

# Supplementary material for LHCb-CONF-2018-003

This section contains variations of figure 3 made to facilitate the discussion of this result at conferences.

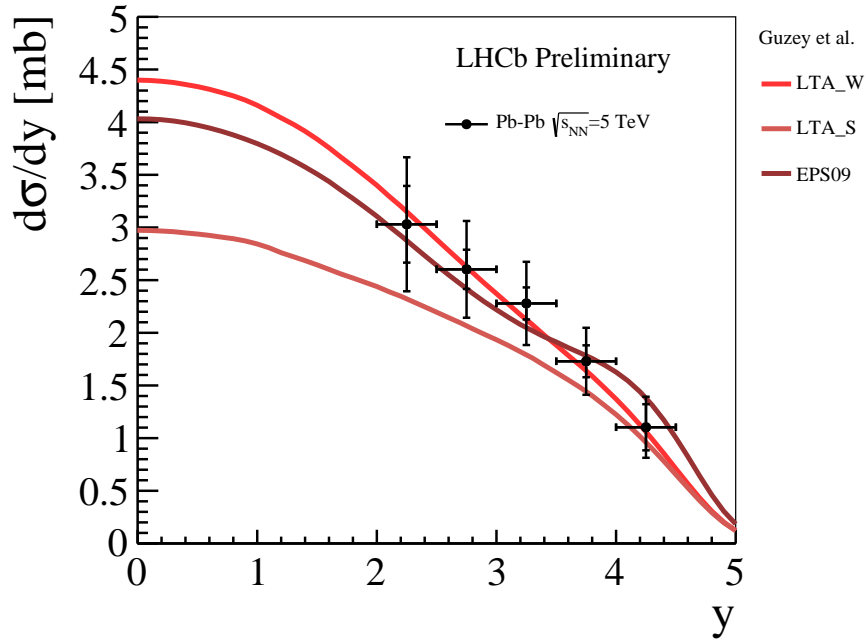


Figure 1: Differential cross-section for coherent  $J/\psi$  production compared to NRQCD predictions. The LHCb measurements are shown as points, where inner and outer error bars represent the statistical and the total uncertainties respectively.

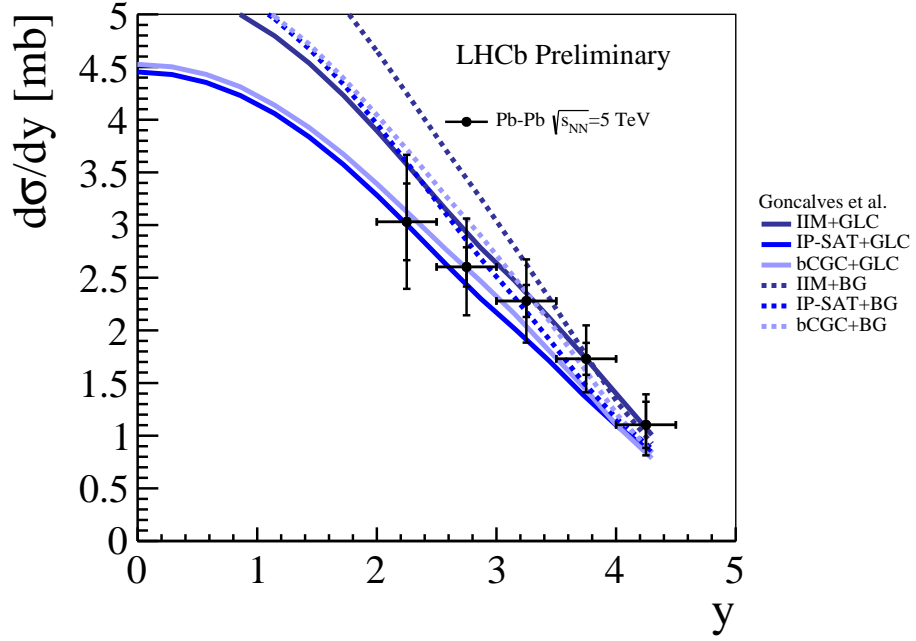


Figure 2: Differential cross-section for coherent  $J/\psi$  production compared to Colour-Dipole based predictions using the boosted Gaussian (BG) wave function and the Gauss-LC (GLC) wave function. The LHCb measurements are shown as points, where inner and outer error bars represent the statistical and the total uncertainties respectively.

