

# Double Arm Møller Cross-Section for Carbon Target

Maxime Levillain

March 24, 2017



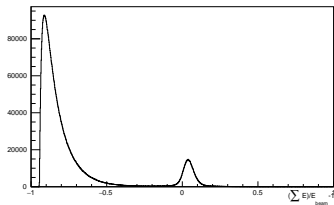
Properties:

- ▶ Density = 2.1
- ▶ thickness = 1  $\mu\text{m}$
- ▶ target thickness =  $1.009 \cdot 10^{19} \text{ electrons/cm}^2$

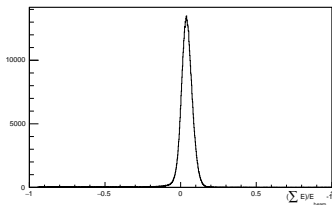
Cuts (wide):

- ▶  $|\Delta\phi| < 7 \text{ deg}$
  - ▶  $|z_{\text{vertex}}| < 200 \text{ mm}$
  - ▶  $|E/E_{\text{theo}} - 1| < 5(\sigma_E/E)$
- Need to quantify changes of cuts on the yield (not done yet)

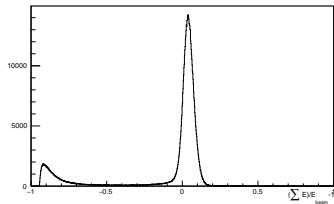
raw



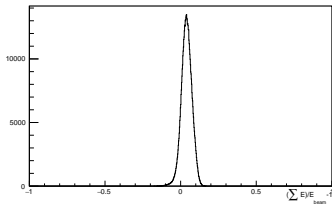
$\Delta\phi$  cut and  $Z_{\text{vertex}}$  cut



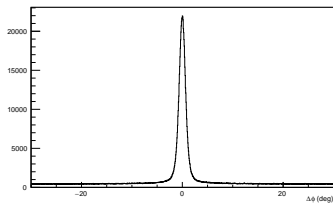
$\Delta\phi$  cut



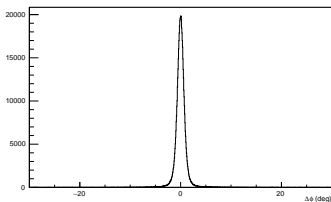
all cuts



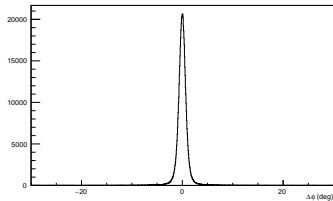
raw



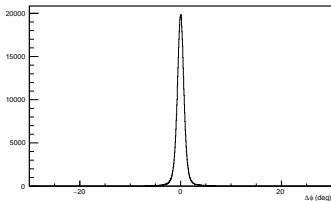
$Z_{vertex}$  cut and elasticity cut



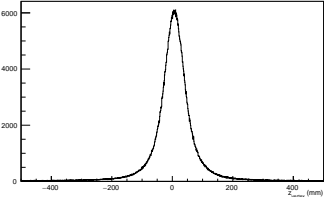
$Z_{vertex}$  cut



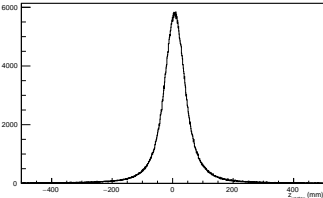
all cuts



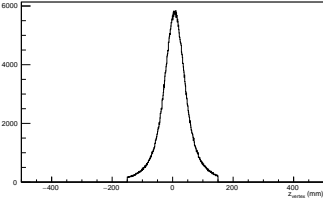
$\Delta\phi$  cut



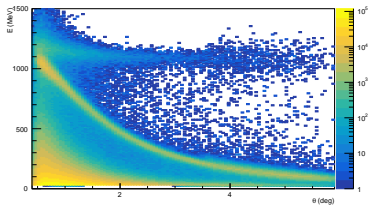
$\Delta\phi$  cut and elasticity cut



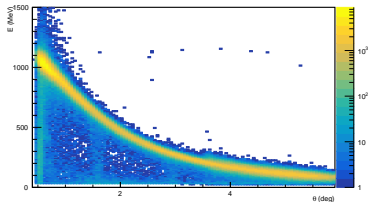
all cuts



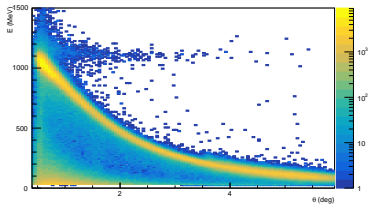
raw



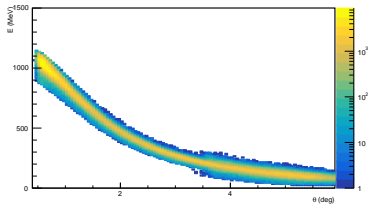
$\Delta\phi$  cut and  $z_{vertex}$  cut



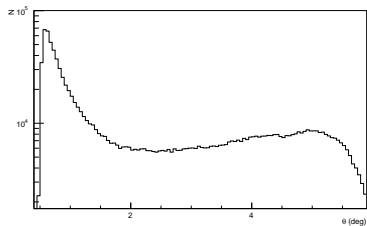
$\Delta\phi$  cut



all cuts



## Yield



## Cross-section

