

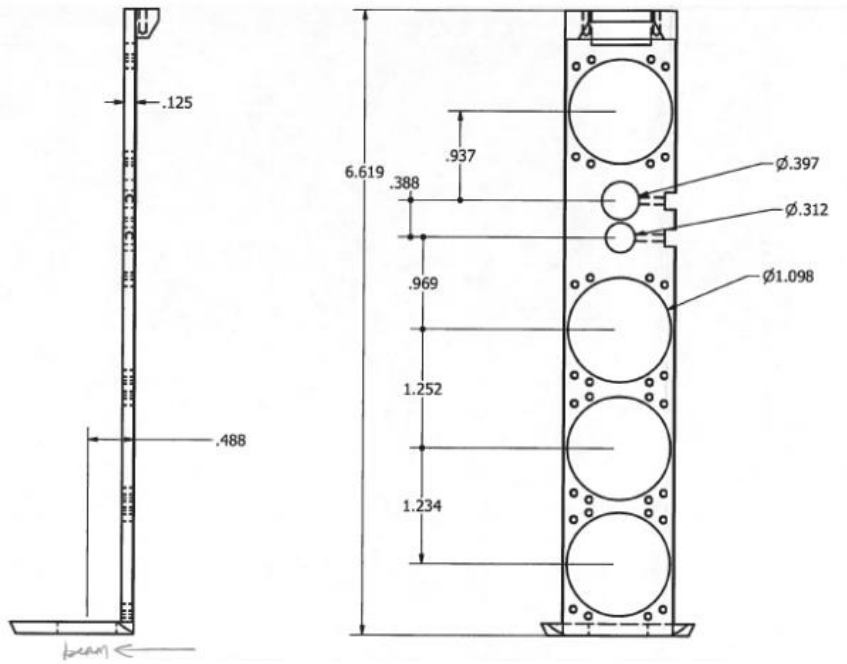
Simulation Update

Target center vs bpm

Jie Liu

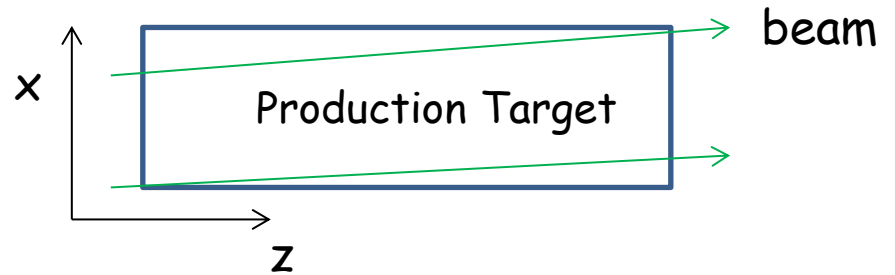
03/31/2015

Target Design



Target inset

Lab Coordinate



Target Radius $R_{target} = 1.361\text{cm}$, $L_{target} = 2.827\text{cm}$

$\varphi(\theta)$ beam initial angle (absolute) in x-z (y-z) plane
 $\alpha(\beta)$ scattering trajectory angle in x-z (y-z) plane

Beam not hit on target wall:

