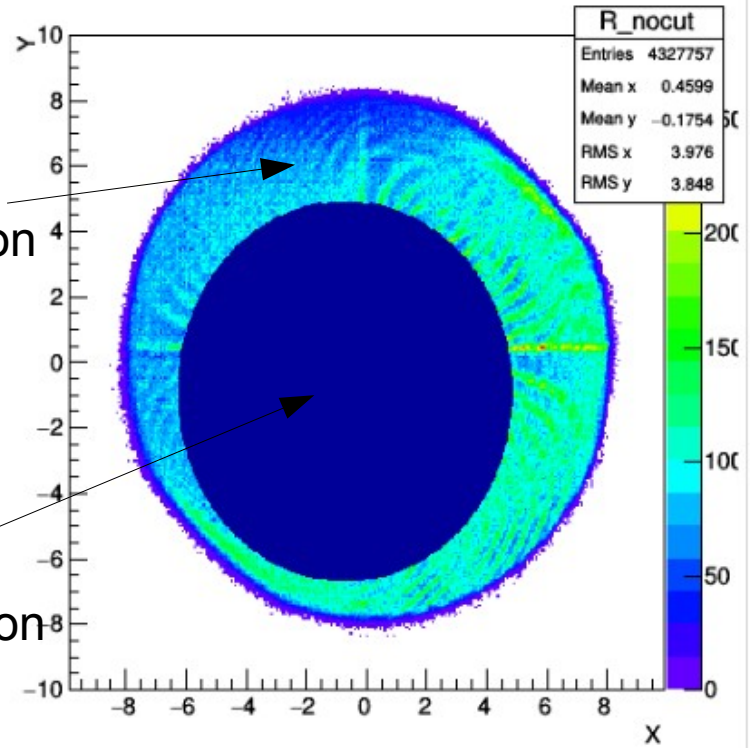
Position Cut for yield check

Pengjia Zhu

Get charge after position cut
Method:

Calibrated slow raster info for both fastbus and happex
Use same raster cut for fastbus and happex
Use happex raster cut info to get charge from happex bcm

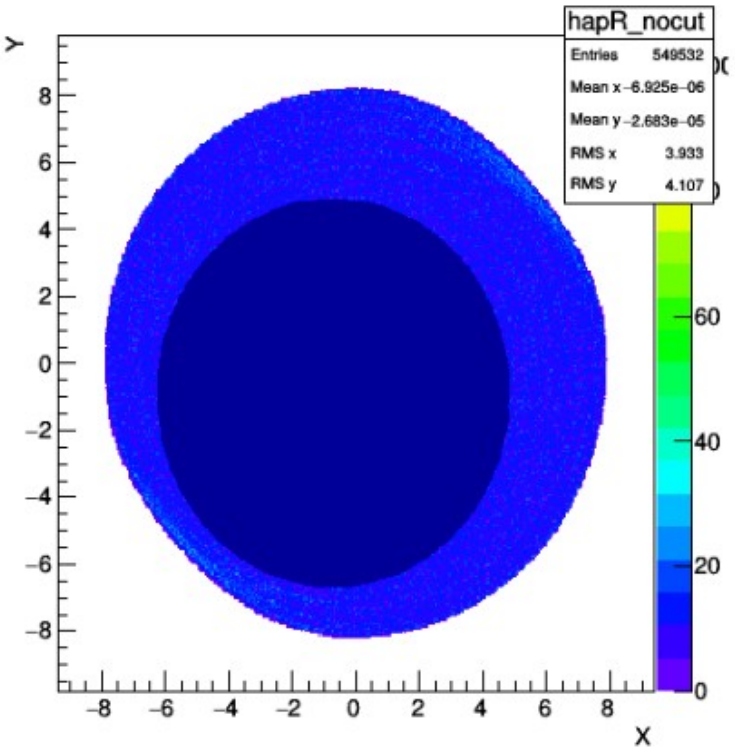
Calibrated slow raster on fastbus



Raw region

Cutted region

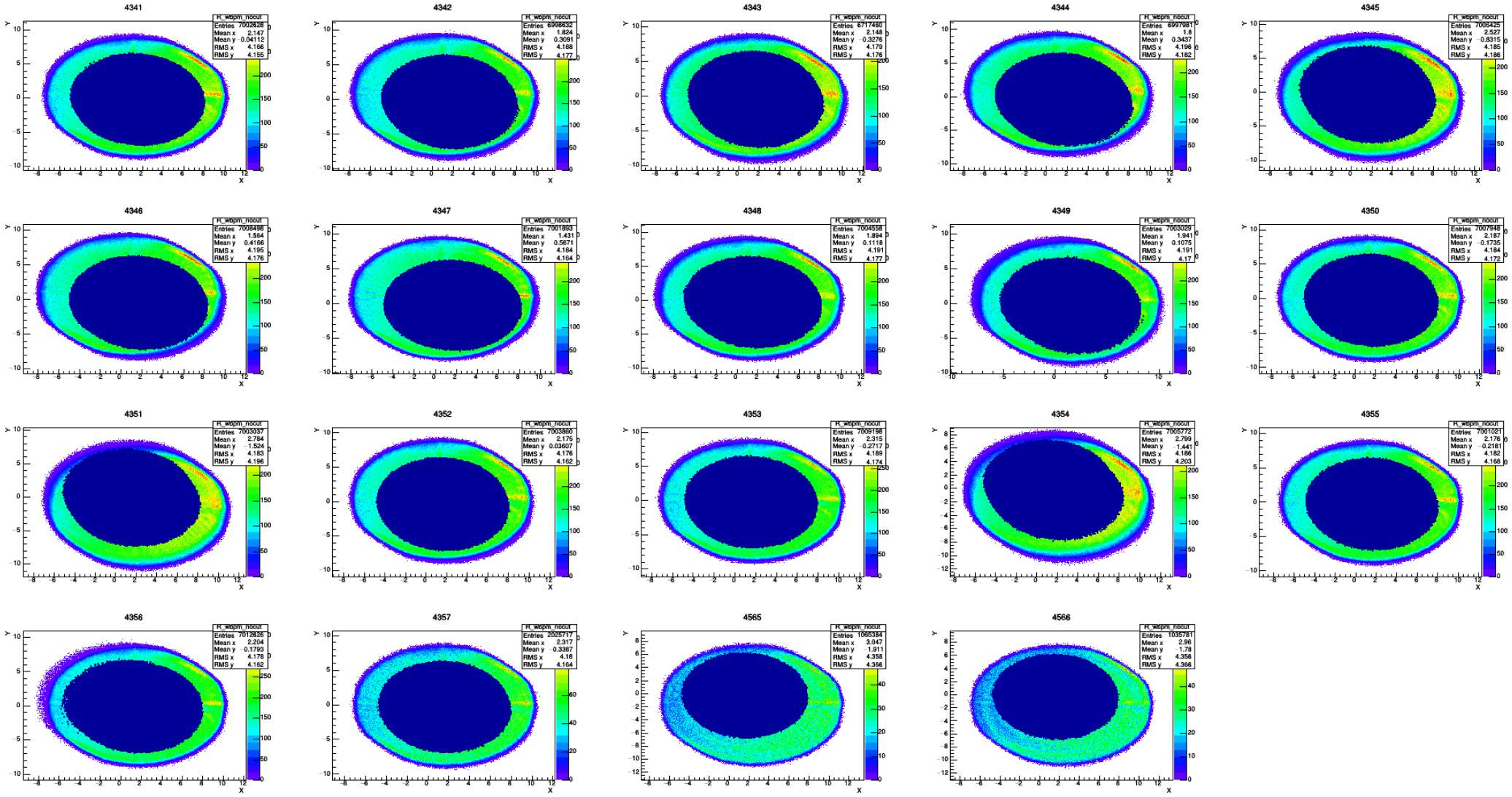
Calibrated slow raster on happex



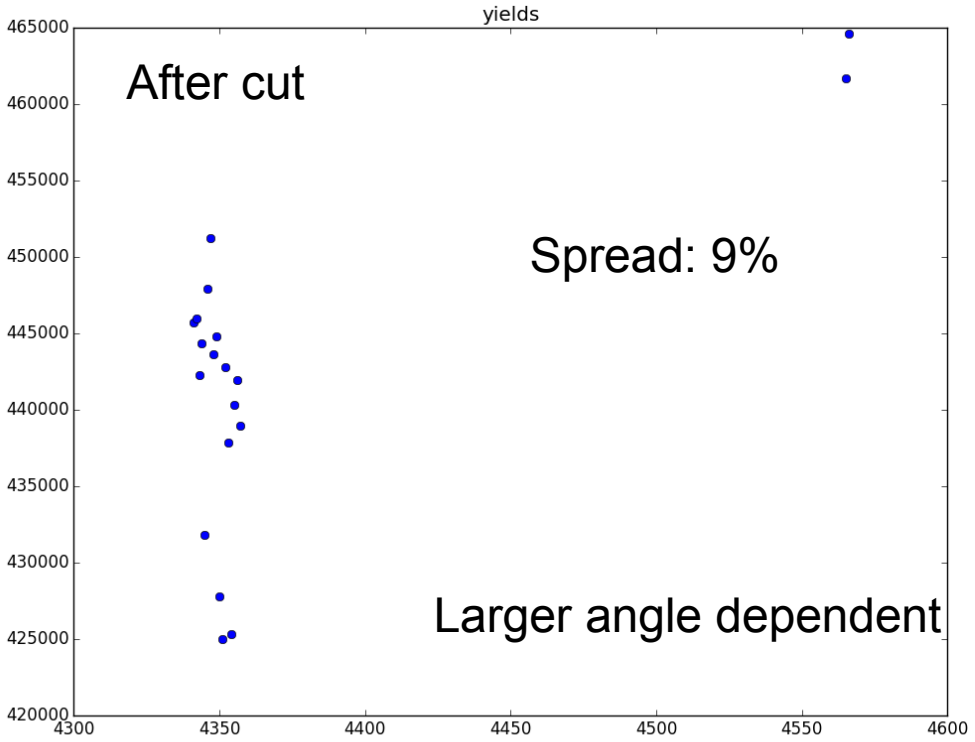
Note: Only cut on slow raster!

