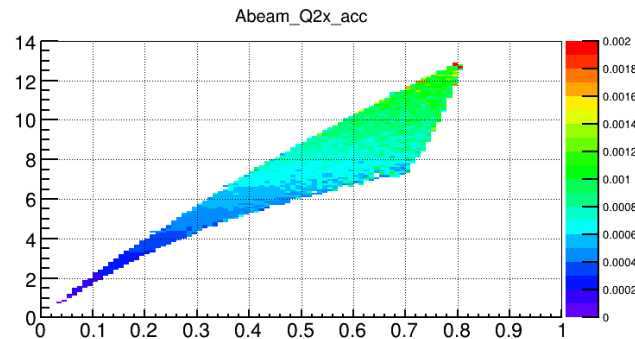
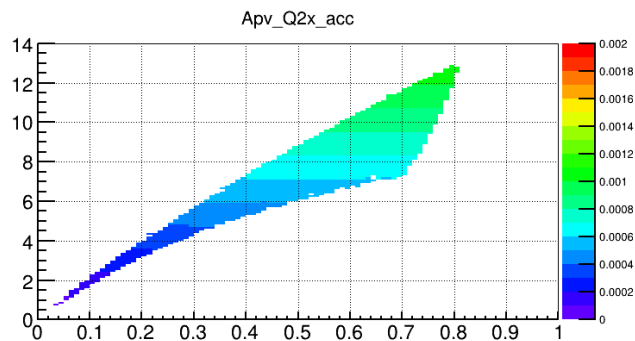


SoLID baffle update

Zhiwen Zhao

2013/05/23

Compare how A_{pv} is calculated. Both approaches have similar results



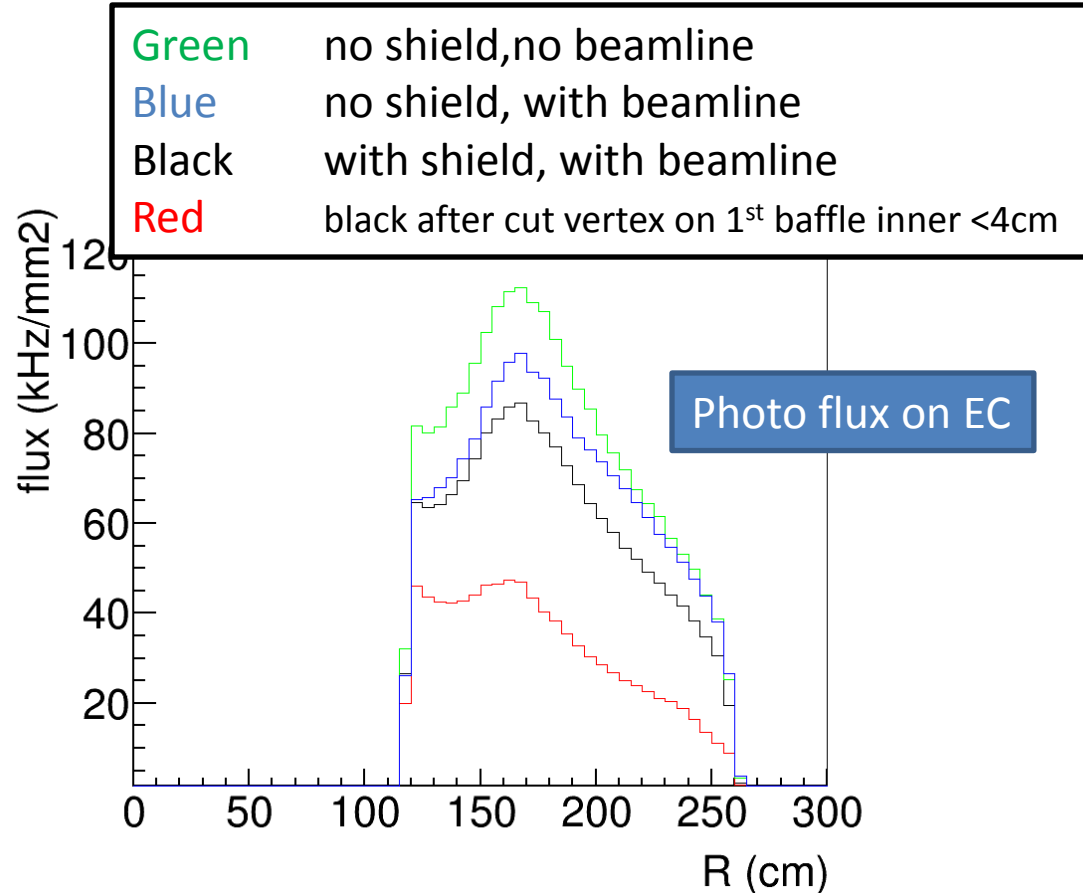
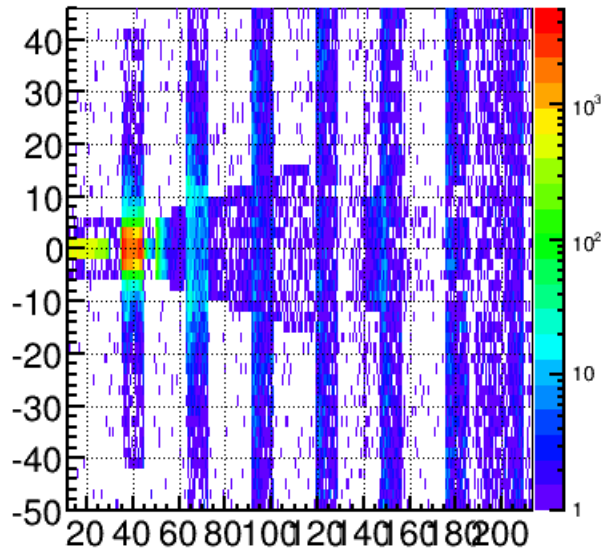
top:
 $0.84e-4 * Q^2$

