

$$\frac{d^3\sigma}{dx_1 dx_2 d\cos\hat{\theta}} = f_\gamma^p(x_1, -\hat{t}) f_\gamma^{Pb}(x_2) \frac{\pi\alpha^2}{\hat{s}} \frac{\hat{t}}{\hat{u}} + f_\gamma^p(x_1, -\hat{u}) f_\gamma^{Pb}(x_2) \frac{\pi\alpha^2}{\hat{s}} \frac{\hat{u}}{\hat{t}},$$

$$\hat{t} = -\frac{\hat{s}}{2} \left(1 - \cos\hat{\theta}\right),$$

$$\hat{u} = -\frac{\hat{s}}{2} \left(1 + \cos\hat{\theta}\right),$$

$$f_\gamma^{Pb}(x) = \frac{2Z_{Pb}^2\alpha}{\pi x} \left(\frac{x}{x_0} K_0(x/x_0) K_1(x/x_0) - \frac{1}{2} \frac{x^2}{x_0^2} (K_1^2(x/x_0) - K_0^2(x/x_0)) \right),$$

$$x_0 = \frac{1}{b_{min} A_{Pb} m_p},$$

$$b_{min} = 1.1 A_{Pb}^{\frac{1}{3}} \cdot 5.068 GeV^{-1}.$$

Different approximations for equivalent photon flux from proton [Phys.Rev. C87 (2013) no.2, 028201]:

1. Minimum impact parameter $b_{min} = 0.7 fm$:

$$f_\gamma^p(x) = \frac{2\alpha}{\pi x} \left(\xi K_0(\xi) K_1(\xi) - \frac{1}{2} \xi^2 (K_1^2(\xi) - K_0^2(\xi)) \right),$$

$$\xi = x m_p b_{min}, \quad b_{min} = 0.7 \cdot 5.068 GeV^{-1}.$$

2. Electric:

$$f_\gamma^p(x) = \frac{\alpha}{\pi} \left(\frac{1-x+0.5x^2}{x} \right) \left(\frac{A+3}{A-1} \log A - \frac{17}{6} - \frac{4}{3A} + \frac{1}{6A^2} \right),$$

$$A = 1 + \frac{0.71 GeV^2(1-x)}{x m_p^2}.$$

3. Drell and Zeppenfeld:

$$f_\gamma^p(x) = \frac{\alpha}{\pi} \left(\frac{1-x+0.5x^2}{x} \right) \left(\log A - \frac{11}{6} + \frac{3}{A} - \frac{3}{2A^2} + \frac{1}{3A^3} \right).$$

Contribution	$p_T(\ell) > 4 \text{ GeV}$	$p_T(\ell) > 4 \text{ GeV}, \eta(\ell) < 2.4,$ $M(\ell^+\ell^-) > 10 \text{ GeV}$
$\gamma_{el}\gamma_{el} [b_{min} = 0.7 fm]$	47.4(2) nb	18.0(1) nb
$\gamma_{el}\gamma_{el} [\text{Electric}]$	46.8(1) nb	18.2(1) nb
$\gamma_{el}\gamma_{el} [\text{DZ}]$	55.5(1) nb	20.2(1) nb
CT14qed_proton (γ_{el})	52.8(1) nb	23.1(1) nb
CT14qed_inc_proton (γ_{inc})	103.2(1) nb	41.8(1) nb
LUXqed17_plus_PDF4LHC15_nnlo_100 (γ_{inc})	111.4(1) nb	46.4(1) nb
NNPDF31_nlo_as_0118_luxqed (γ_{inc})	121.7(1) nb	48.3(1) nb
MRST2004qed_proton (γ_{inc})	119.1(1) nb	41.7(1) nb

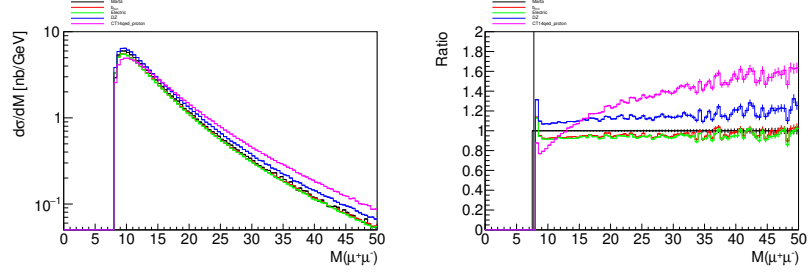


Figure 1: Distribution on $M(\mu^+\mu^-)$.

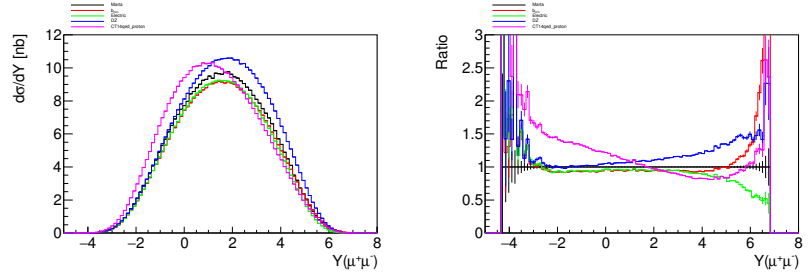


Figure 2: Distribution on $Y(\mu^+\mu^-)$.