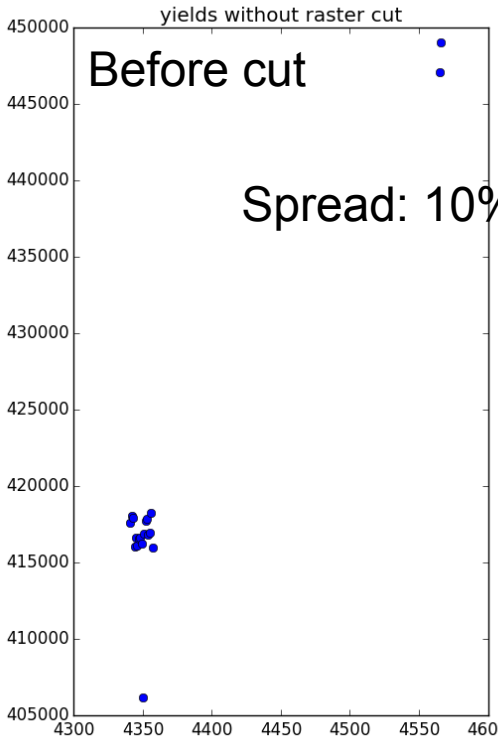
E=1.7GeV, P=1320MeV

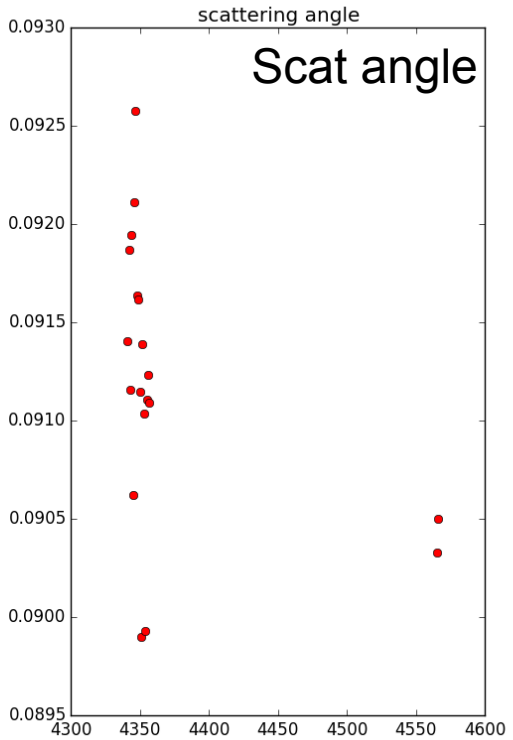
Cut using same center beam position and same slow raster size



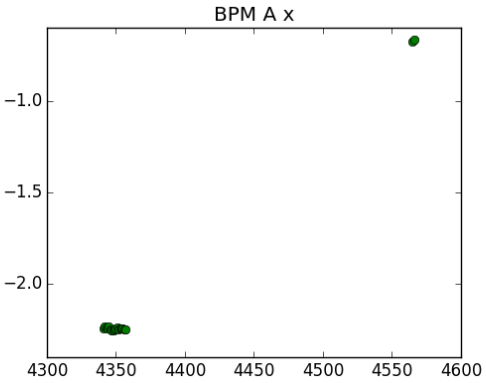
Shortcoming: Since cut on slow raster, can not make sure cut on same beam position