bottom:
by standard model formula from the
code line 152 where “Abeam” is
defined
https://jlabsvn.jlab.org/svnroot/solid/evgen/eicRate_20101102/eicPhysics.cxx

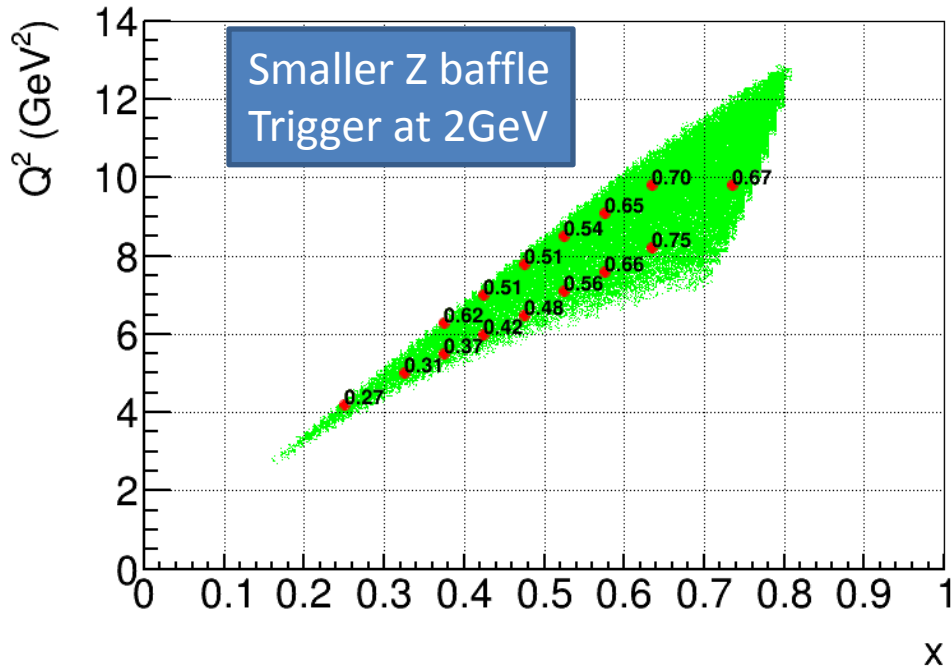
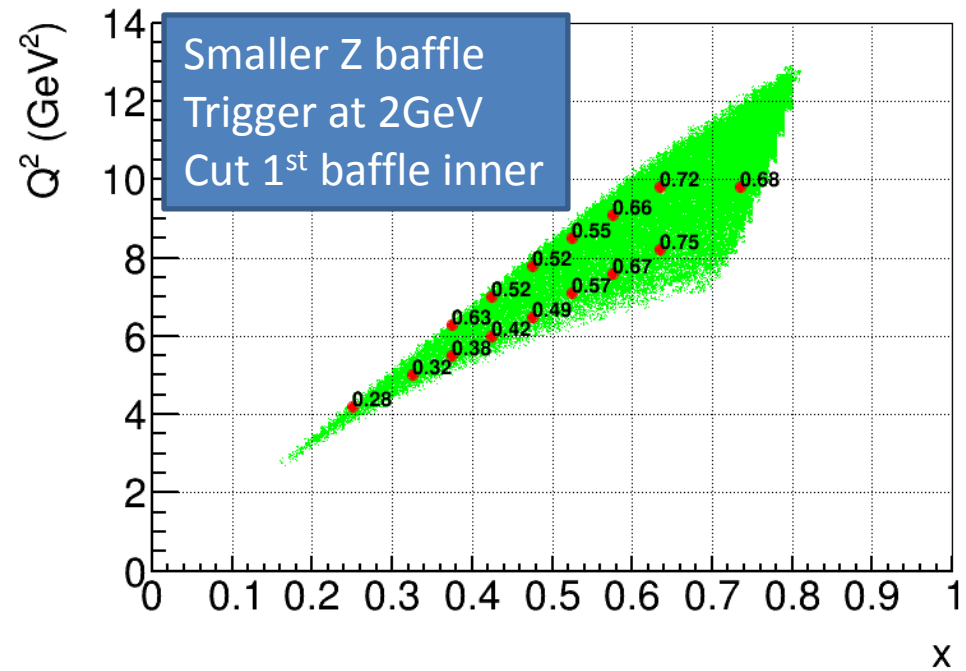
Reduce background for Smaller Z baffle

