Extracting P_n from 6-bin fit

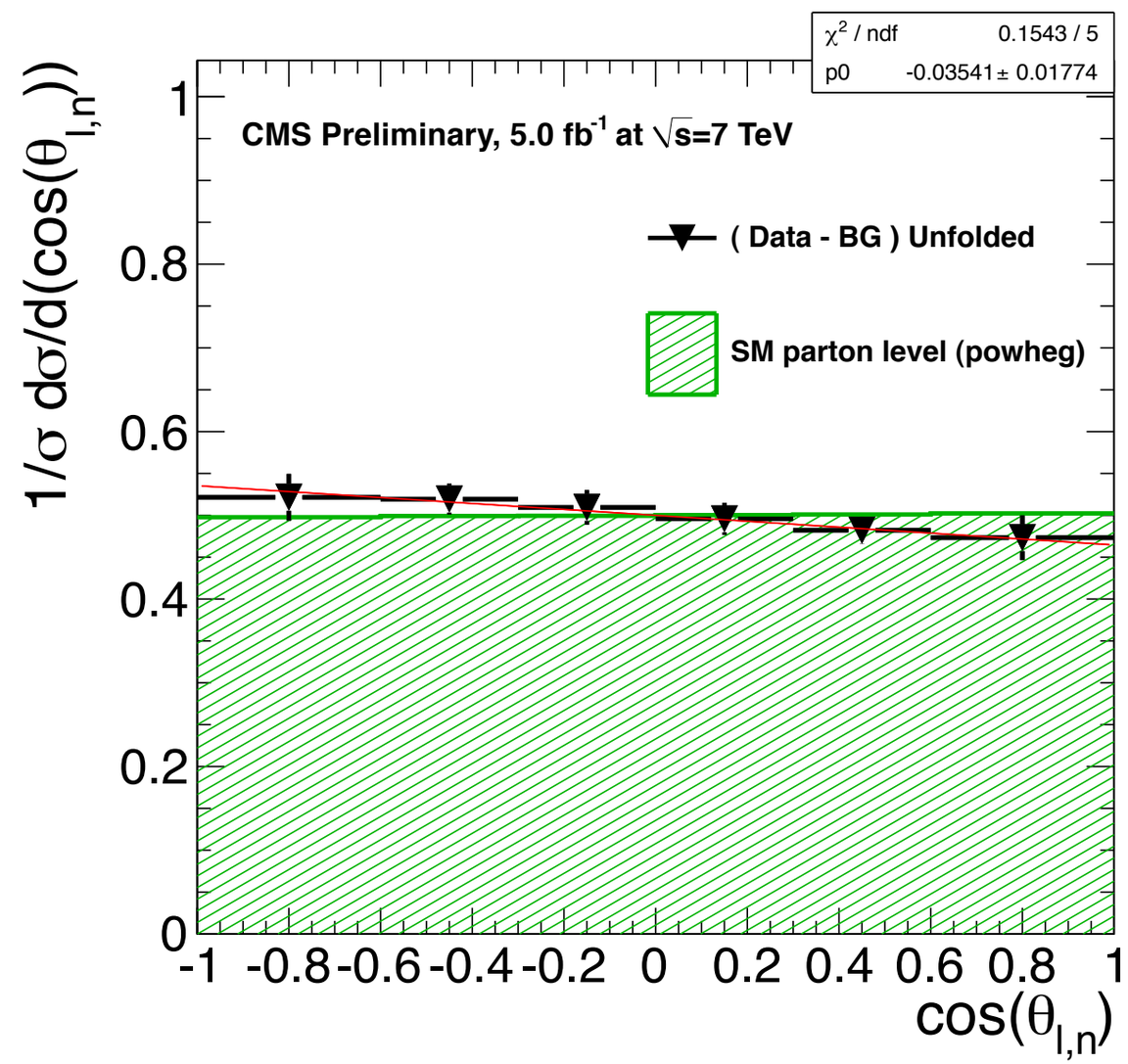
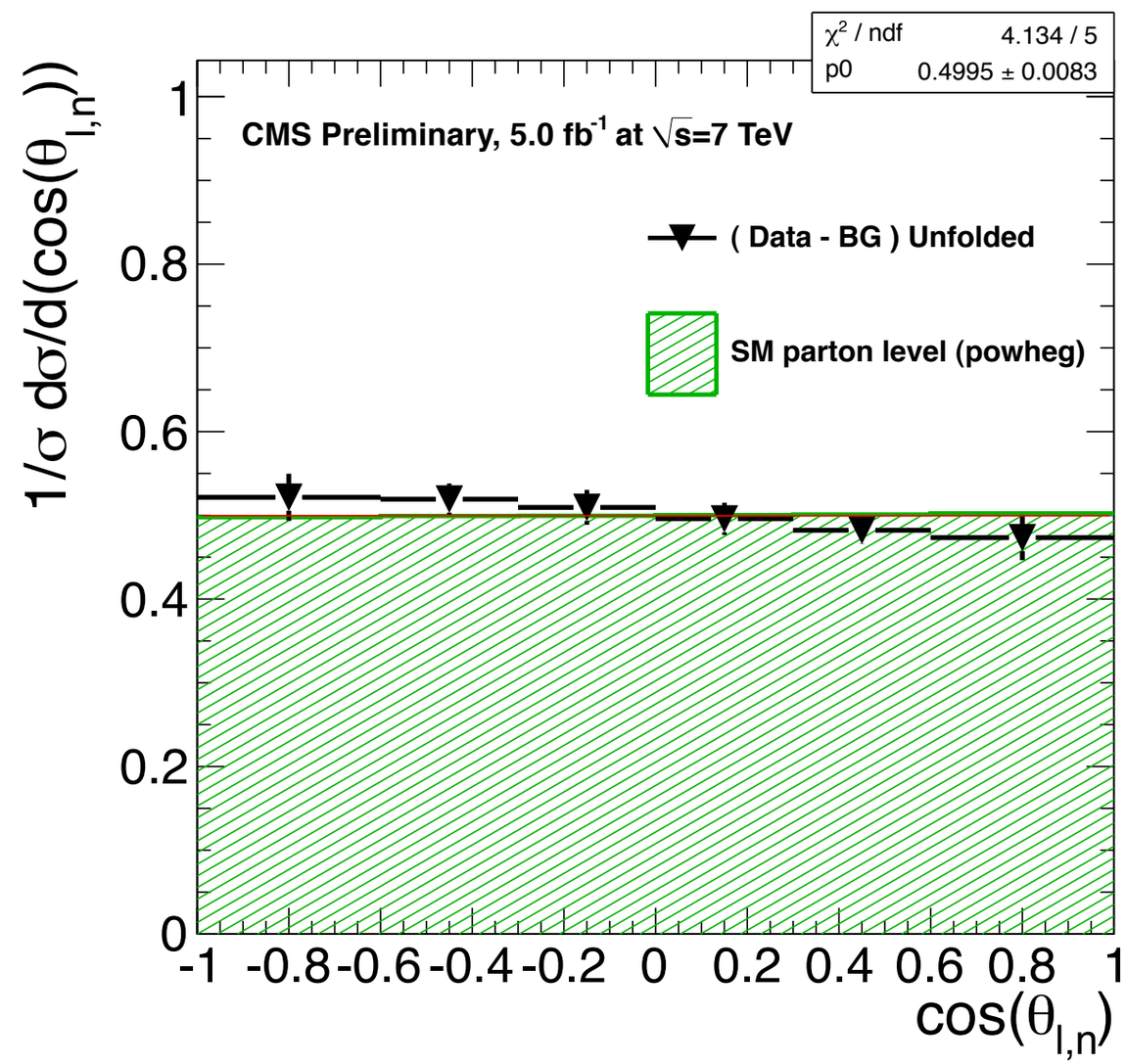
- We define P_n using angular distribution of leptons:

$$\frac{1}{\Gamma}\frac{d\Gamma}{d\cos\theta_{l,n}} = \frac{1}{2}(1 + 2\kappa_l P_n \cos\theta_{l,n})$$

spin analyzing power k_l = 1 for charged lepton

=½(1+cosθ) or ½(1-cosθ) for RH or LH tops

- Fit this function to our unfolded distribution to extract P_n (p0 in the root stats box below), ignoring correlations between bins
- Fitted result: P_n=-0.035±0.018
- Result in PAS: P_n=-0.035±0.028
  - but uncertainty accounts for correlations
- Central values are consistent



- We can also recalculate the PAS result, ignoring correlations
- $P_n = \frac{N(\cos(\theta_l^+) > 0) - N(\cos(\theta_l^+) < 0)}{N(\cos(\theta_l^+) > 0) + N(\cos(\theta_l^+) < 0)}$ where we now evaluate the stat uncertainty based on the plotted error bars alone
- Result: P_n=-0.035±0.019
- Central value and uncertainty consistent with result from fit of P_n=-0.035±0.018
- Also try fitting flat function (right)
- chi2/ndf = 4.1/5
- consistent with flatness