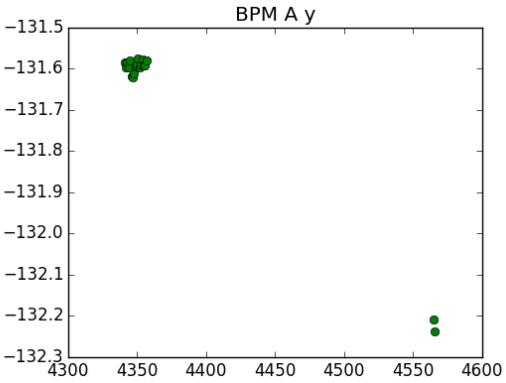


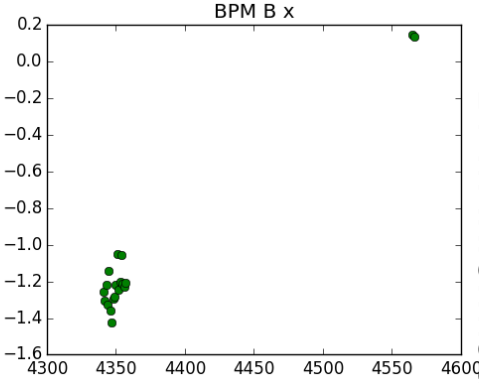


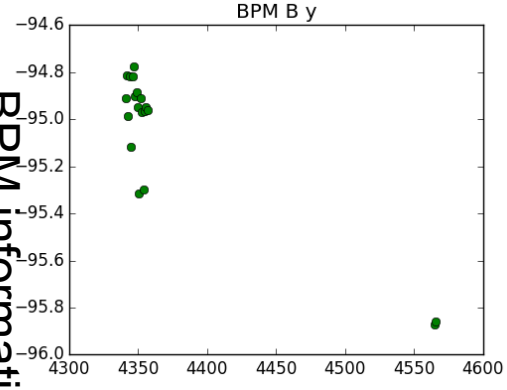


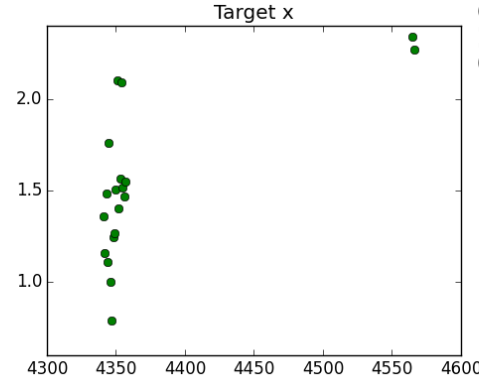
BPM informations

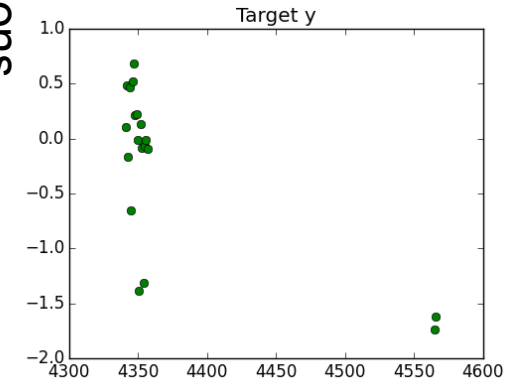


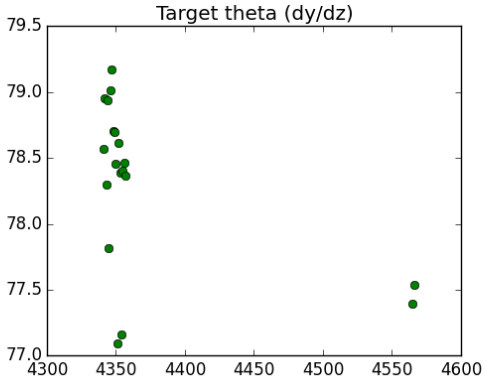


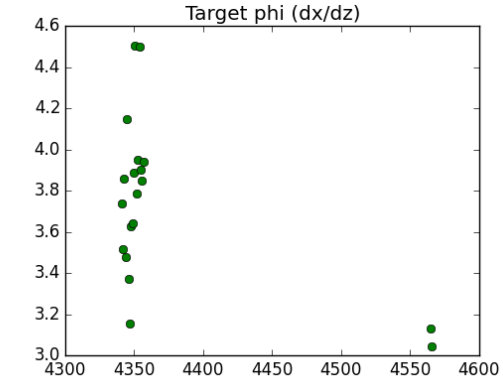


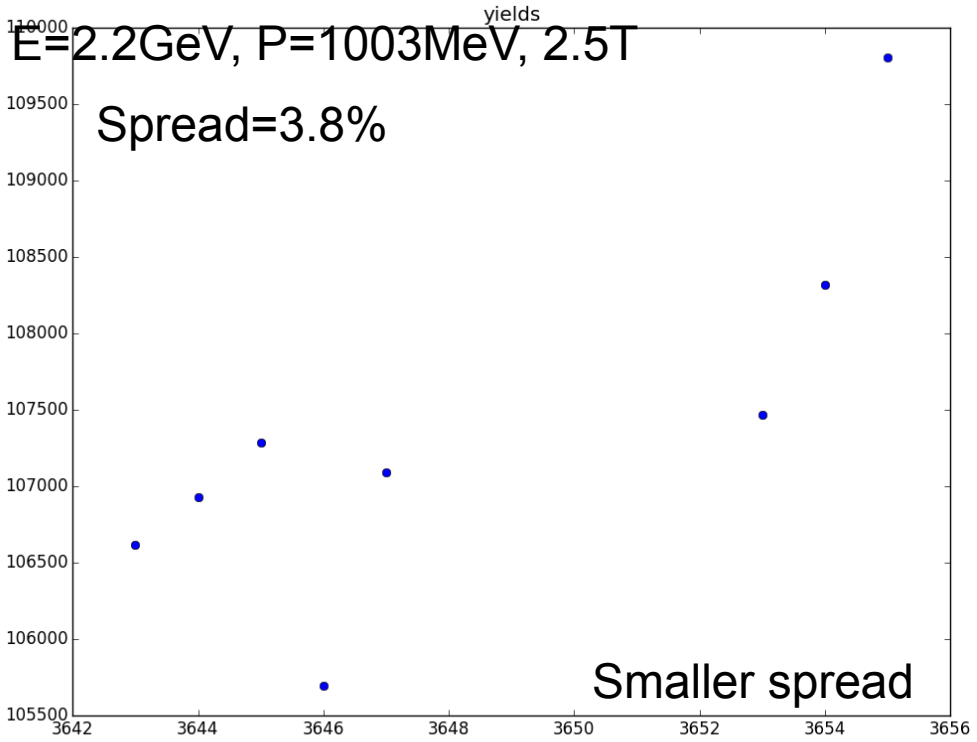


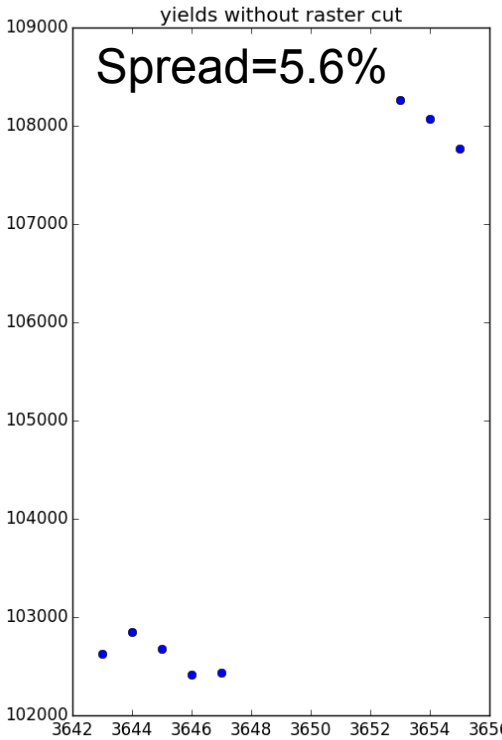


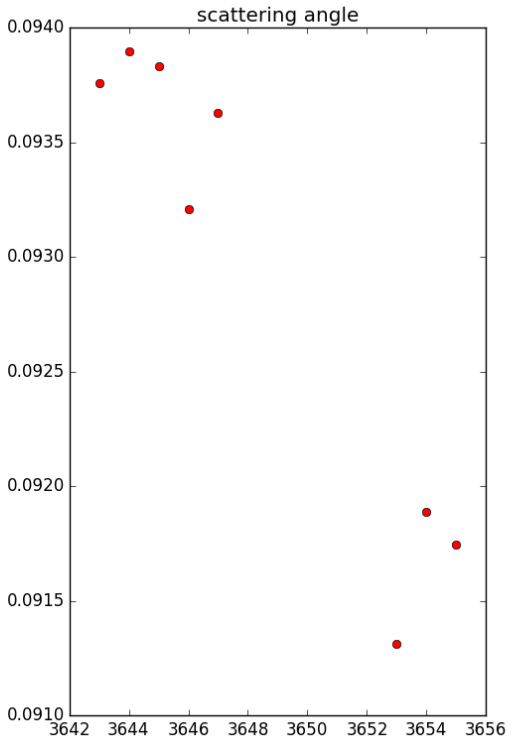


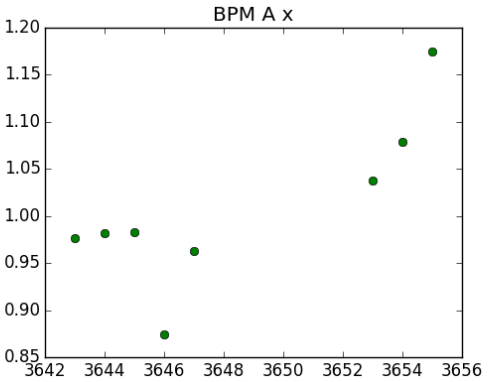


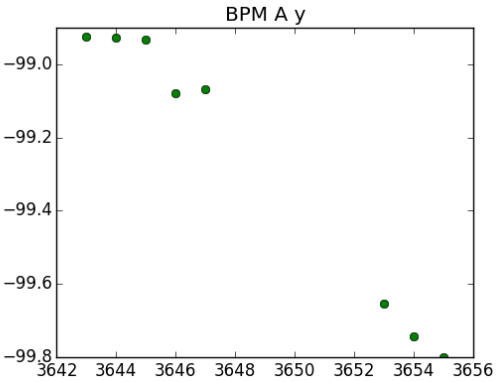


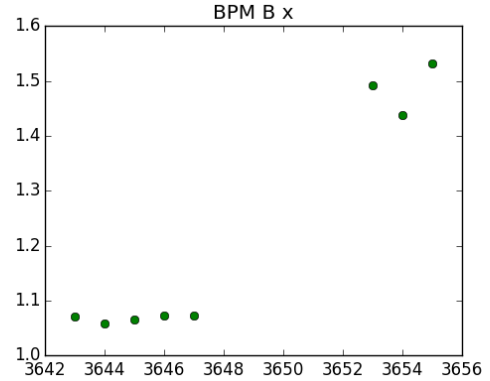

yields
E=2.2GeV, P=1003MeV, 2.5T
