

Using gm2ringsim in the Cornell Fast Rotation Fourier analysis... Take II

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October 17rd 2019

Simulation Production Status

973M - Nominal Quad Resistors

100M - Bad Resistors

Today I will look at:

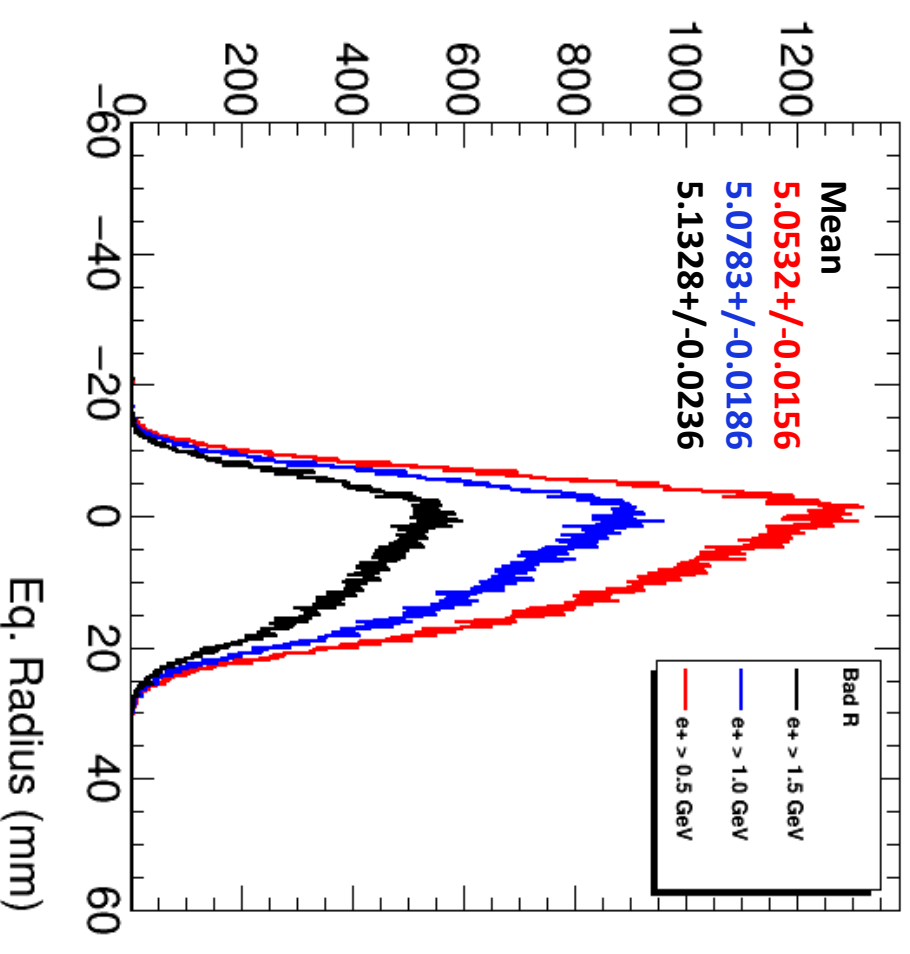
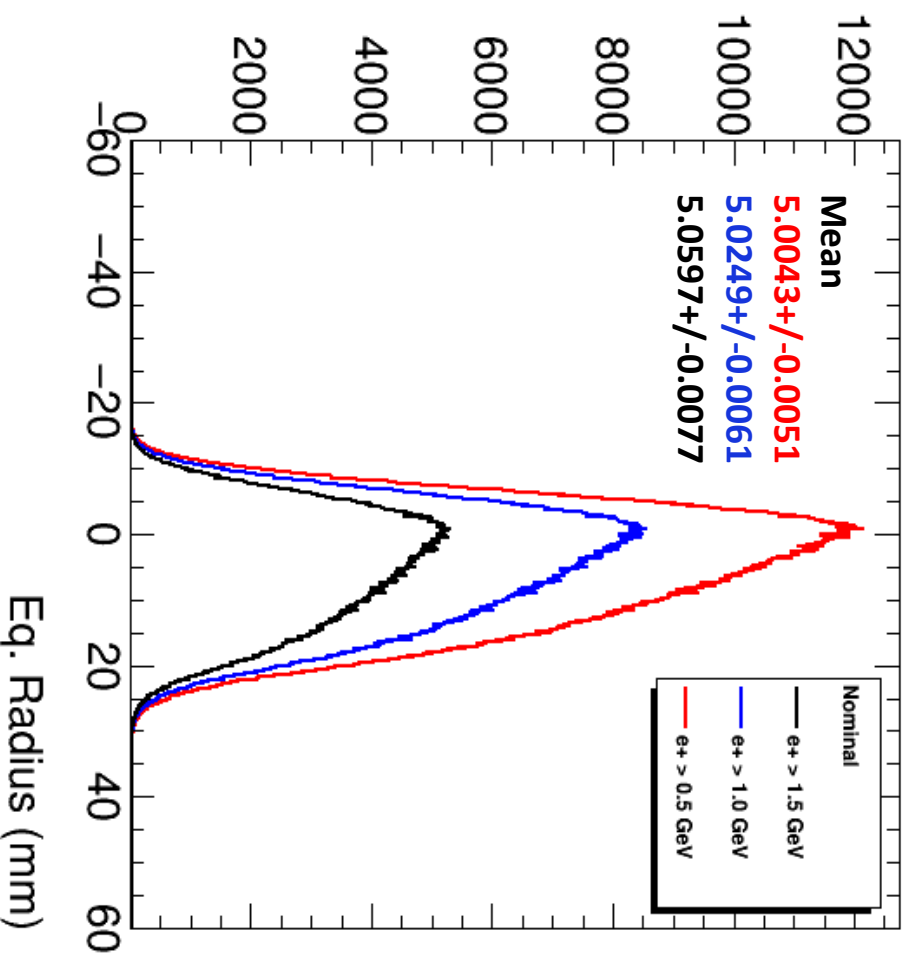
- 1) Equilibrium radius as measured by the tracking planes for **Nominal** and **Bad** Resistors ($n = 0.108$).

