

LUXE weekly

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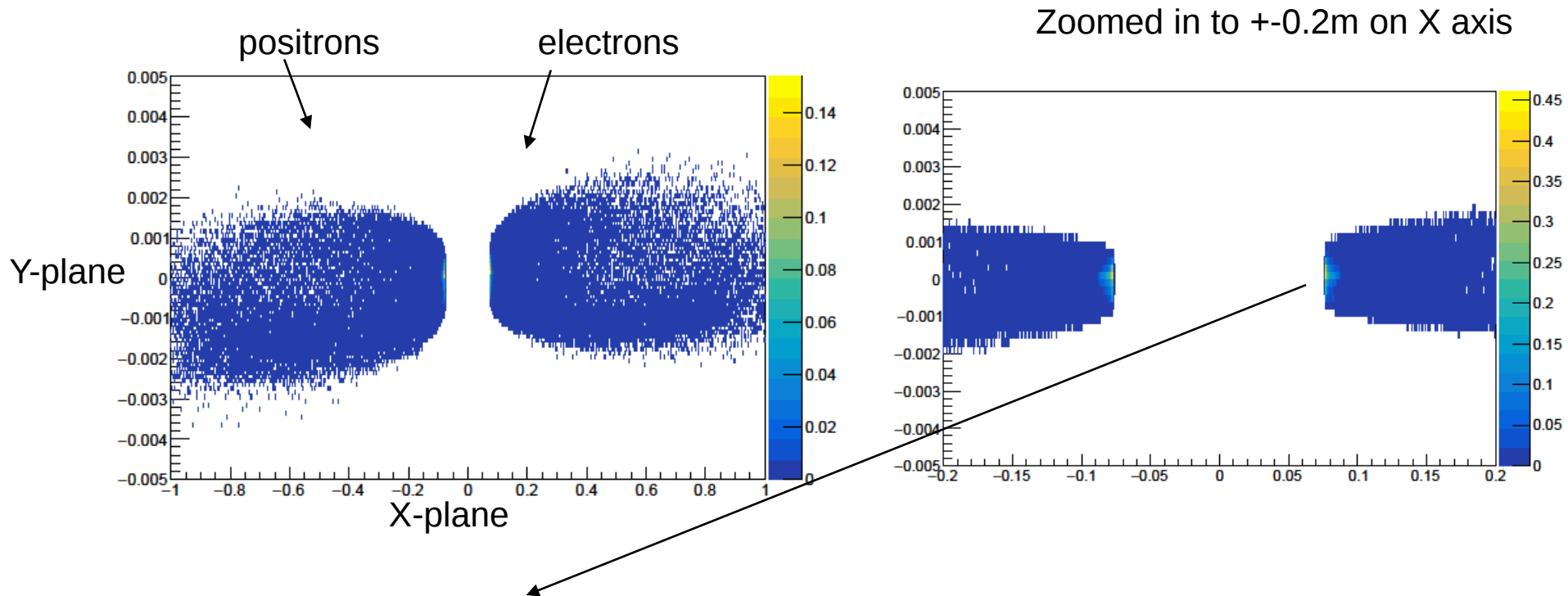
Working with the polarimeter code

Update

- Included a toy Detector. 50x50 um pixel size
- Working with new gamma+laser MC from Tony (Thanks a lot!)
- Simulation for the following parameters.
 - Dipole magnet, 1.4 Tesla, 1.029m long
 - 1m drift behind magnet
 - 4m from foil to ip
 - 1m from IP to magnet
 - Detector size: 2m(1m in each direction) in horizontal plane
and 0.01m (5mm in each direction) in vertical plane

Pixel Load in Detector

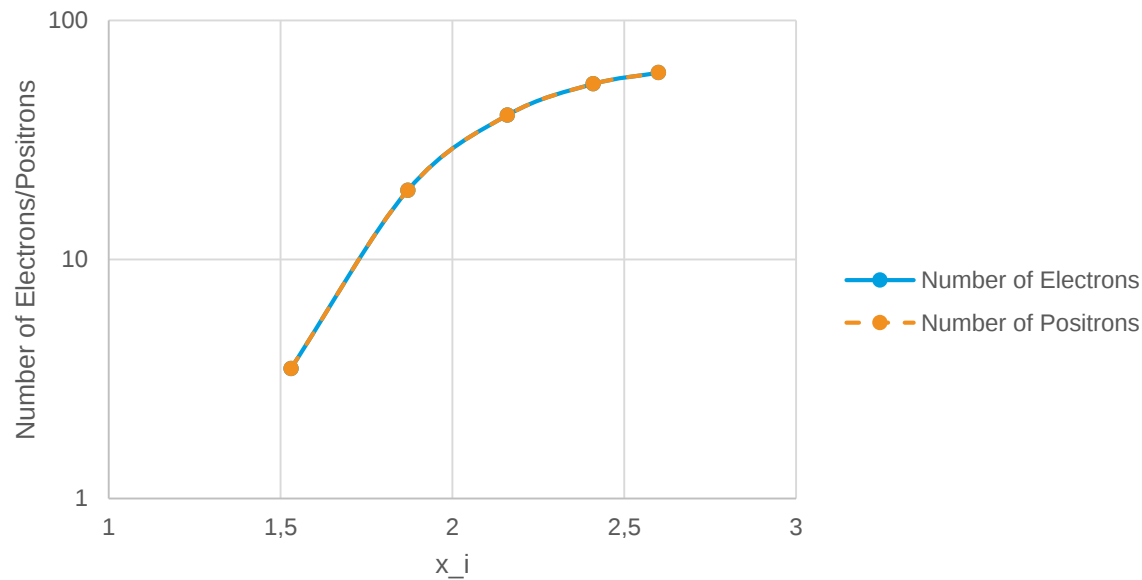
1000 Bunch crossings, normalised to 1 Bunch crossing, pixel 50 μ m x 50 μ m



Averaged Maximum is 0.5 electrons/positron with 50 μ m x 50 μ m pixel per bunch crossing and pixel $\rightarrow$ increased the pixel size to 100 μ m x 100 μ m

Y spread is in the range of 4 millimeters

Intensity vs. Positron number



x_i	Intensity	"Phase"	Number of Electrons	Number of Positrons
1,53	0,35	0	3,50	3,50
1,87	0,52	0,05	19,50	19,50
2,16	0,69	0,1	40,20	40,20
2,41	0,86	0,15	54,30	54,30
2,6	1	0,2	60,50	60,50