Spread=3.8%
Smaller spread

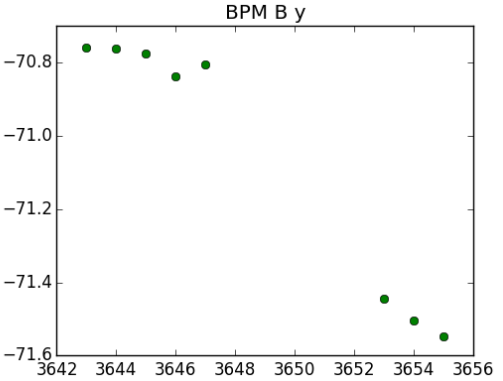

yields without raster cut
Spread=5.6%

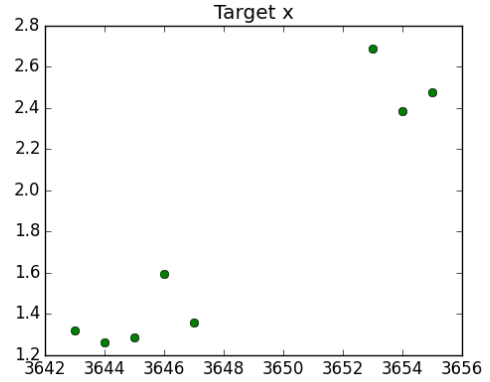

scattering angle

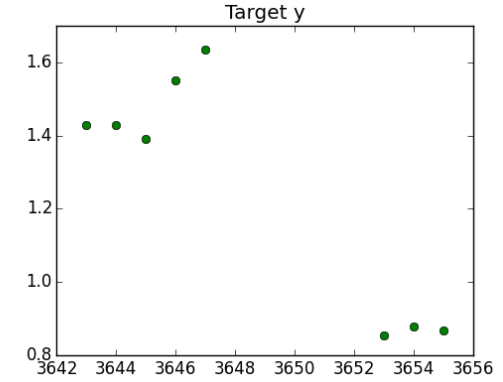

BPM A x

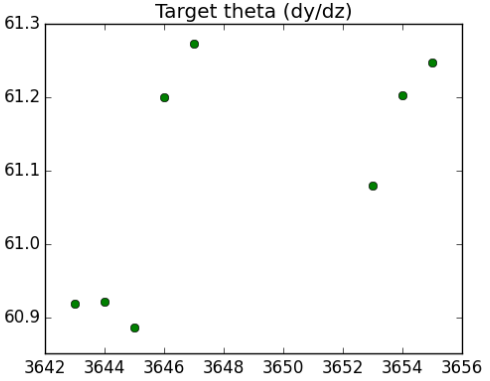

BPM A y

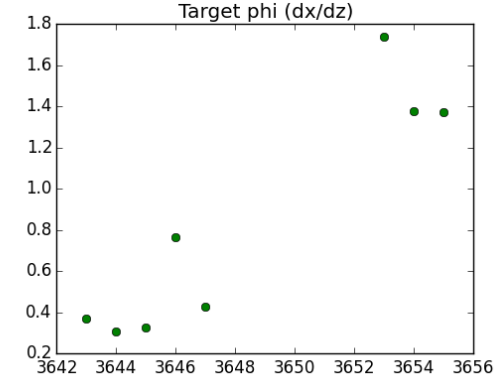

BPM B x

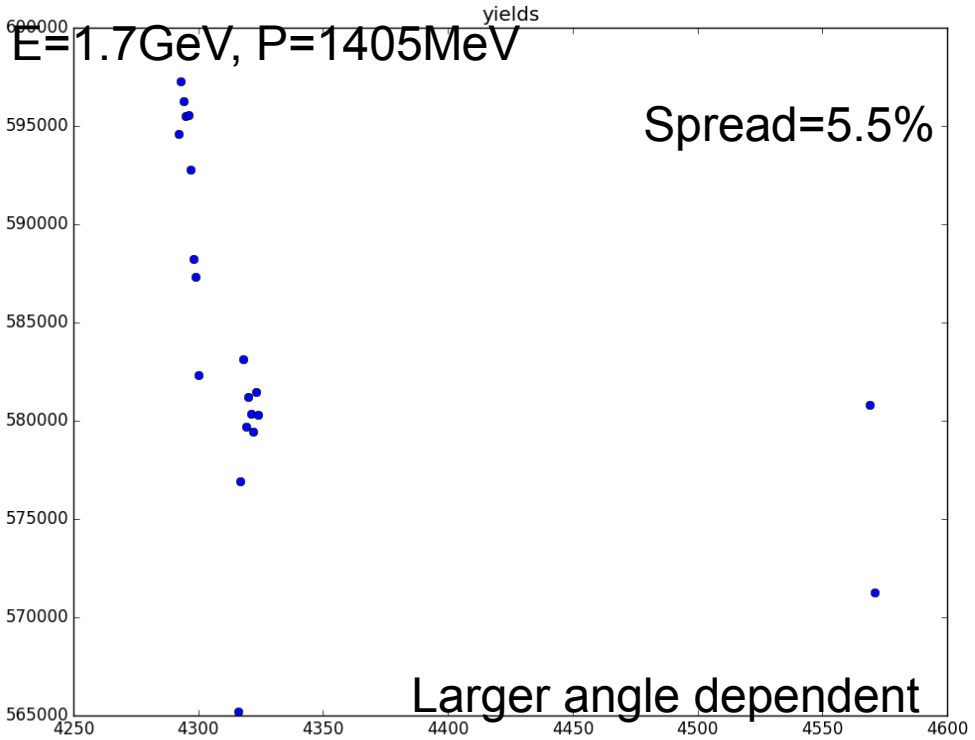

BPM B y

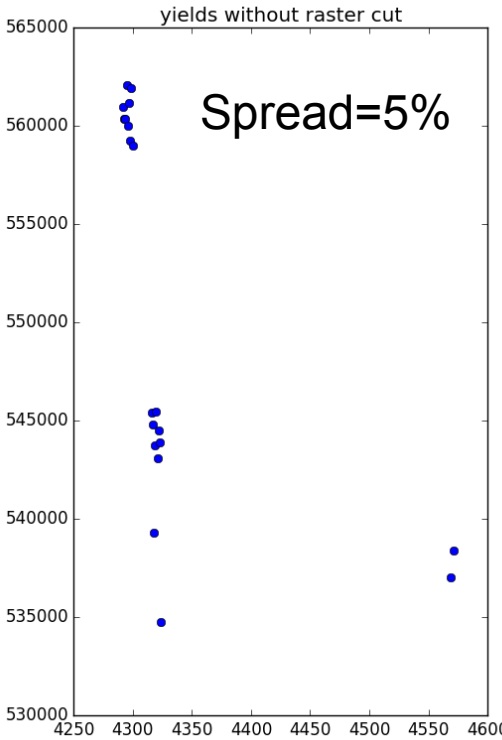

Target x

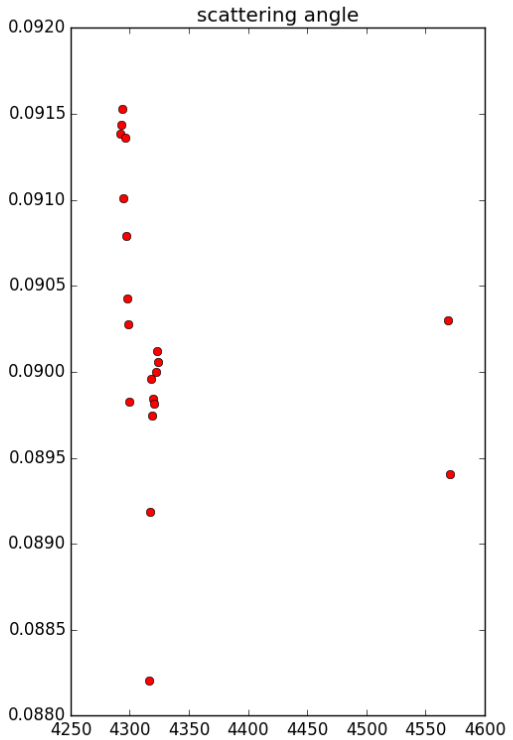

Target y

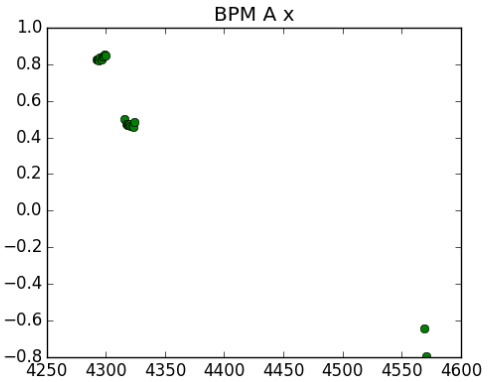

Target theta (dy/dz)

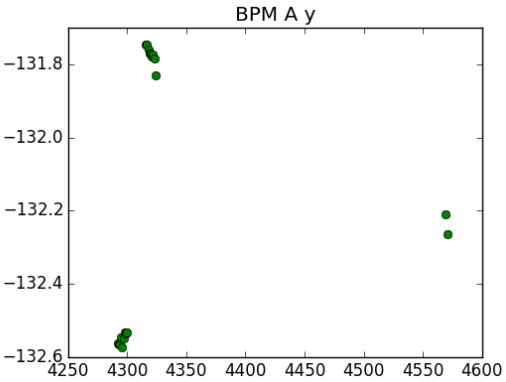

Target phi (dx/dz)