$$\chi_e = R_{magic} \frac{\Delta p}{p_{magic}(1 - n)}$$

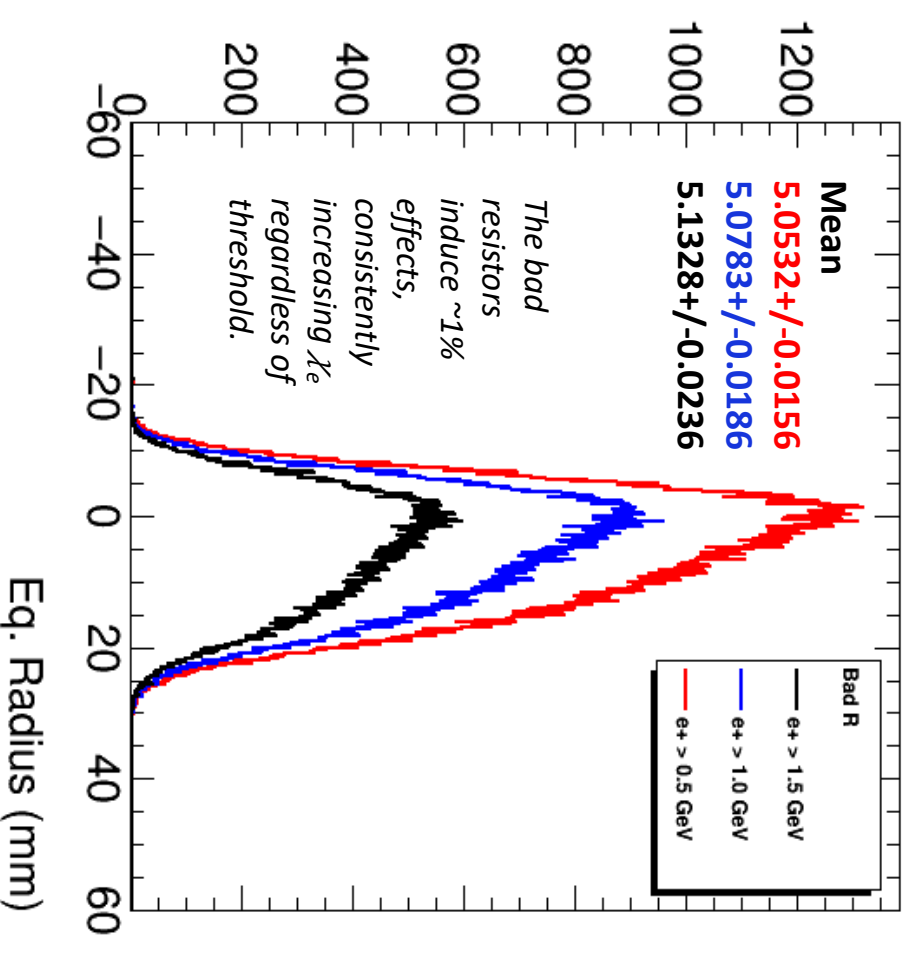
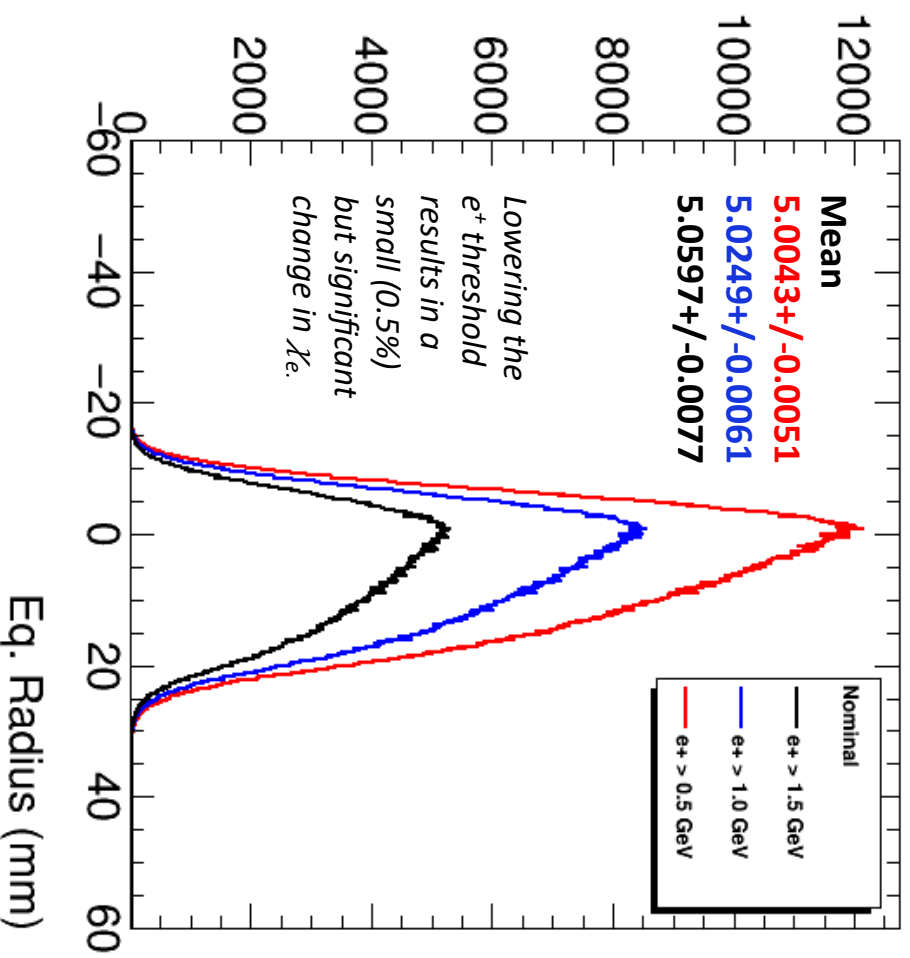
- 2) Equilibrium radius as extracted from the Cornell Fast Rotation analysis for Nominal Quad Resistors. Due to the limited statistics I have not looked performed the FR analysis on the bad resistor sample.

Antoine suggested I repeat this analysis for 3 positron energy thresholds.