- Dominating photon background is from the inner radius of the 1st baffle from 2cm to 4cm, not beamline
- Cut away these photons will reduce photon flux by half

Vertex of EM photons on EC
x VS z



- The change doesn't change physics much



Compare general acceptance

- They are similar
- Full background study of “Smaller Z baffle cut inner” will take a couple more days

negative

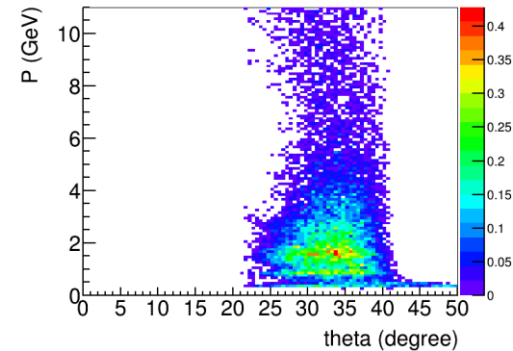
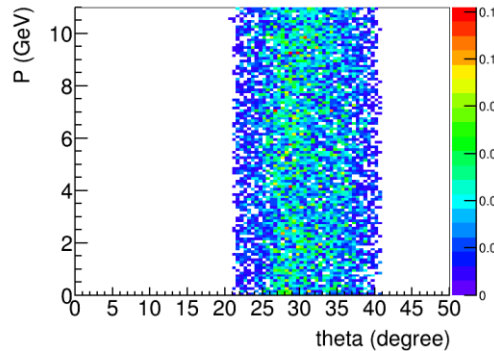
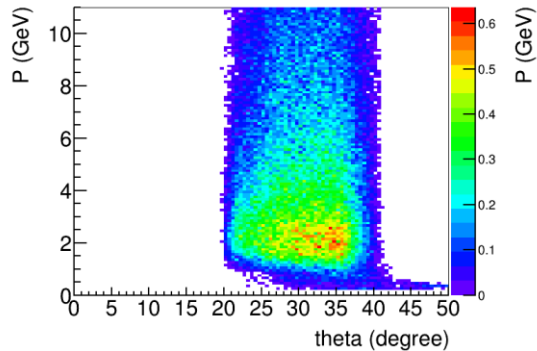
neutral

