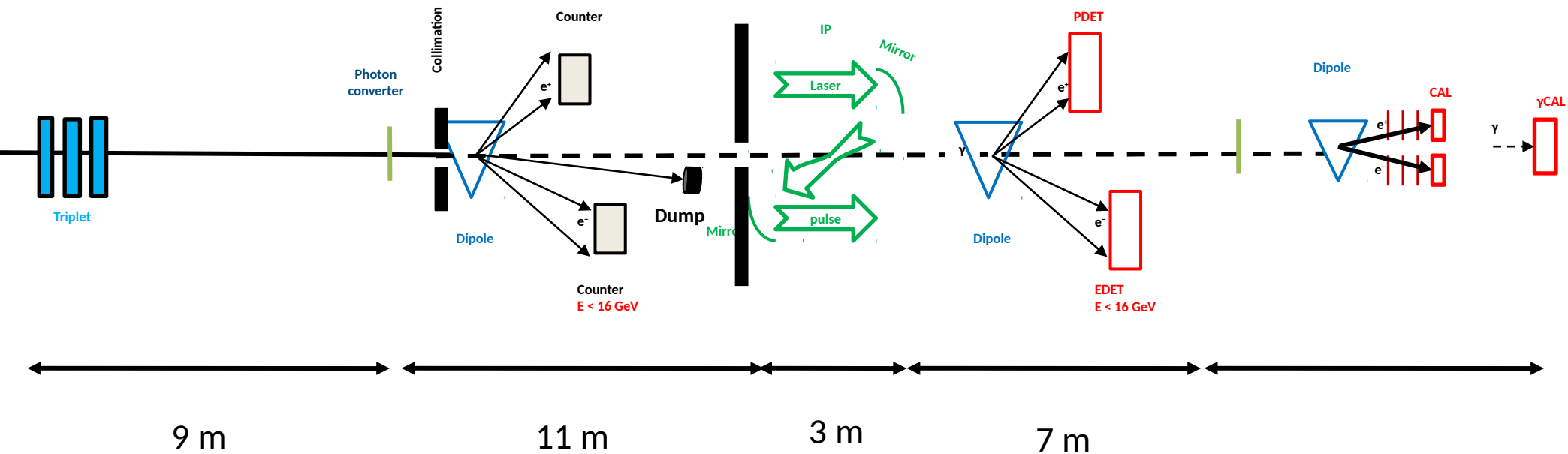


Bremsstrahlung simulation with Geant4

Oleksandr Borysov

LUXE Meeting
January 14, 2019

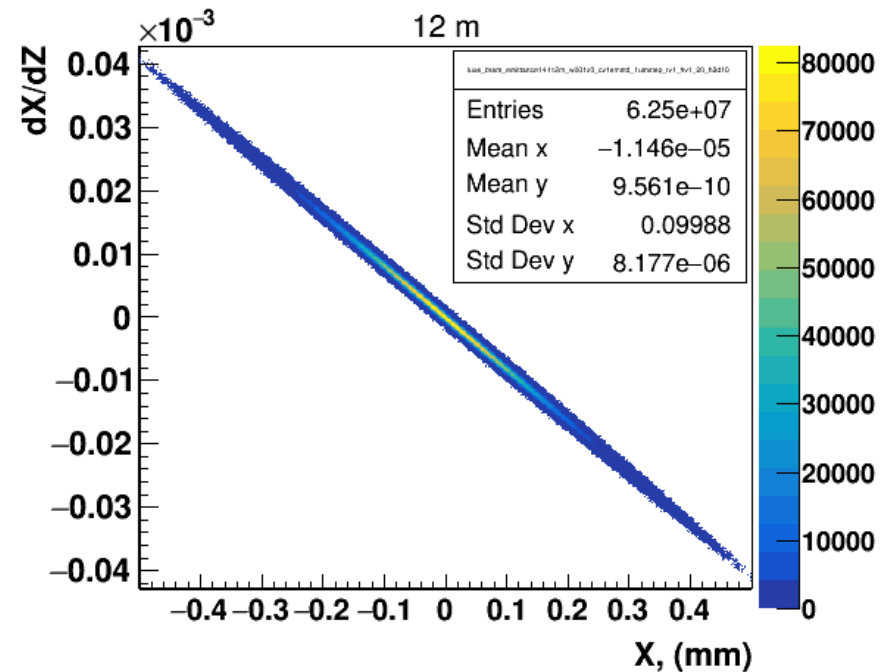
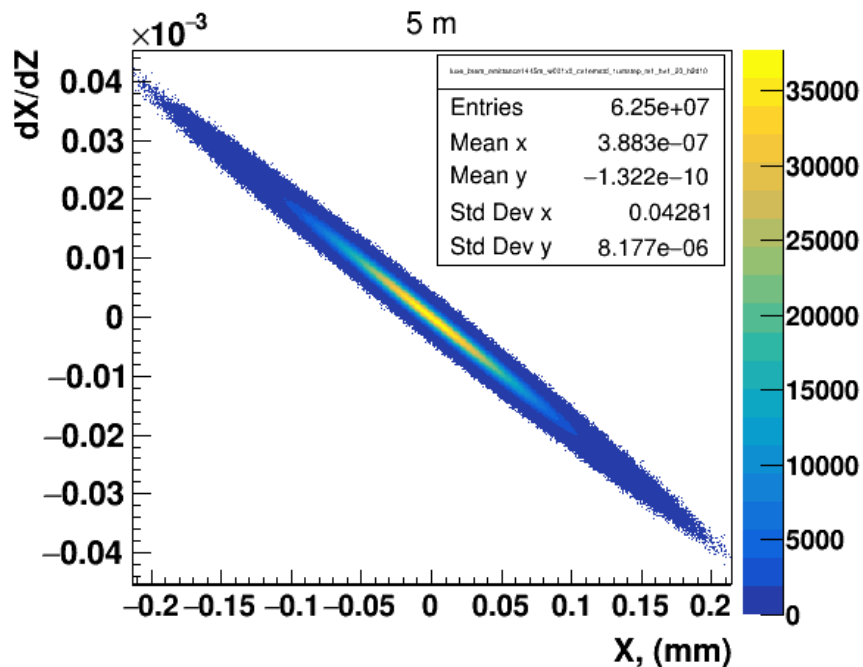
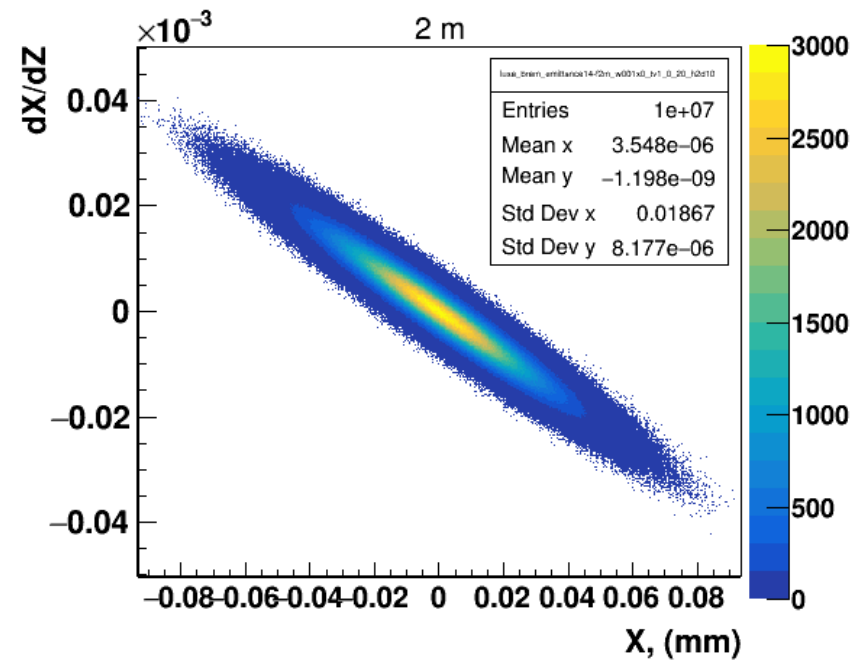
Photon-Photon collisions at LUXE