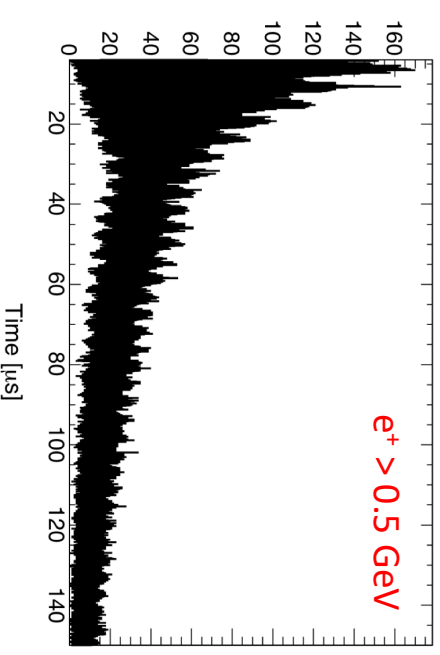
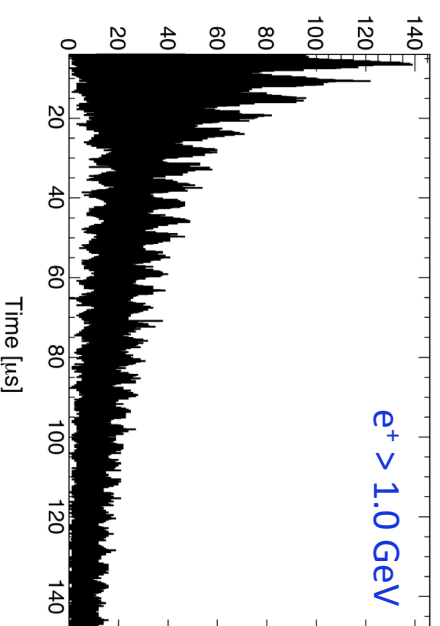
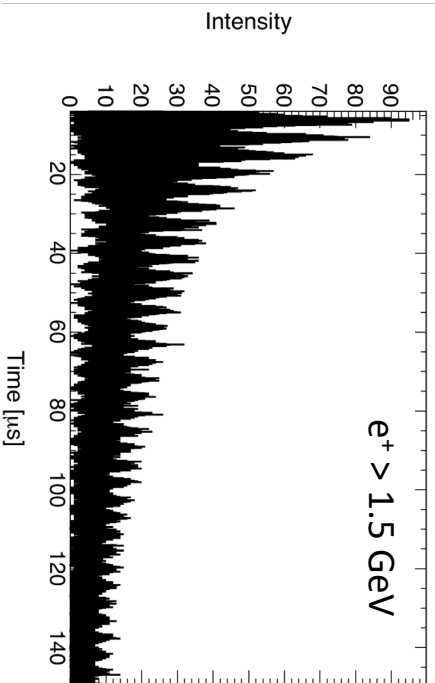
Equilibrium Radius from Ring Tracking Planes