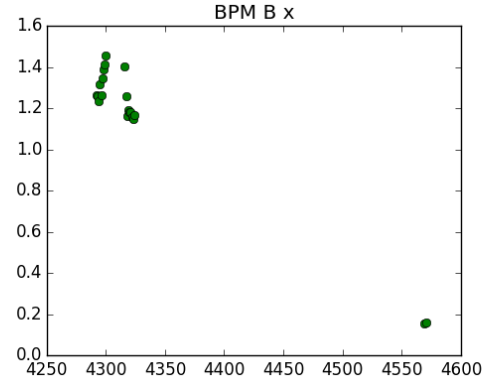

yields
E=1.7GeV, P=1405MeV
Spread=5.5%
Larger angle dependent

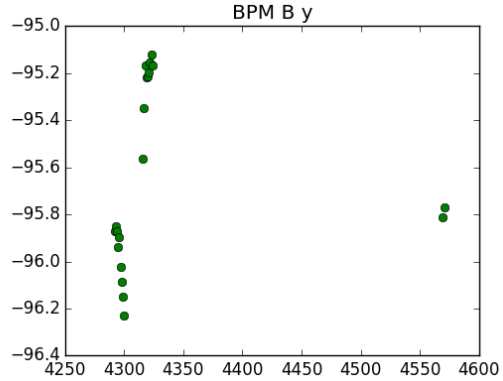

yields without raster cut
Spread=5%

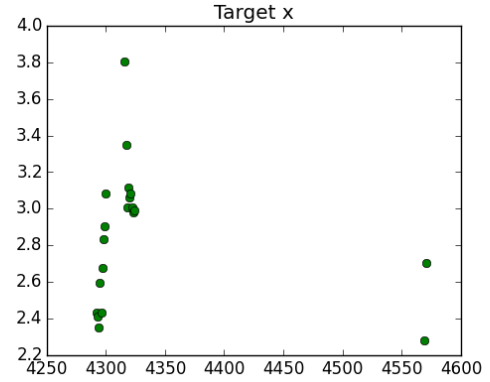

scattering angle

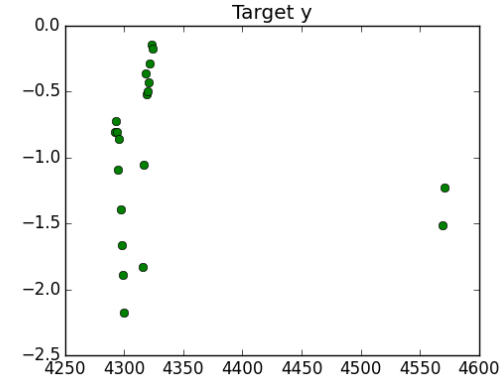

BPM A x

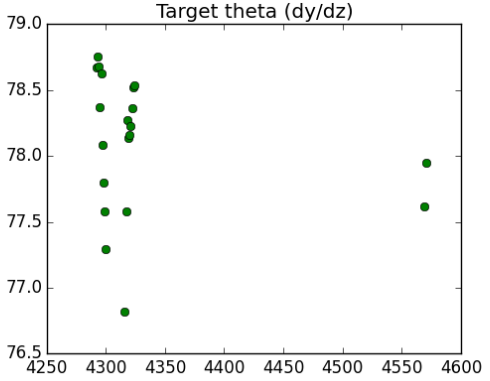

BPM A y

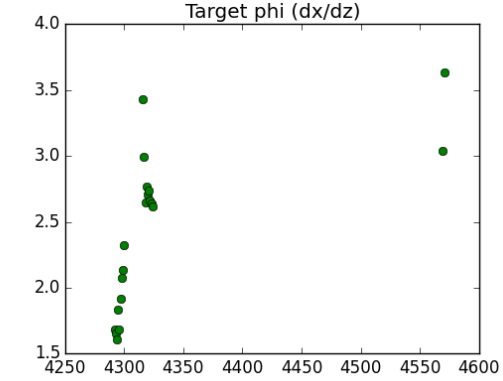

BPM B x


BPM B y

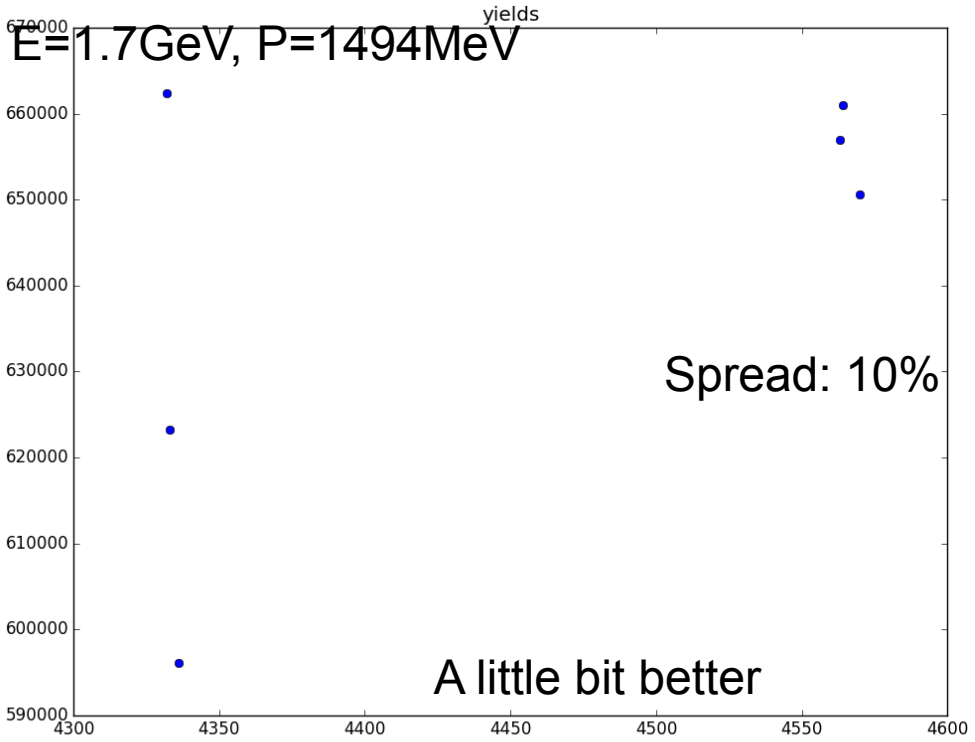

Target x

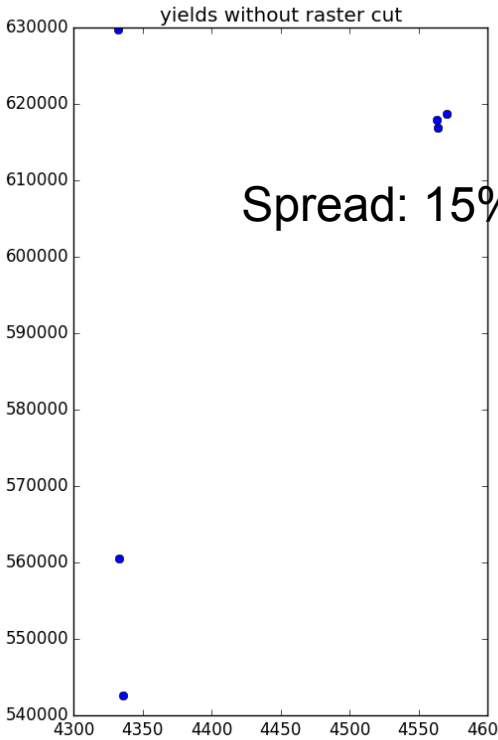

Target y

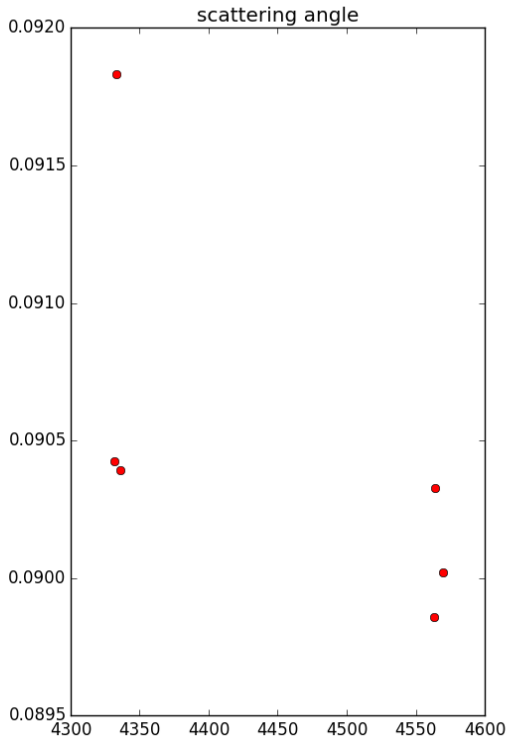

Target theta (dy/dz)

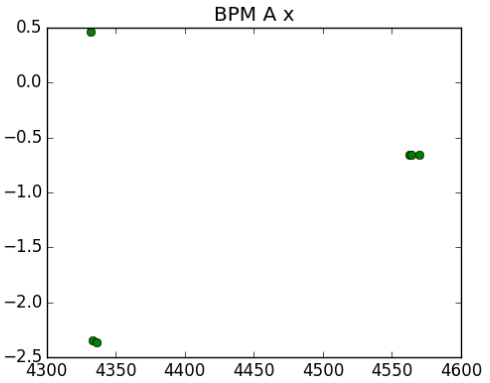

Target phi (dx/dz)

