

First look at IP6 field maps with a simple Geant4 model

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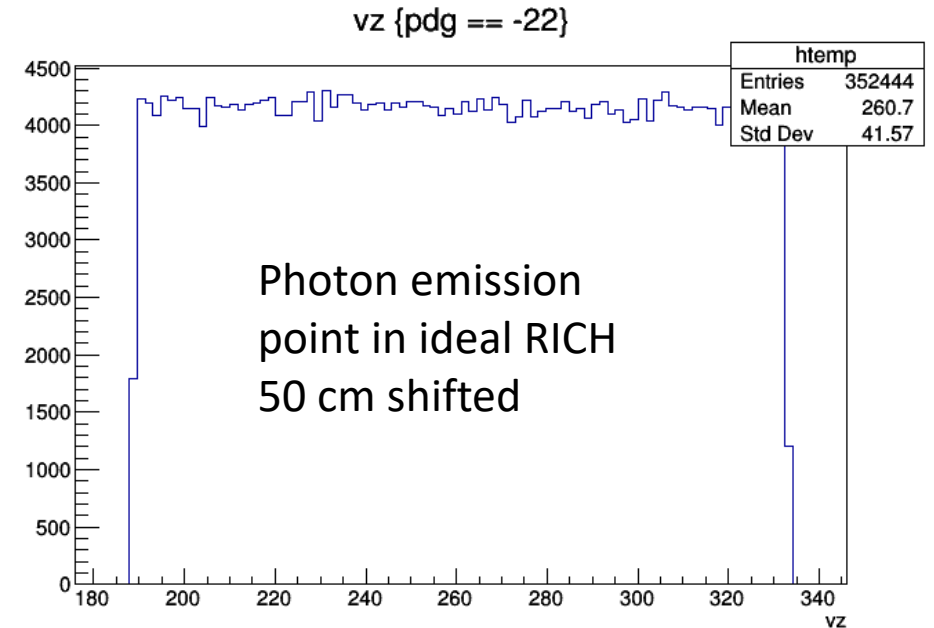
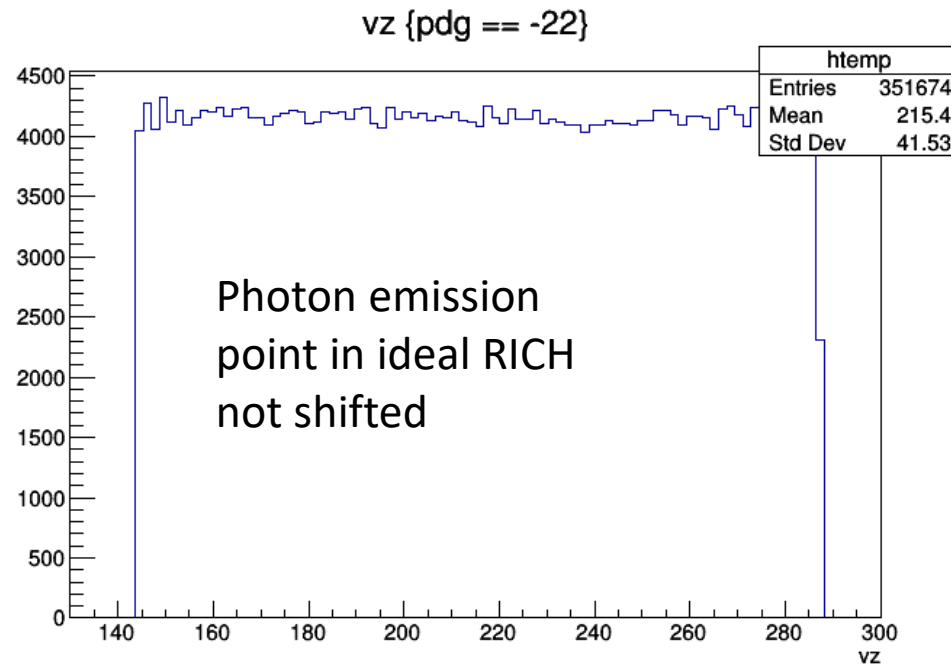
EIC_NET Monte Carlo
26 July 2021