positive

acceptance

acceptance

acceptance

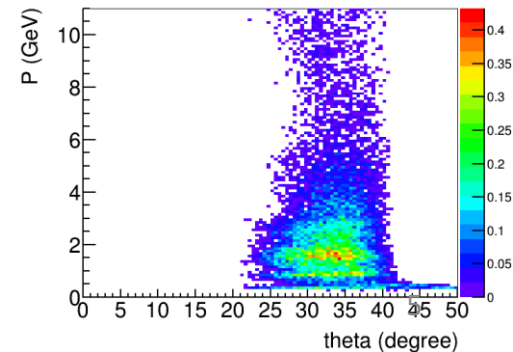
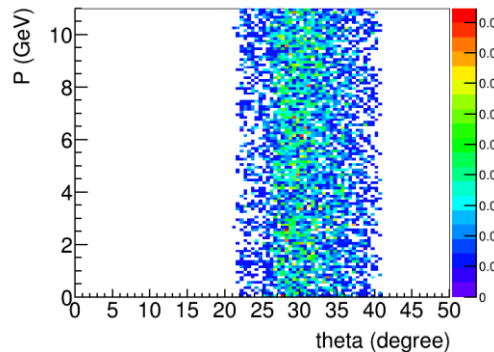
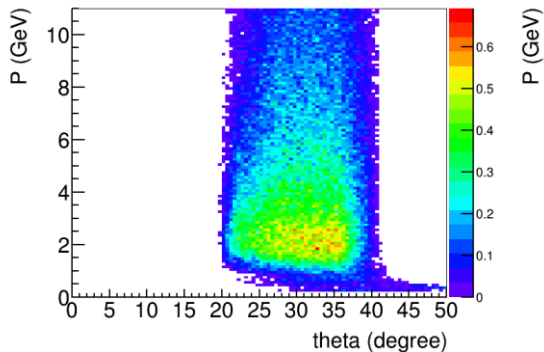


Smaller Z baffle
Cut 1st baffle inner

acceptance

acceptance

acceptance



Smaller Z baffle

Trigger effect based on Smaller Z baffle cut inner

ApvErr

0.28,0.32,0.38,0.63,0.42,0.52,0.49,0.52,0.57,0.55,0.67,0.66,0.75,0.72,0.68

1.90,0.58,0.44,0.72,0.43,0.53,0.49,0.52,0.57,0.55,0.67,0.66,0.75,0.72,0.68

0.52,0.42,0.41,0.72,0.43,0.53,0.49,0.52,0.57,0.55,0.67,0.66,0.75,0.72,0.68

This could an option for trigger

trigger (GeV)

p<2.0, r(110cm – 270cm)

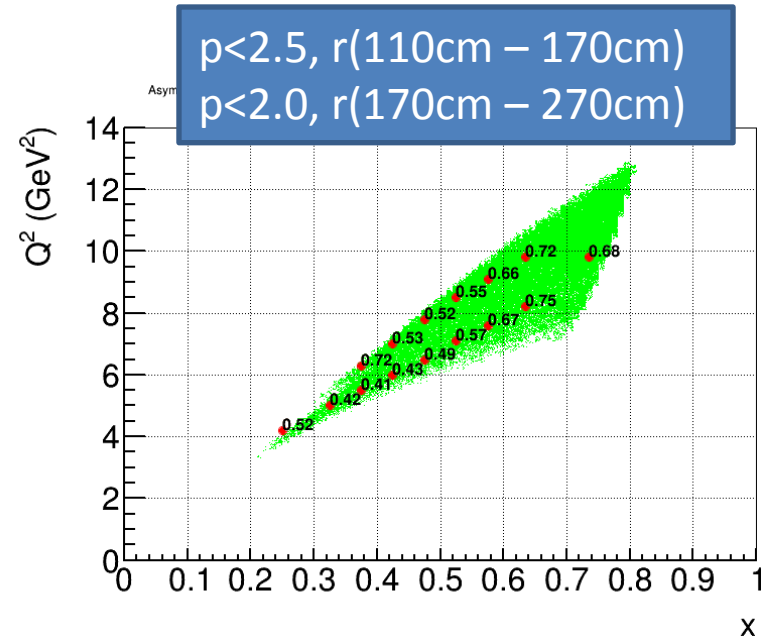
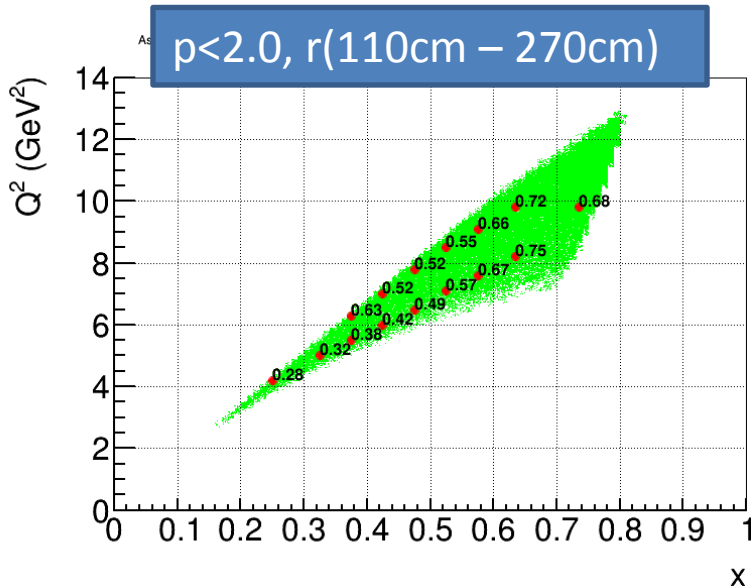
p<3.0, r(110cm – 140cm)