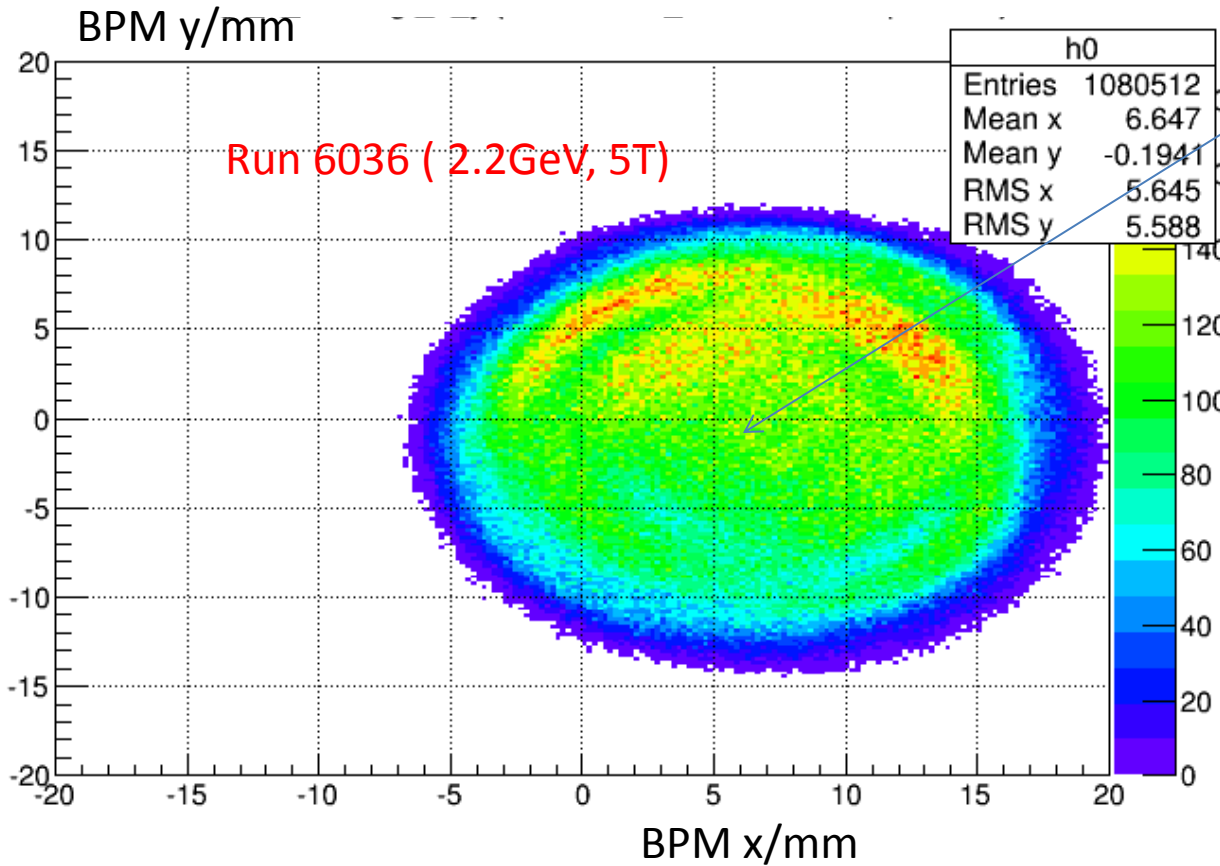
At $z=0$, beam spot $D_x < D_{target} - L_{target} * \tan\varphi$

At $z=0$, beam spot $D_y < D_{target} - L_{target} * \tan\theta$

$\theta \sim 60\text{mrad}$ (2.2GeV 2.5T Tran), 78mrad (1.7GeV, Tran),
 117mrad (1.1GeV Tran), 0mrad (5.0T)

$\varphi \sim 0$

Target center vs bpm



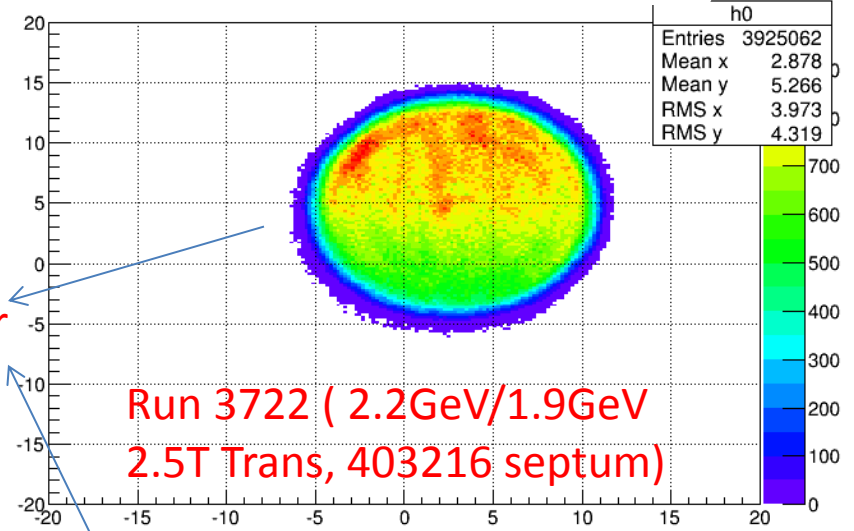
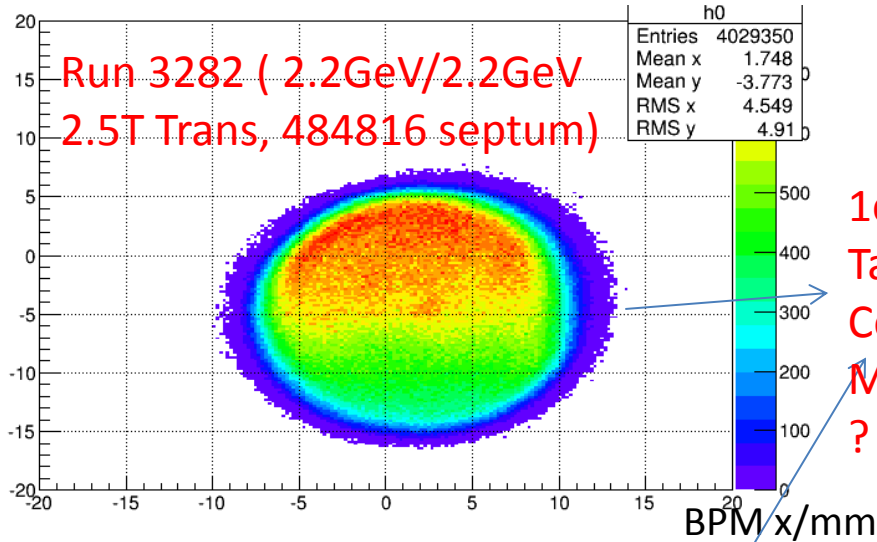
Beam did not hit wall
with bpm x (-7 to 19 mm)
bpm y (-14 to 11 mm)