Equilibrium Radius from Ring Tracking Planes

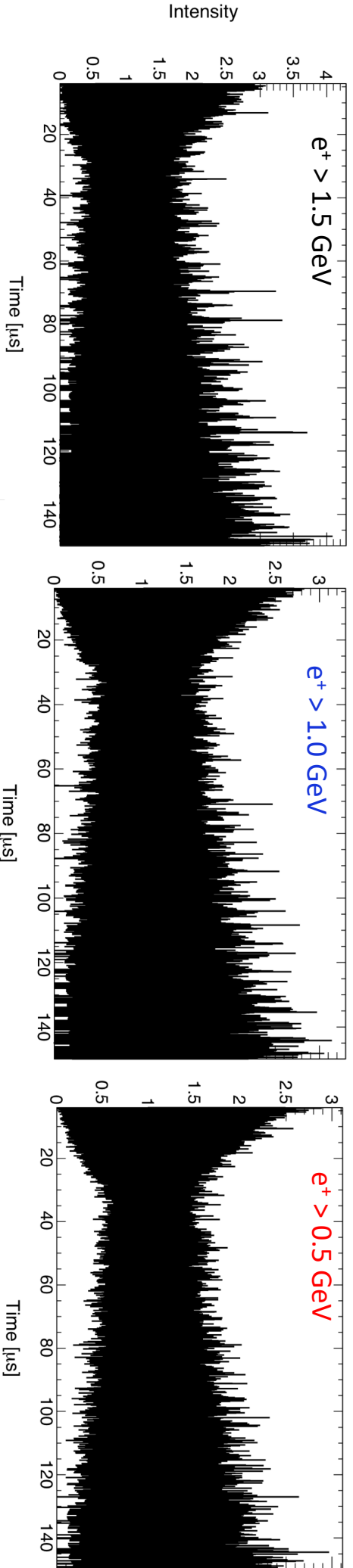


FR Analysis : e^+ Intensity



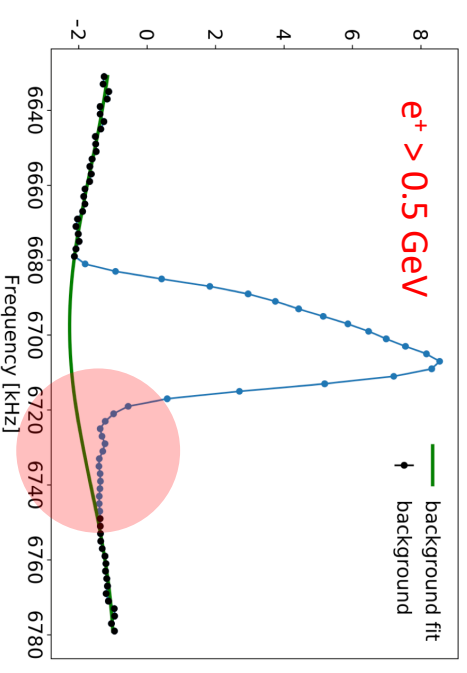
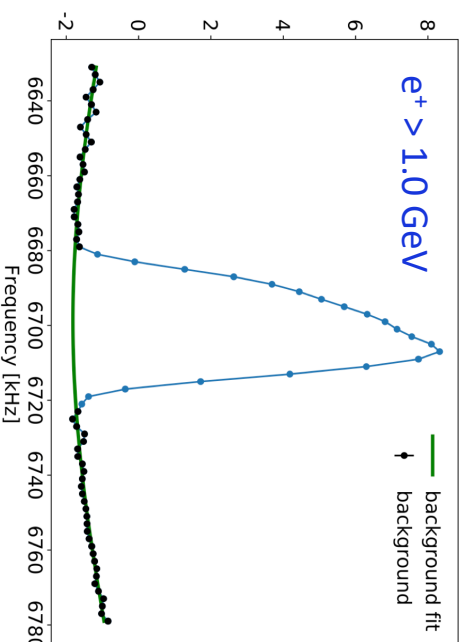
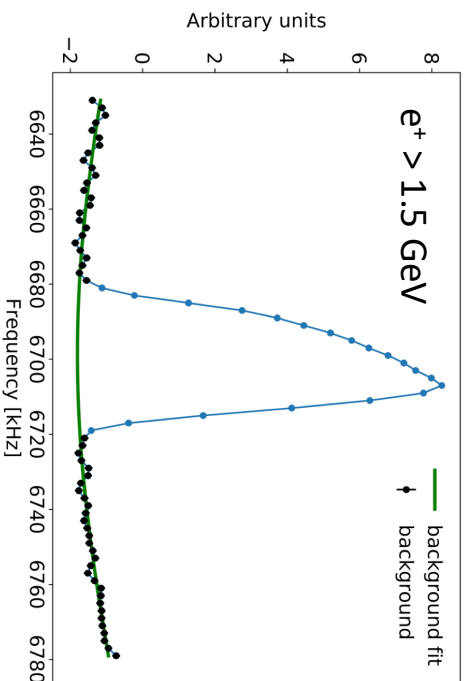