p<2.5, r(140cm – 170cm)

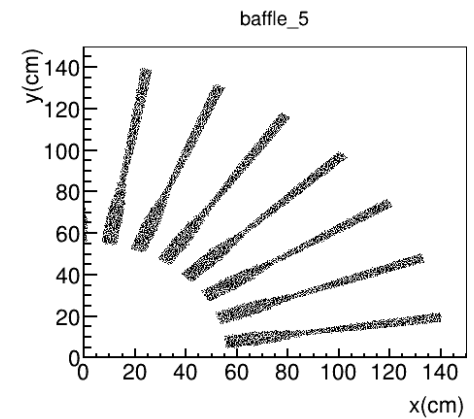
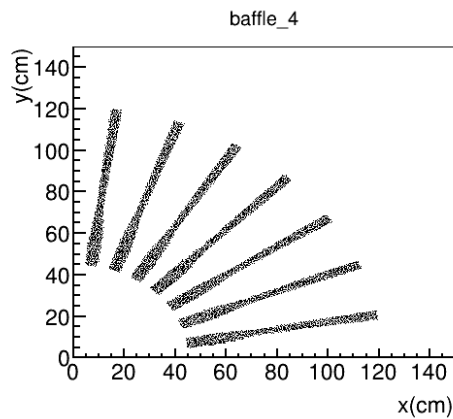
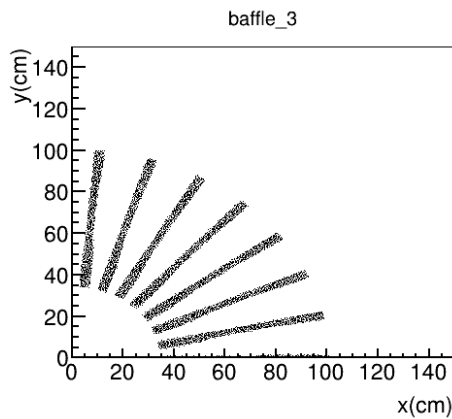
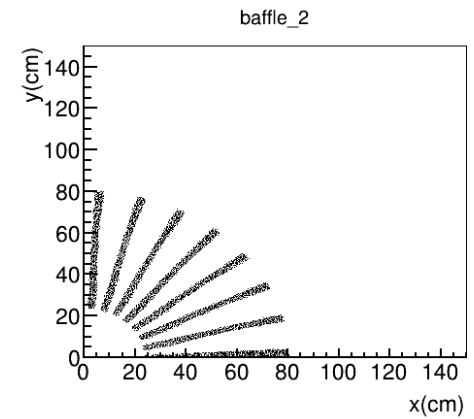
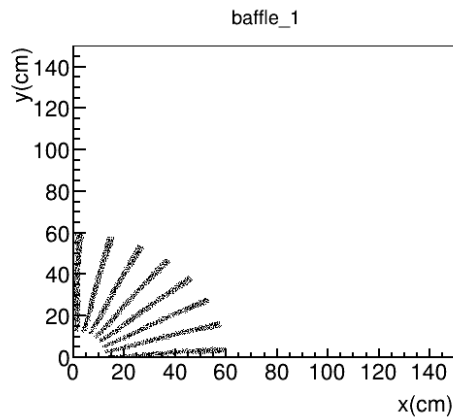
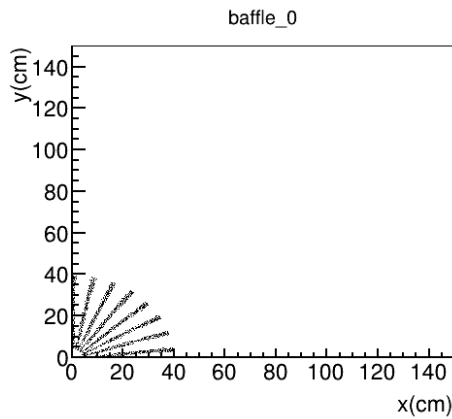
p<2.0, r(170cm – 270cm)

p<2.5, r(110cm – 170cm)