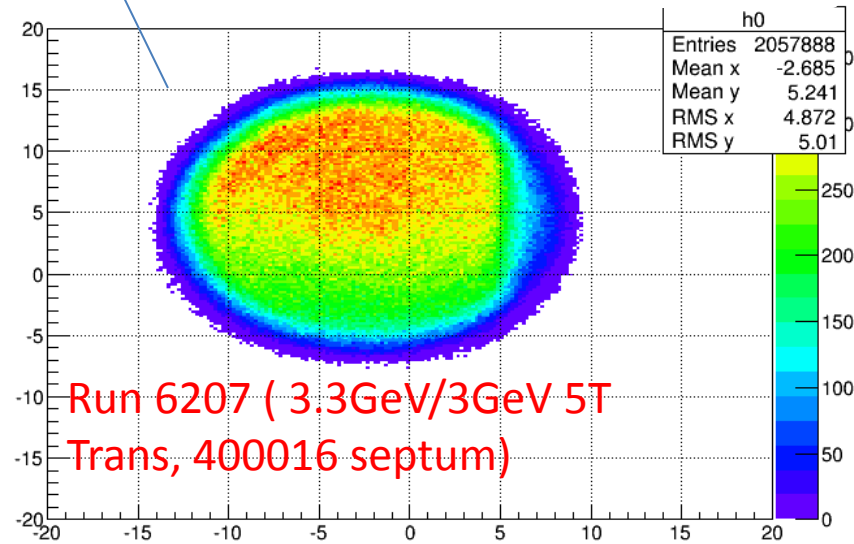
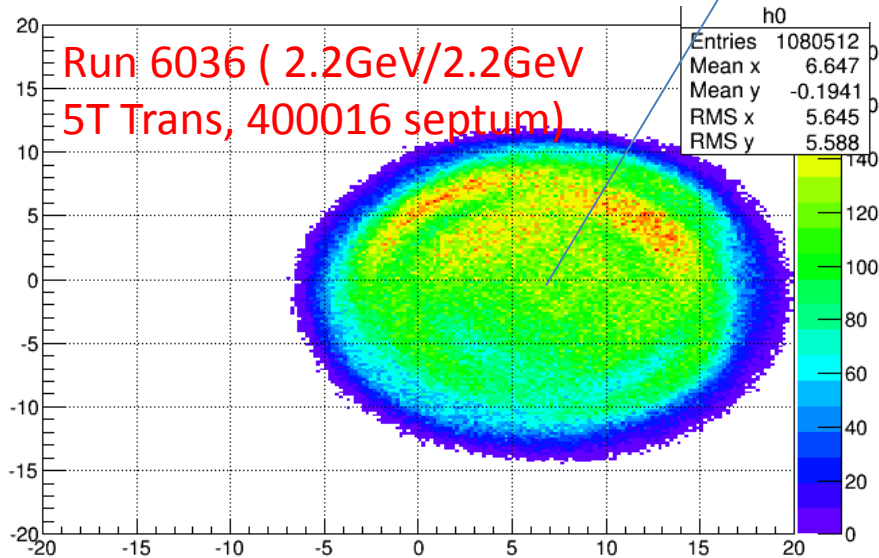
- Q:
- Target center not in lab Coordinate (0, 0)?
 - or
 - Target is center, but bpm have offsets?
 - or
 - Target is center and bpm Correct but Raster size Not scaled properly?

Target center vs bpm

BPM y/mm



1cm
Target
Center
Move
?



Summary

Any suggestion?