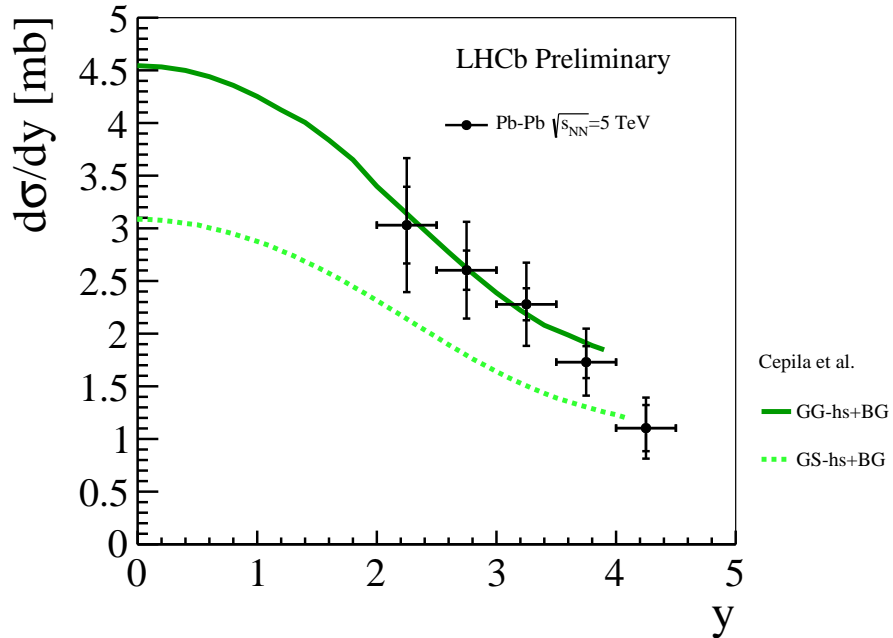


Figure 3: Differential cross-section for coherent  $J/\psi$  production compared to Colour-Dipole based predictions. The LHCb measurements are shown as points, where inner and outer error bars represent the statistical and the total uncertainties respectively.

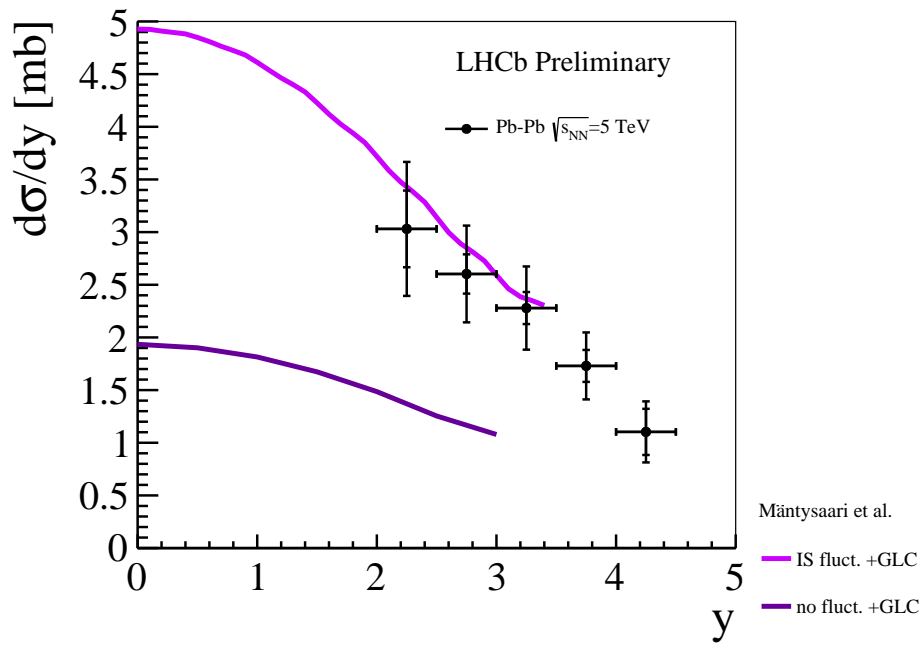


Figure 4: Differential cross-section for coherent  $J/\psi$  production compared to Colour-Dipole based predictions with and without taking into account initial state fluctuations. The LHCb measurements are shown as points, where inner and outer error bars represent the statistical and the total uncertainties respectively.