Positron intensity vs time for all calorimeters.

FR Analysis : FR Signal



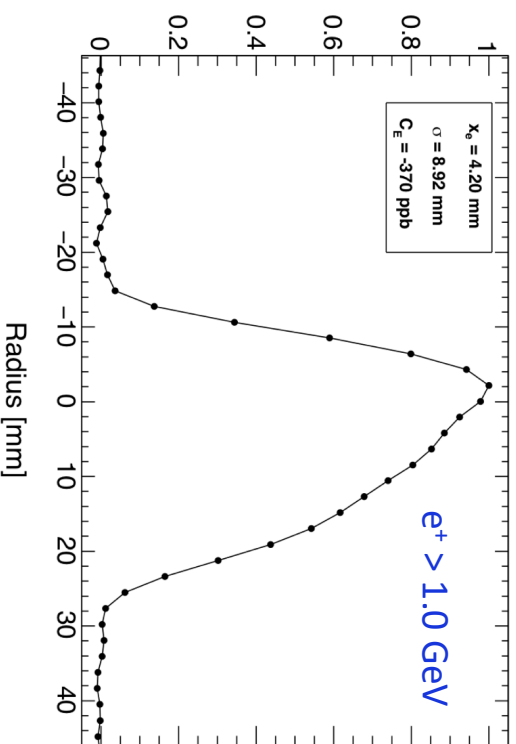
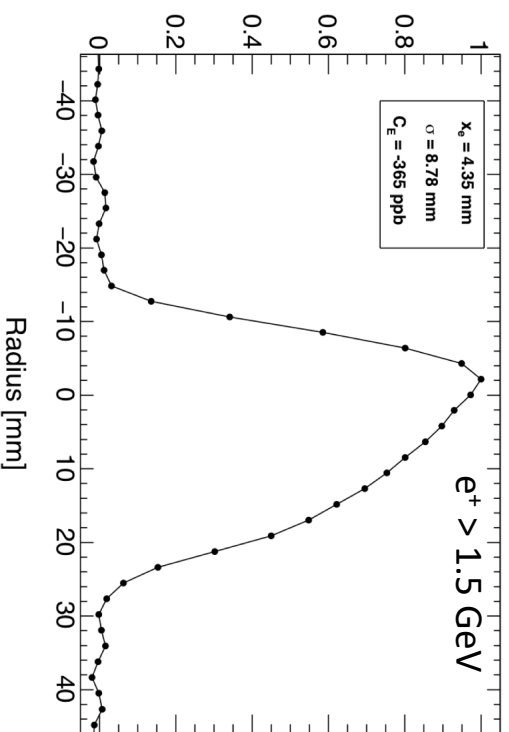
Fast rotation signal extracted from wiggle fit to e^+ intensity $t > 30 \mu\text{s}$