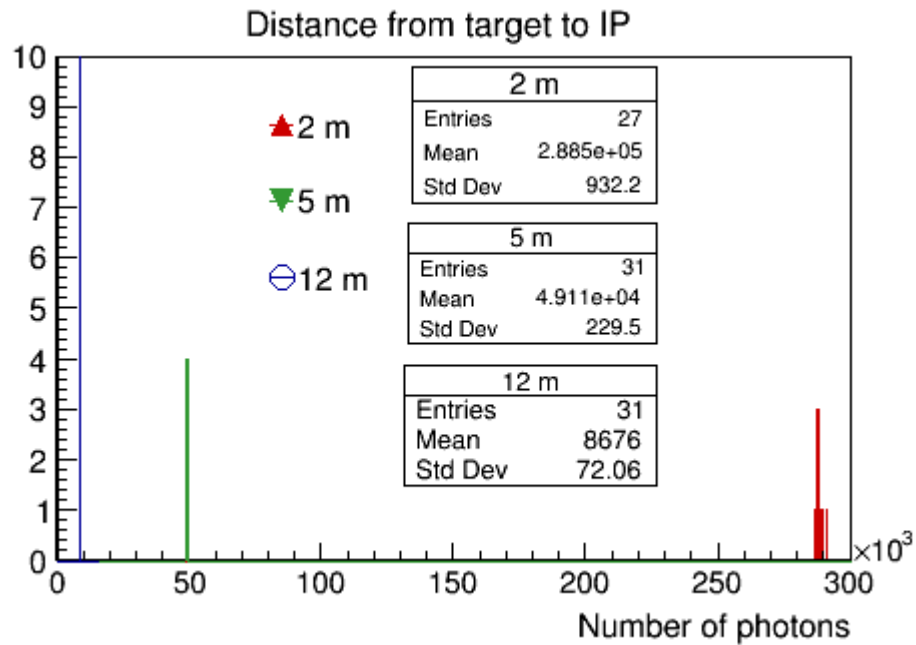
Preliminary estimates!

Target 2 m, 5 m and 12 m upstream of IP

- 2 m: $\sigma_x = 19 \mu\text{m}$;
- 5 m: $\sigma_x = 43 \mu\text{m}$;
- 12 m: $\sigma_x = 100 \mu\text{m}$;



Number of photons



$$N \sim \frac{1}{l^2}$$

Z, (m)	Z ²	N_Gamma	Z1 ² / Z2 ²	N2 / N1		Z1 ² / Z2 ²	N2 / N1	
2	4	2.89E+05	6.25E+00	5.8746	0.94	36	33.2565	0.924
5	25	4.91E+04	5.76E+00	5.6611	0.983			
12	144	8675						