.0



Looks encouraging

- see correct tilt using STT trigsim tracks

- next apply correction within trigsim and recheck when Wendy has some spare time?

- concern: the no-tilt sample gives poor χ^2 values for both fit forms…