

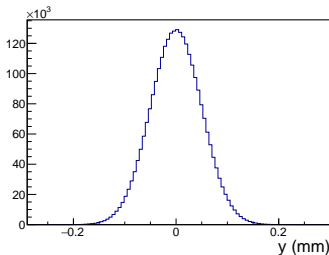
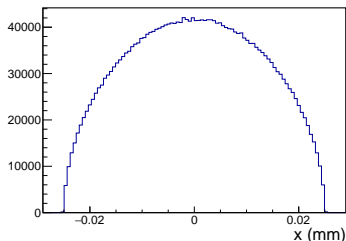
## HyCal Position Resolution

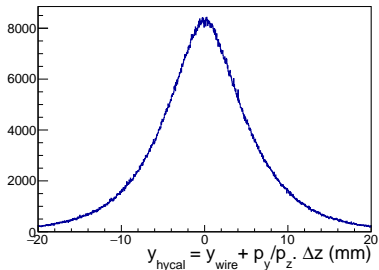
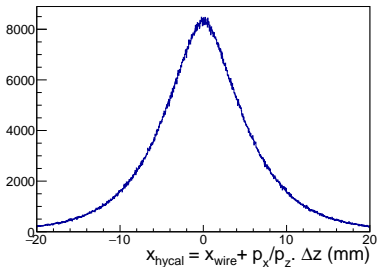
Maxime Levillain

December 2, 2016



- ▶ Simulation of photon beam profile provided by Ilya
- ▶  $\sigma_y = 50 \mu m$
- ▶ tungsten x wire with a thickness of  $25 \mu m$

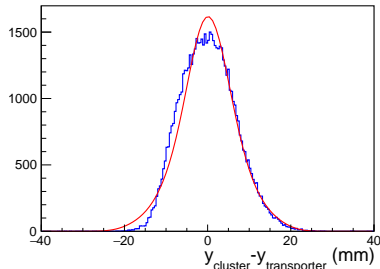
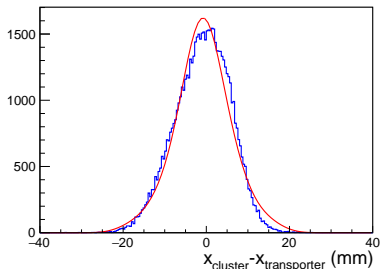




- ▶ Same distribution in x and y (fortunately)

- ▶ photon beam distribution  $f$ , gaussian distribution  $g$  and final distribution  $h$

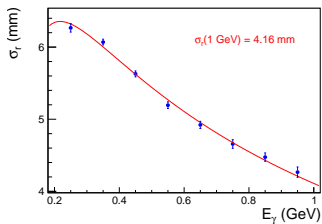
$$h(x) = \int_{-\infty}^{\infty} f(t) * g(x - t) dt$$



- ▶ Some problems to fit the shape for crystal at high energy

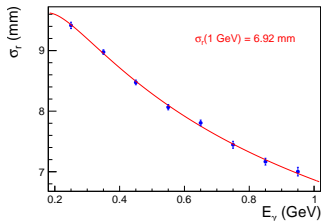
primex

LG

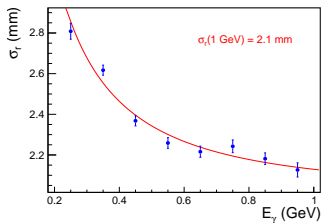


cpp

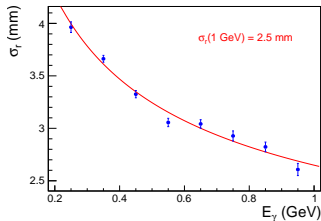
LG



PbWO<sub>4</sub>



PbWO<sub>4</sub>



Only extracted for cpp code