FR Analysis : Background Fit



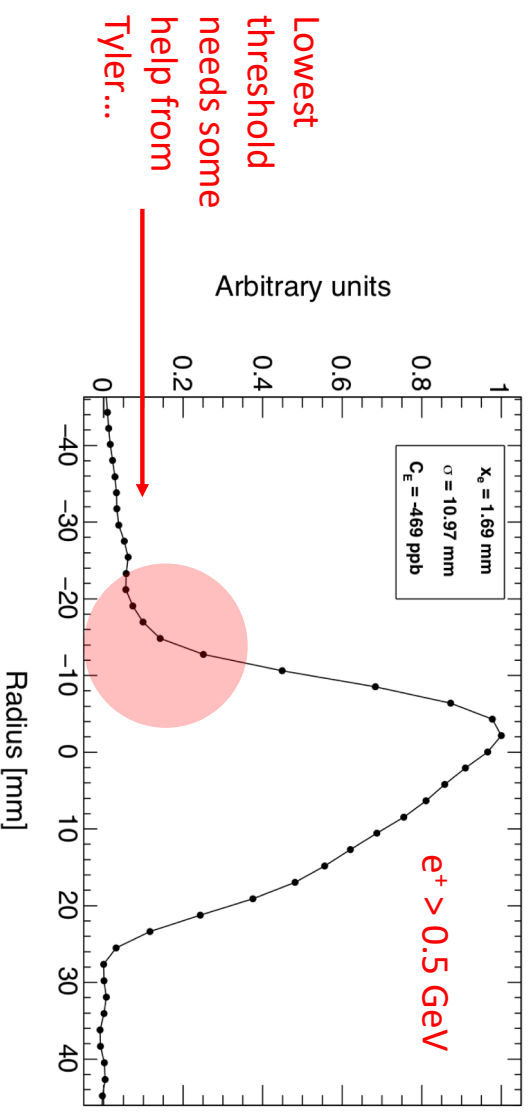
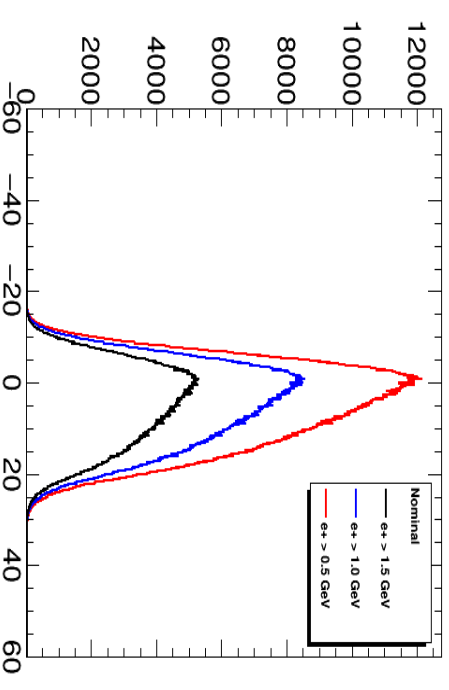
Background Correction uses Sinc Fit, no background removed.

FR Analysis : Radial Distribution



Means are different:
 5.060 $\rightarrow$ 4.35
 5.024 $\rightarrow$ 4.20

but shape comparison looks quite good. Overlay of two curves on my to-do list, along with error determination of the Fast Rotation extraction.



Comparison to 60 hr dataset