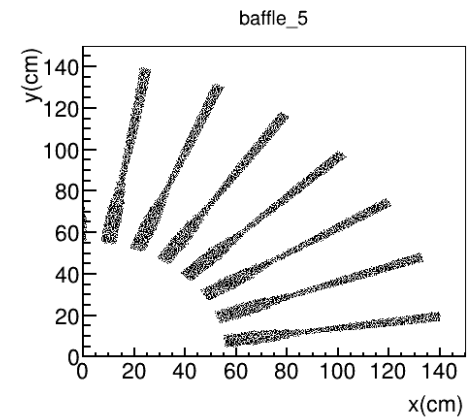
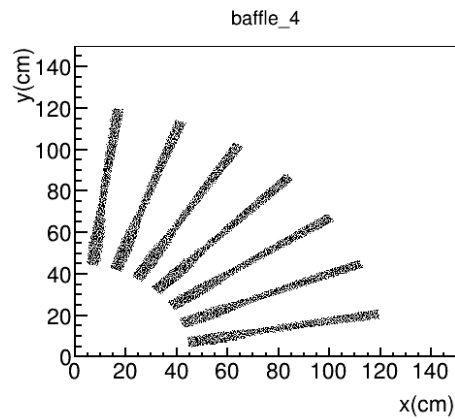
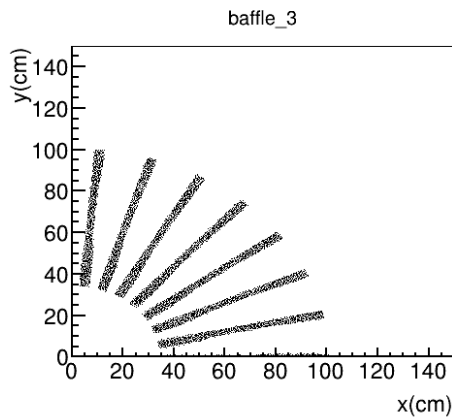
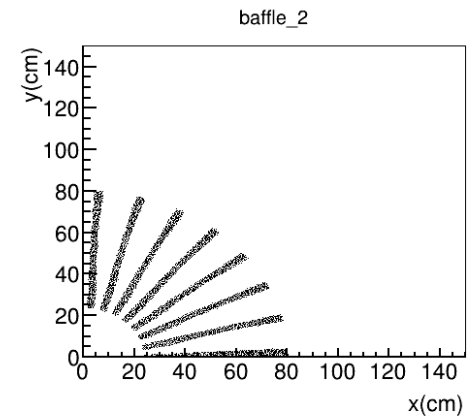
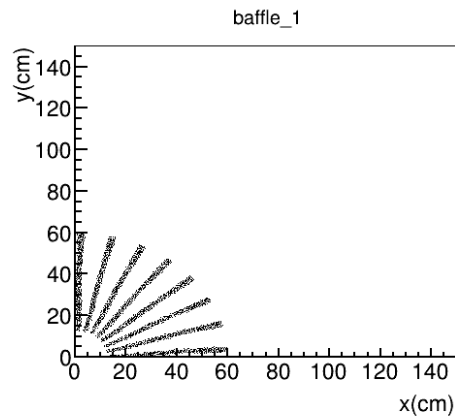
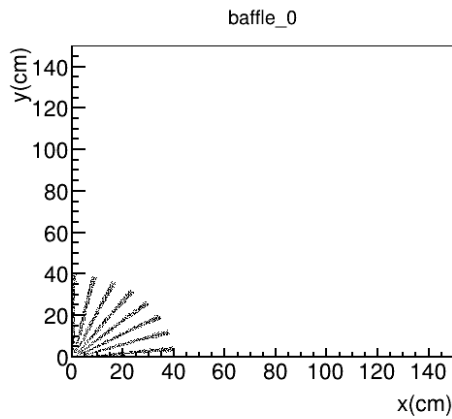
p<2.0, r(170cm – 270cm)



Smaller Z baffle cut inner



Smaller Z baffle



Larger Z baffle