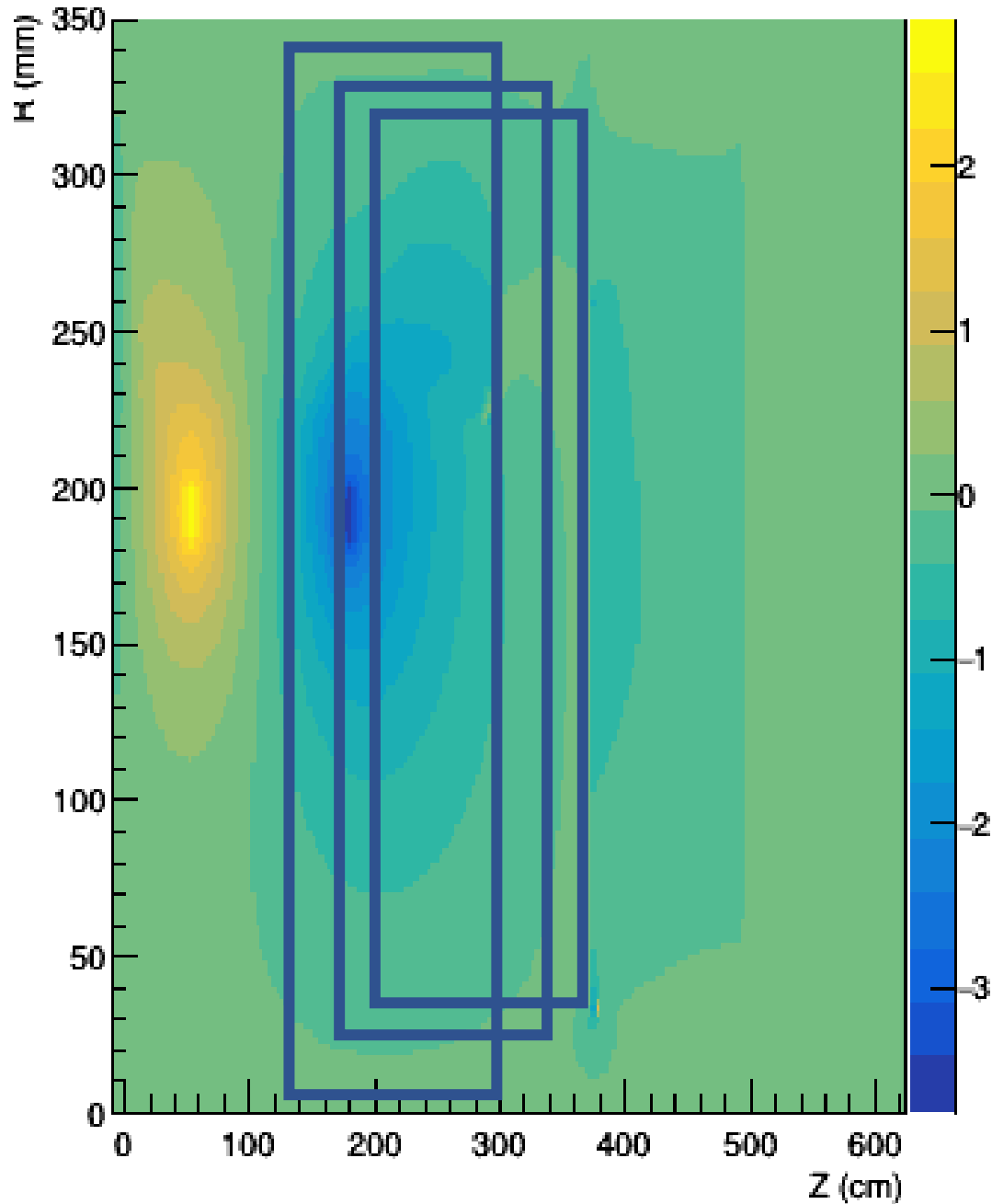
How do we profit with the 50 cm of availability in the hCap in terms of single photon RMS?