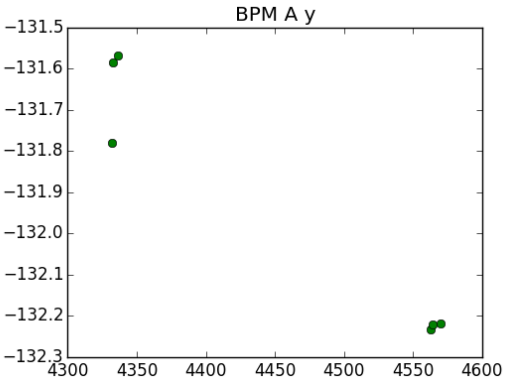
E=1.7GeV, P=1494MeV

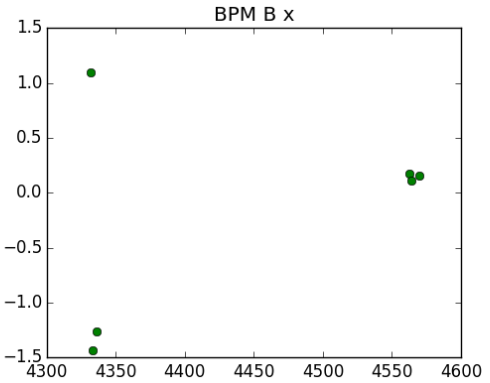


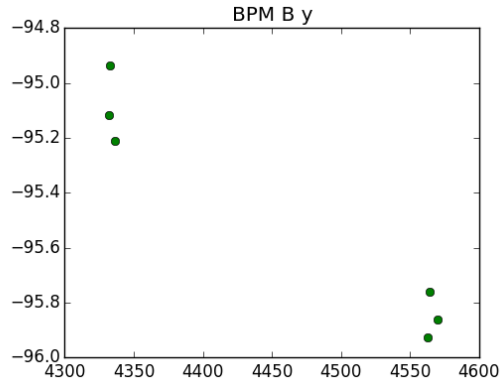


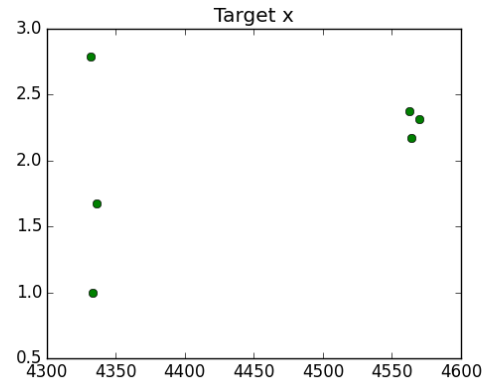


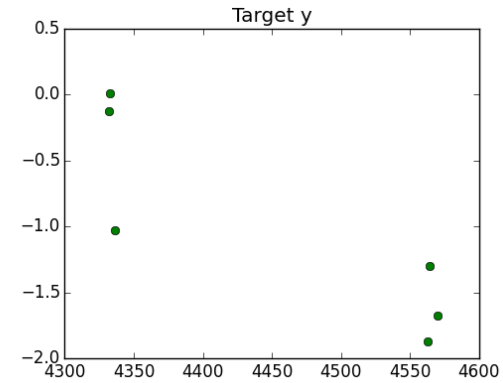


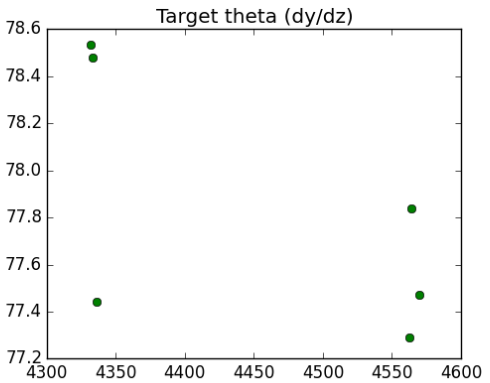


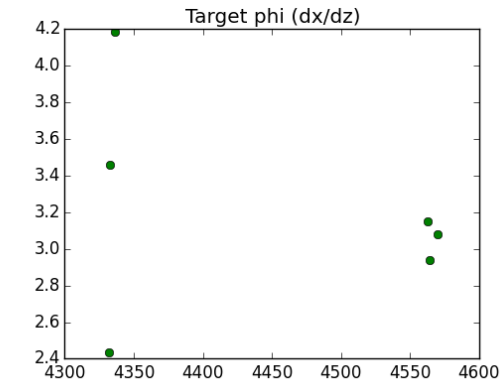












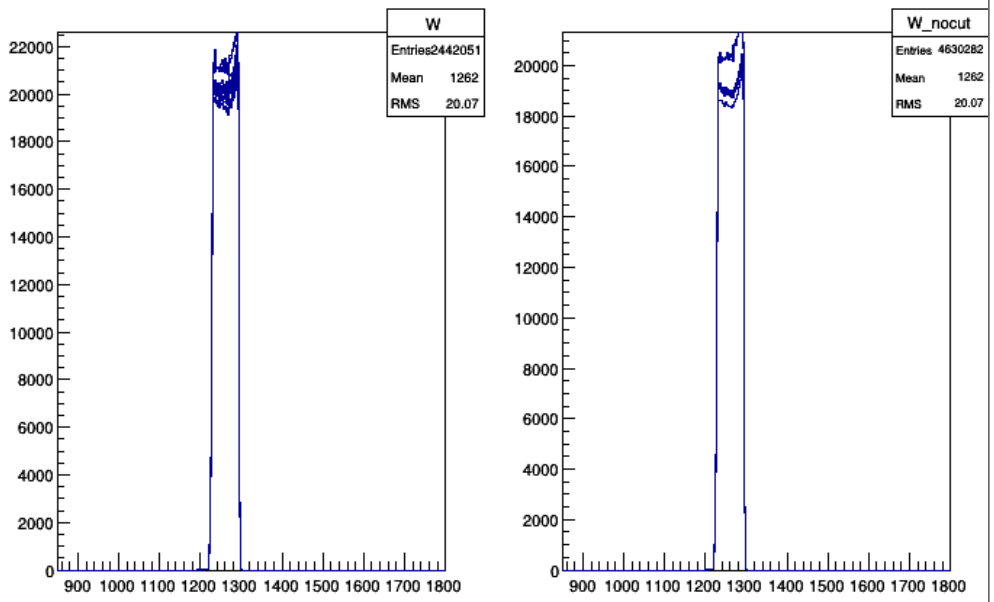
Conclusion:
Raster cut will make yield spread better, but the reason of spread is complicate

You can find the library and test code from:
/w/halla-sfs62/g2p/pzhu/work/raster/rastercut

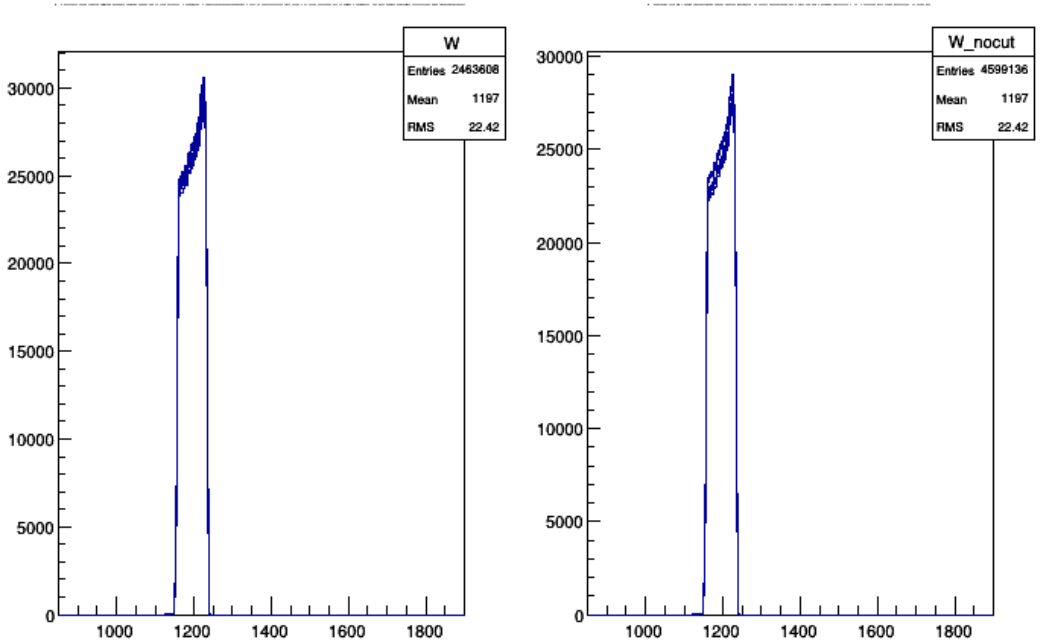
Now support to use triangle cut and ellipse cut, can add more.

