

Weizhi/Maxime Comparison for 2GeV cross-sections

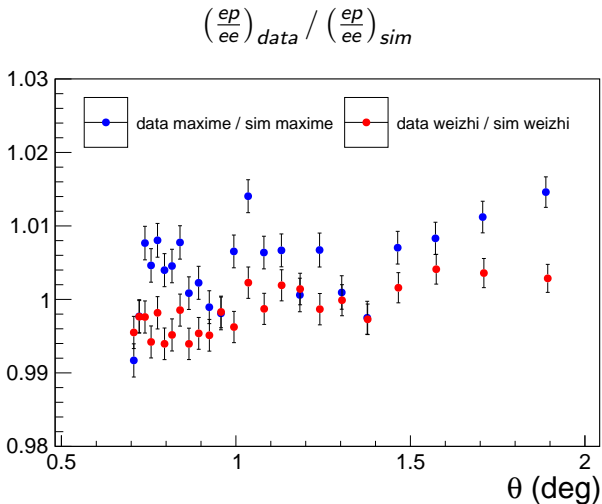
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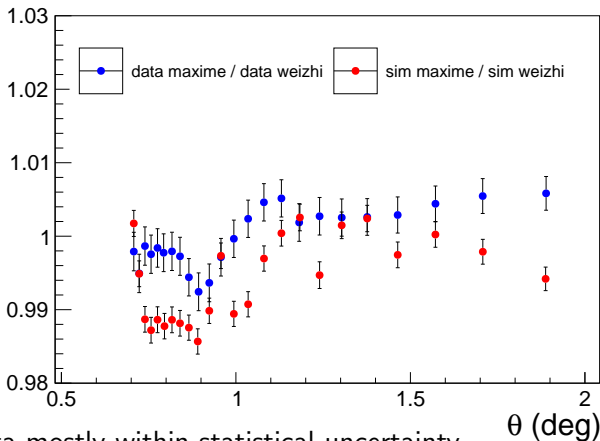
- ▶ event selection according to beam current, target pressure...
- ▶ fiducial cuts:
 - ▶ clusters with center in first and last layers not taken into account
 - ▶ 2.075 cm/3.815 cm around center of dead modules removed
- ▶ single electron (with GEM coordinates):
 - ▶ $\theta > 0.7$ deg
 - ▶ $|E_{cluster}/E_{theo} - 1| < 4 \cdot 0.024/\sqrt{E_{theo}}$ (0.065 for LG)
- ▶ double electron:
 - ▶ $\theta > 0.7$ deg or $\theta > 0.6$ deg for hybrid method
 - ▶ $|\Delta\phi - 180| < 5$ deg or $|\Delta\phi - 180| < 10$ deg for hybrid method
 - ▶ $|E_1 + E_2 - E_{beam}| < 4 \cdot \sqrt{0.024^2 \cdot E_1 + 0.024^2 \cdot E_2}$ (0.065 for LG)
 - ▶ $|z_{vertex}| < 150$ mm for GEM coordinates or $|z_{vertex}| < 500$ mm for hybrid method
 - ▶ then single electron selection with GEM coordinates

Comparison of data/sim ratios



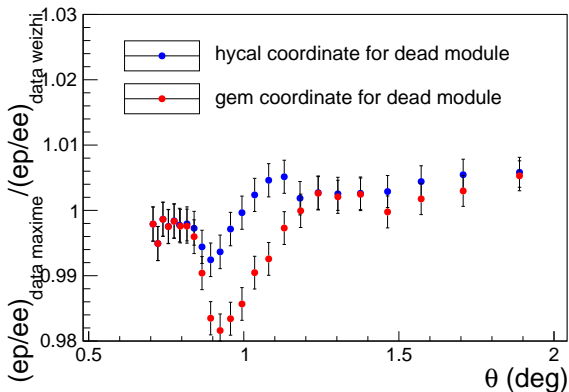
► 1% difference but some worrying wrigglings

$$\left(\frac{ep}{ee}\right)_{maxime} / \left(\frac{ep}{ee}\right)_{weizhi}$$



- ▶ Data mostly within statistical uncertainty
- ▶ More difference for the simulation, especially at low theta

$$\left(\frac{ep}{ee}\right)_{maxime} / \left(\frac{ep}{ee}\right)_{weizhi}$$



- ▶ 1° region corresponds to W835 moller complementary region
- ▶ Change of coordinates impacts region at the percent level

- ▶ Cross-check of cross-section within 1-2% (not good enough)
- ▶ Effects of dead module cut on complementary moller not well taken into account (discrepancy data/sim with hycal offset)
- ▶ Need of acceptance correction (in progress)