We took the simple RICH first to check the effect just by shifting the RICH 50 cm in Z direction from its original position w/o changing the dimension of the RICH.

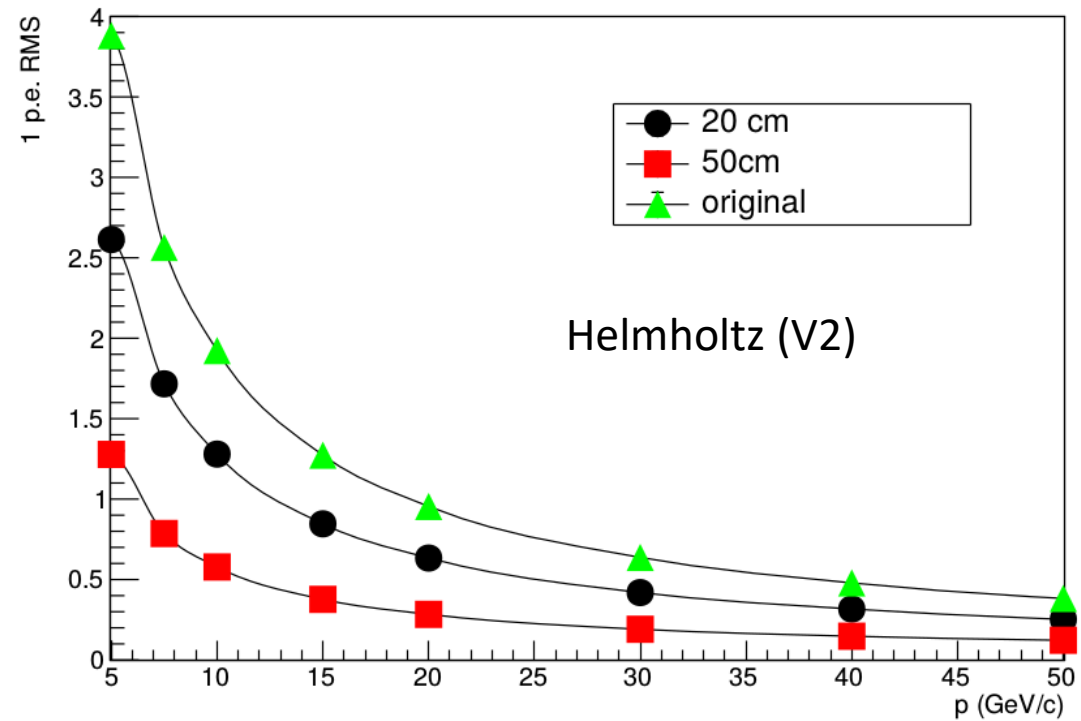
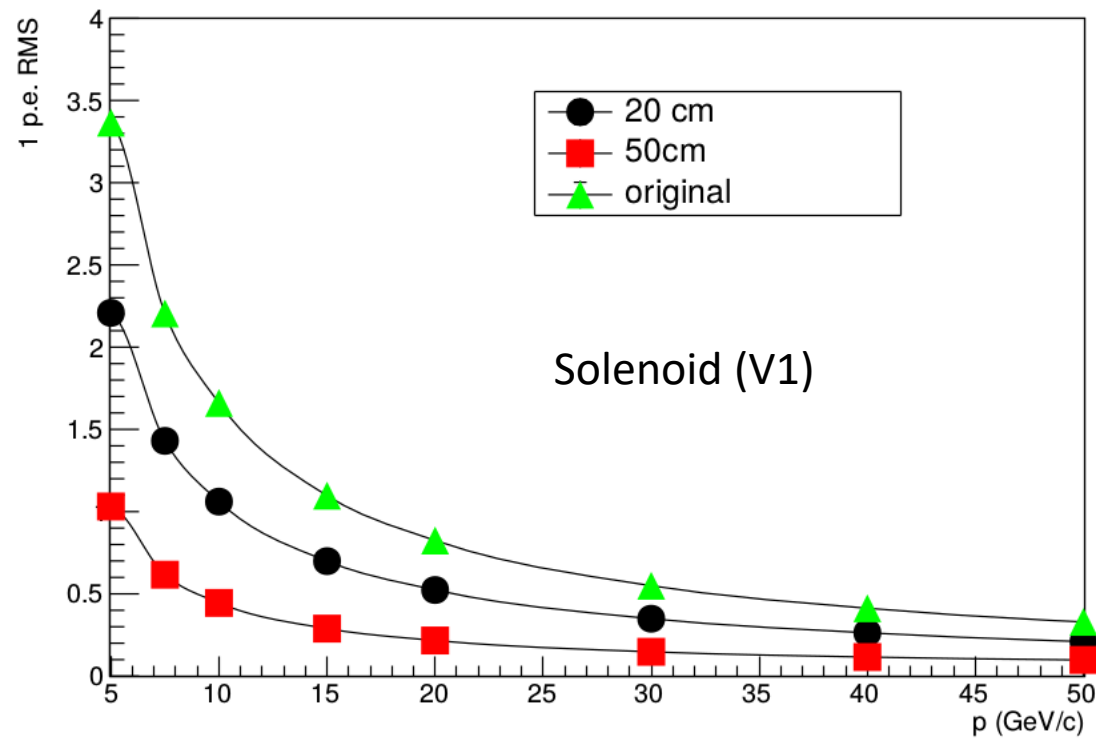
Which means the inner radius is still 150 cm and the outer radius is still 300 cm of our ideal RICH.
BUT! (description of simple RICH model can be found in older slides)