backup

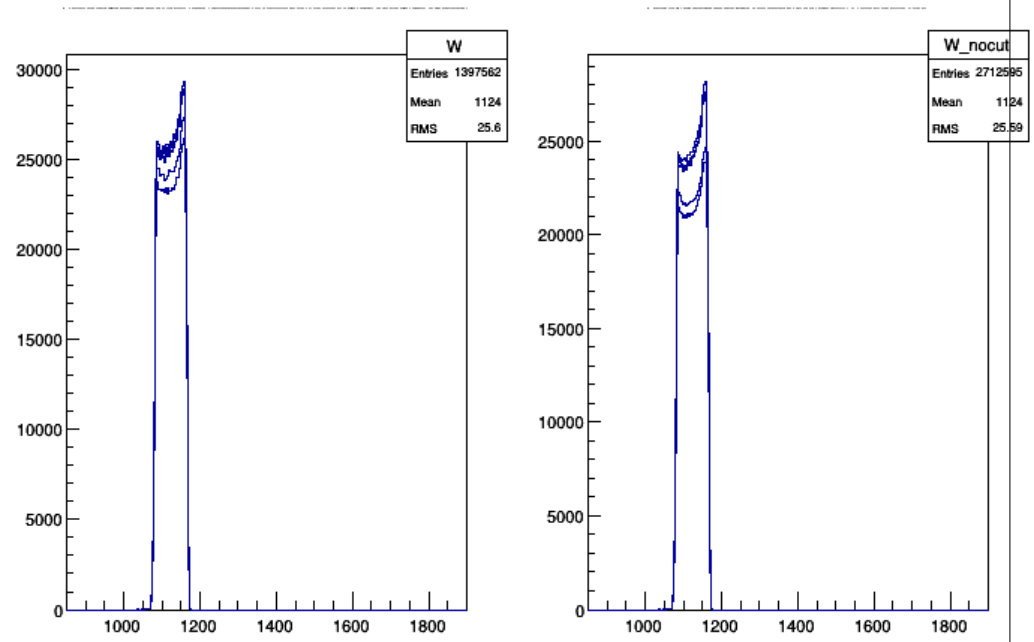
E=1.7GeV, P=1320MeV



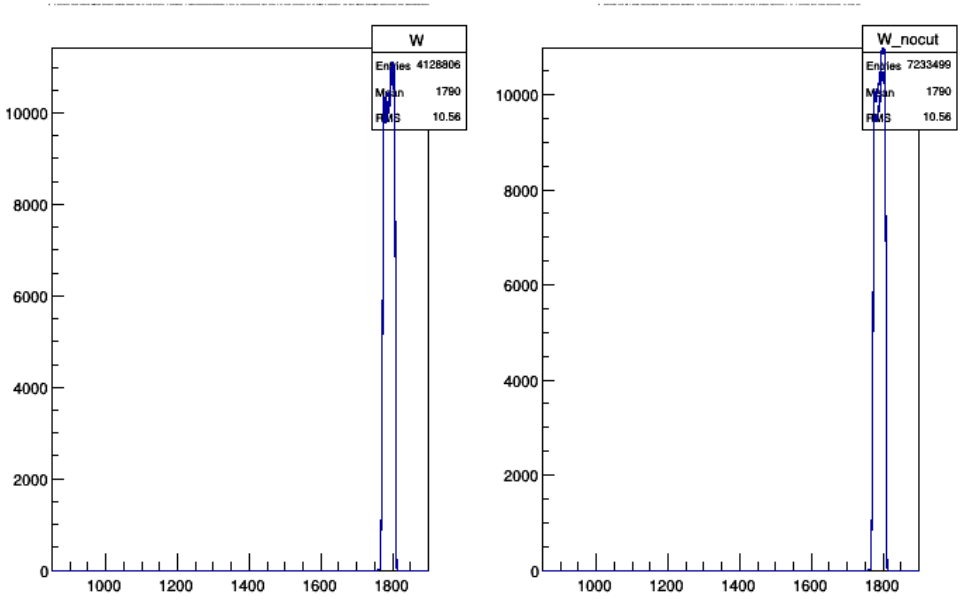
E=1.7GeV, P=1405MeV

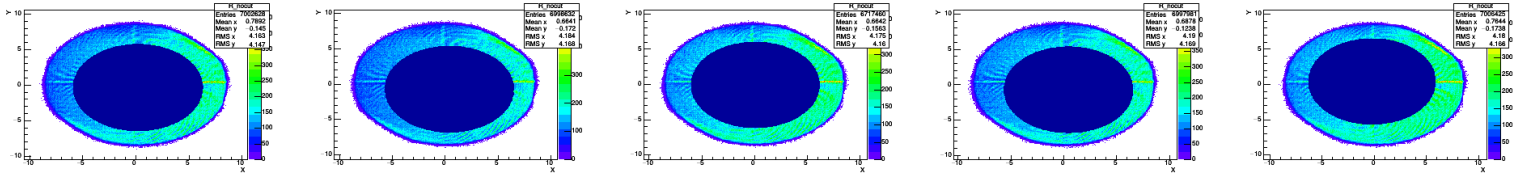


E=1.7GeV, P=1494MeV



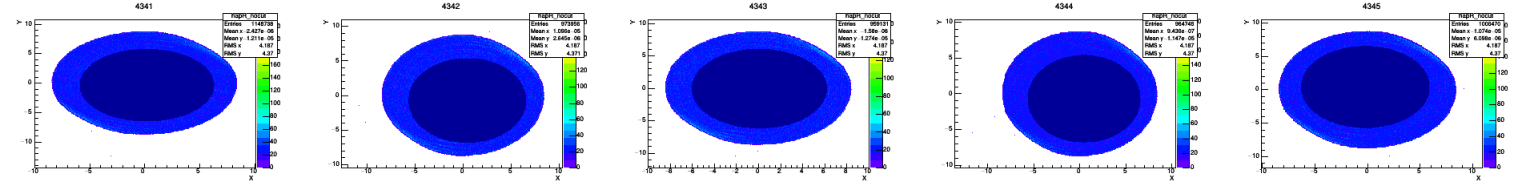
E=2.2GeV, P=1003MeV, 2.5T



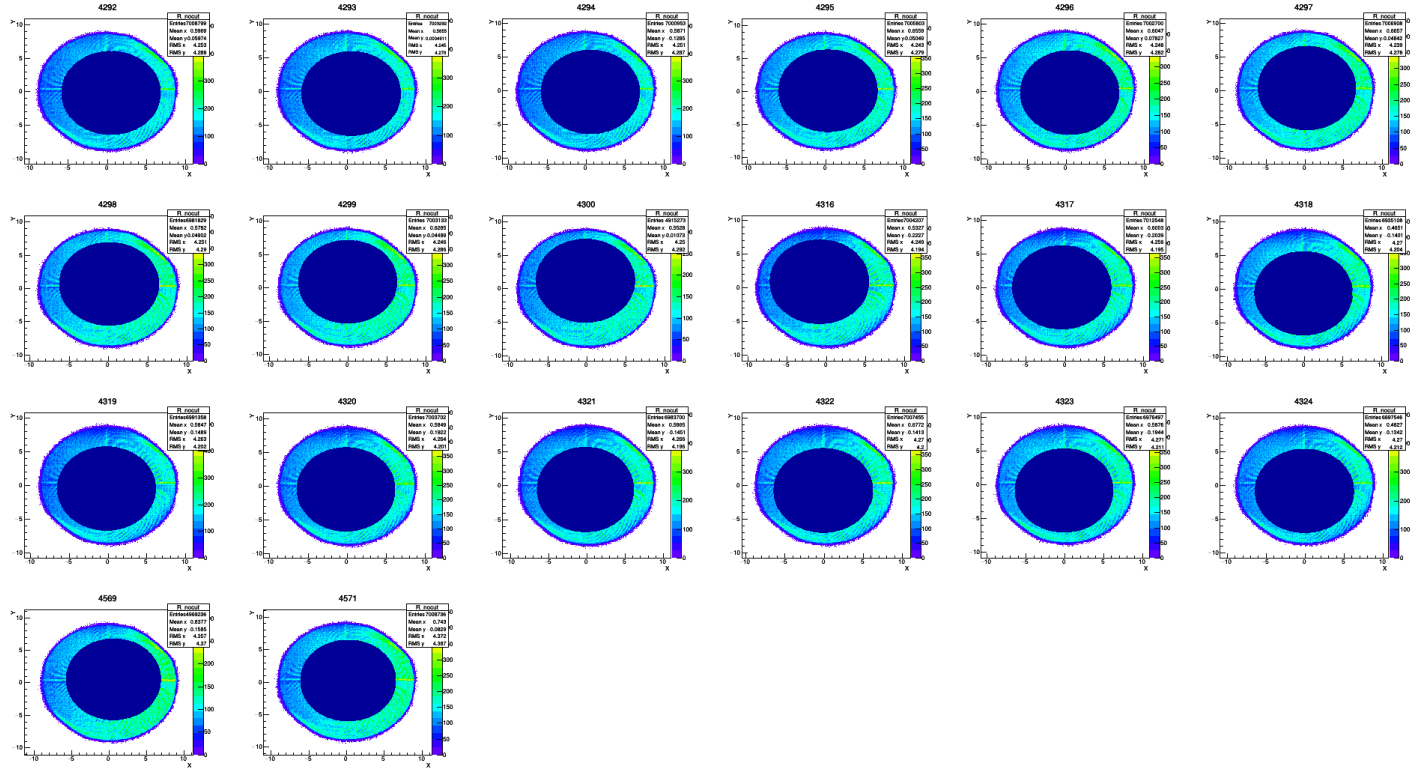


E=1.7GeV, P=1320MeV

Slow raster cut on fastbus

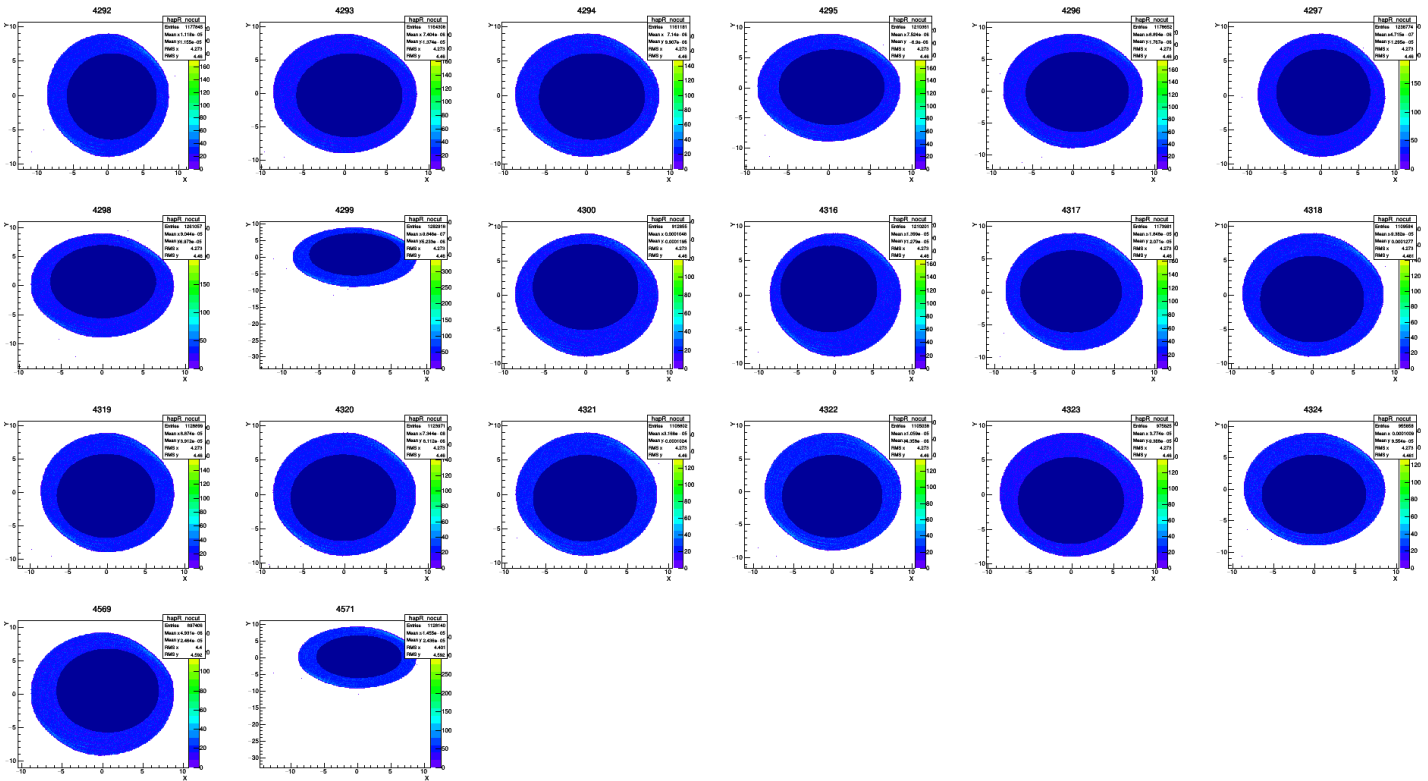


Slow raster cut on happex



E=1.7GeV, P=1405MeV

Slow raster cut on fastbus



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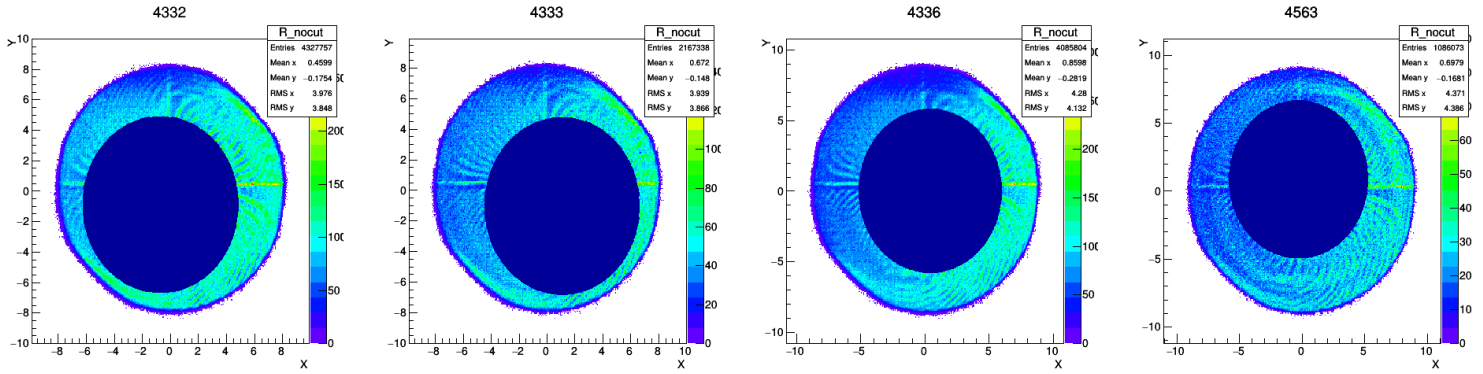
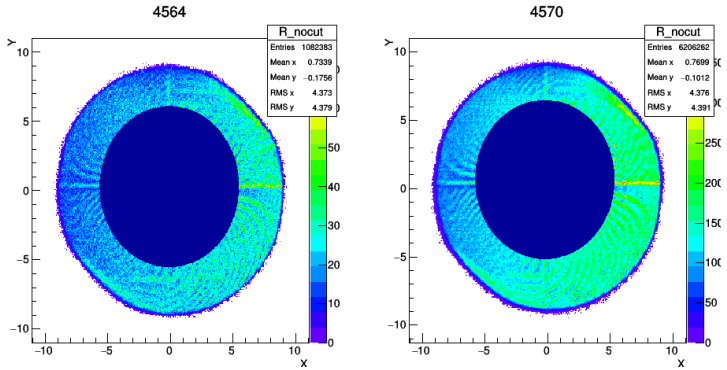


