

Very Preliminary Asymmetry

Min Huang

12/2/2015

- Cuts used
 - $\text{Abs}(\text{L.tr.r}_x) < 0.5$
 - $\text{Abs}(\text{L.tr.r}_y) < 0.05$
 - $\text{Abs}(\text{L.tr.r}_{th}) < 0.05$
 - $\text{Abs}(\text{L.tr.r}_{ph}) < 0.05$
 - $\text{Abs}(\text{L.rec.dp}) < 0.035$
 - Detector cuts

Statistical Uncertainty

$$A_{phys} = \frac{1}{P_b \cdot P_t \cdot f} A_{raw}$$

$$A_{raw} = \frac{Y_+ - Y_-}{Y_+ + Y_-}$$

$$Y = \frac{ps \cdot N}{Q \cdot LT \cdot \epsilon_{det}}$$

$$\sigma N = S \cdot \sqrt{N}$$

$$S = \sqrt{1 - LT \cdot R \left(1 - \frac{1}{ps}\right)} \quad R = \frac{N^{acc}}{N^{rec}}$$

$$\sigma Y = \frac{Y \cdot S}{\sqrt{N}}$$

$$\sigma A_{raw} = \frac{2Y_+ Y_-}{(Y_+ + Y_-)^2} \sqrt{\frac{S_+^2}{N_+} + \frac{S_-^2}{N_-}}$$

$$\sigma A_{phys} = \frac{1}{P_b \cdot P_t \cdot f} \sigma A_{raw}$$

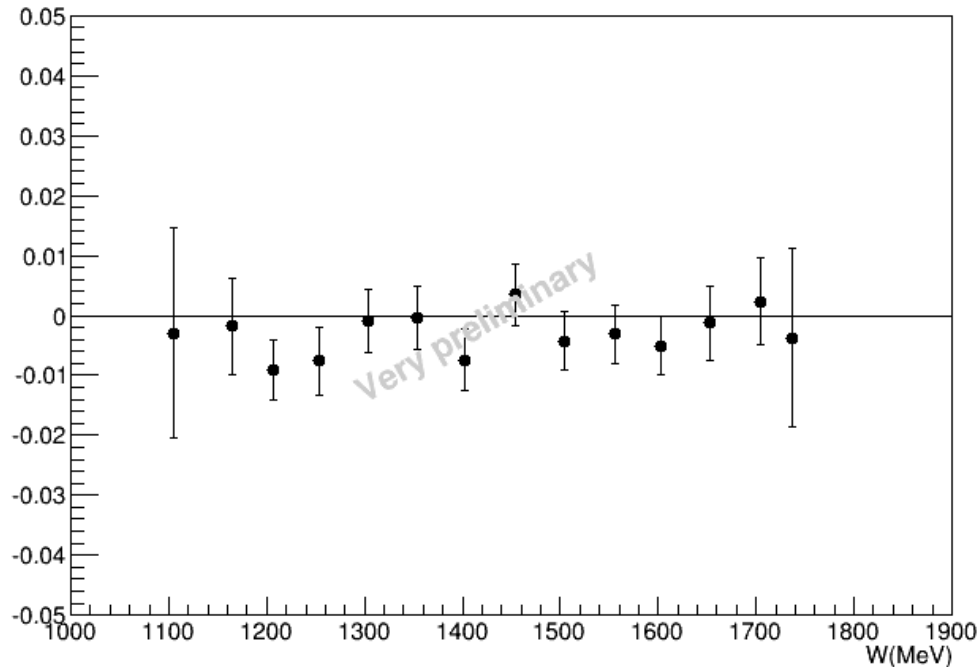
Weighted sum of runs:

$$A = \frac{\sum_i (A_i / \sigma A_i^2)}{\sum_i (1 / \sigma A_i^2)}$$

$$\sigma A = \sqrt{\frac{1}{\sum_i (1 / \sigma A_i^2)}}$$

Physics Asymmetries

- 1.7 GeV, 2.5T Transverse



No radiative correction

Dilution use constant 0.15

Only stat. error