It is shifted wrt to the IP (0,0,0) to (0,0,20cm) and (0,0,50cm).

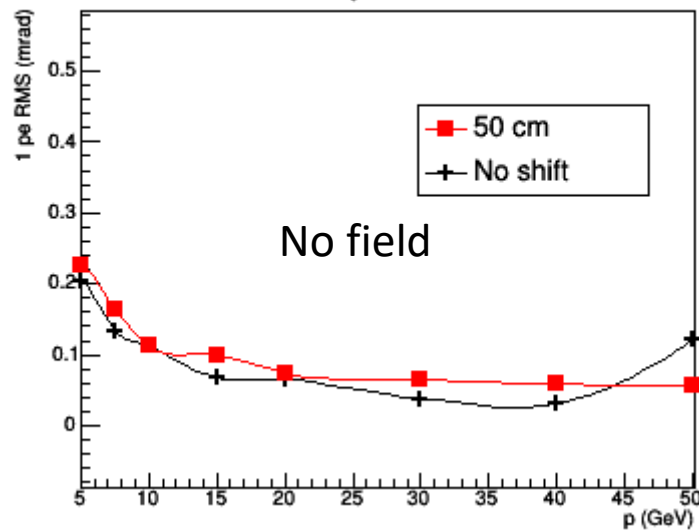




Boxes are not actual dimension Just the Z is approximated to show the B field impact in the analyzed positions!



$\eta = 2.0$ or $\theta_t = 0.27$ rad



Messages

1. Shifting the RICH by 50 cm shows significant improvements (~ factor 3)!
2. Shifting it by 20 cm has positive impact as well, allows to increase the RICH size as well. → Work in pipeline
3. Pipeline works: a) checking 1 p.e. RMS for ideal RICH enlarged by 50 cm keeping in original position
b) Enlarging by 30 cm shifting 20 cm.

Updates in next meeting!