E=1.7GeV, P=1494MeV



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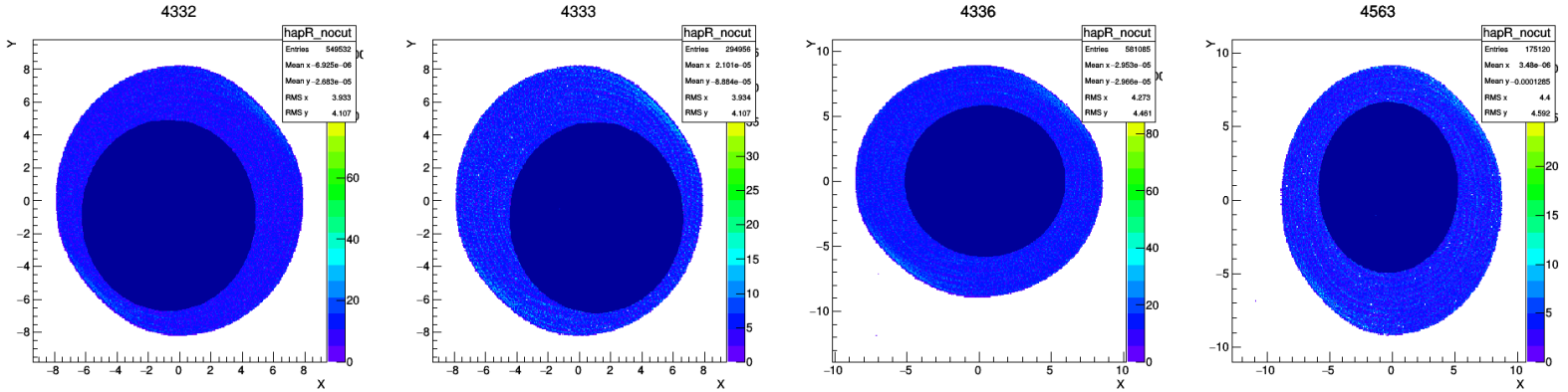
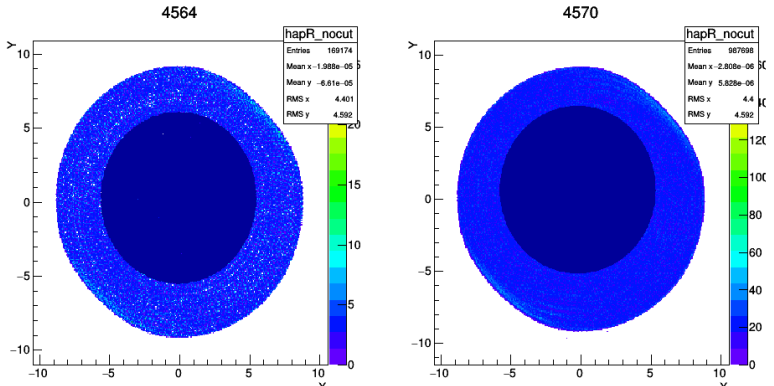
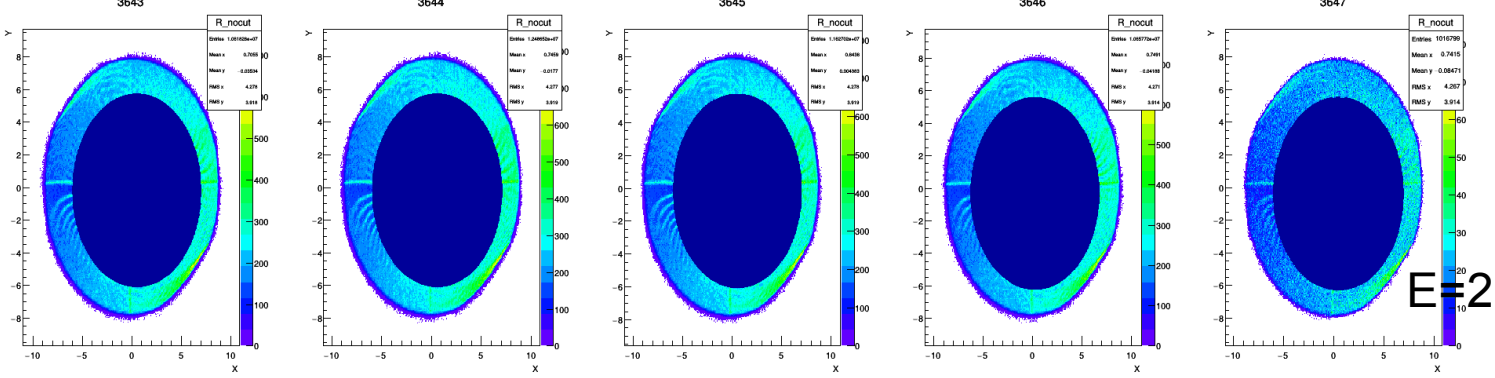
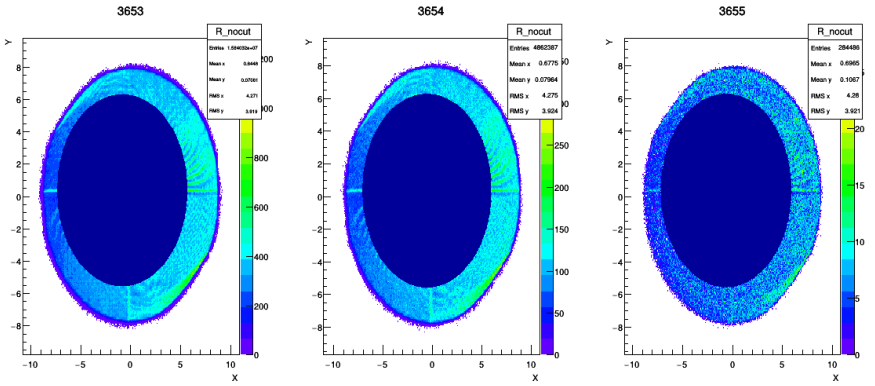




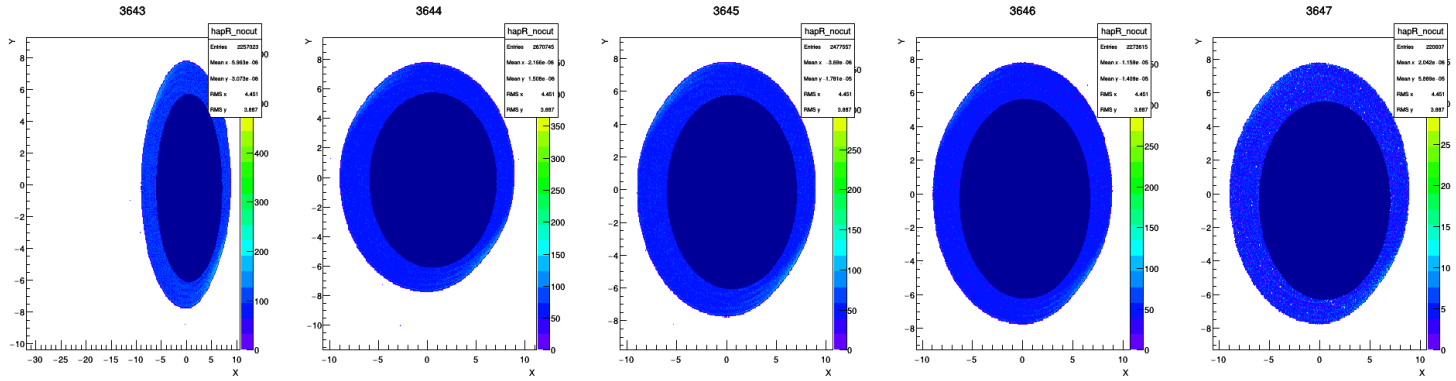
raster cut on happex

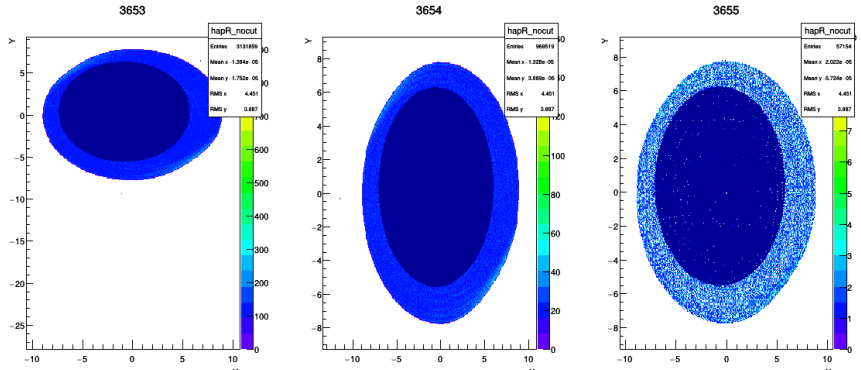


E=2.2GeV, P=1003MeV, 2.5T



Slow raster cut on fastbus





Slow raster cut on happex