

# 1 Supplemental Material Allowed by Journal to Accompany Online Version of Paper

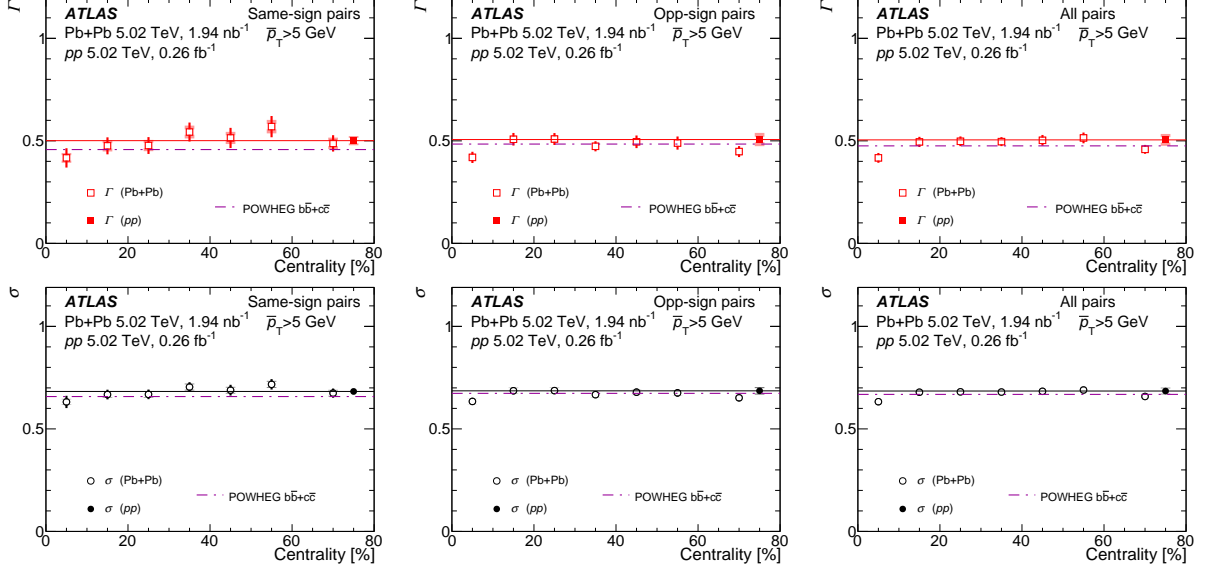


Figure 1: Comparison of the  $\Gamma$  (top) and  $\sigma$  (bottom) obtained from a POWHEG+PYTHIA8 MC sample to those obtained in the data. The horizontal continuous lines indicate the nominal  $pp$  values plotted across the full centrality range. The POWHEG+PYTHIA8 calculation includes two samples: a  $b\bar{b} \rightarrow \mu\mu$  and a  $c\bar{c} \rightarrow \mu\mu$  sample. The same fiducial selections are applied on the single-muons and on the muon-pair as those in the data analysis; namely that the single-muon  $|\eta| < 2.4$  and  $p_T > 4$  GeV, and that for the pair,  $\bar{p}_T > 5$  GeV and  $|\Delta\eta| > 0.8$ . The  $b\bar{b}$  and  $c\bar{c}$  samples are combined appropriately weighted by the cross-sections. The samples are generated using the nCTEQ15+SIH [1] nuclear PDFs corresponding to the Pb-nucleus, and thus include the correct admixture of  $pp$ ,  $pn$  and  $nn$  collisions for comparison to the Pb+Pb measurements. The left, center and right panels correspond to same-sign, opposite-sign and all-pairs respectively.

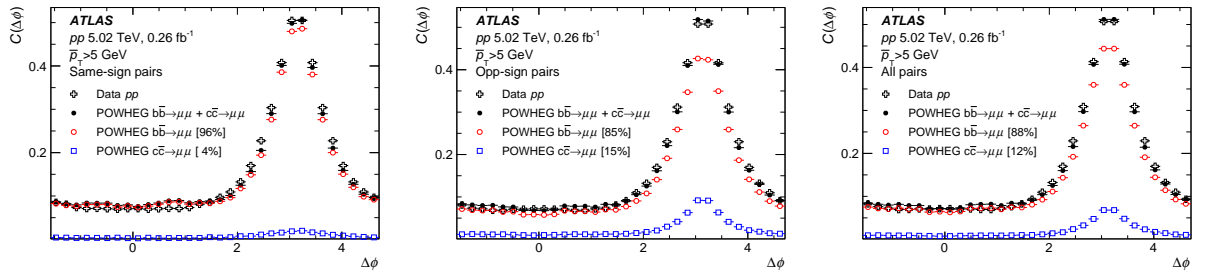


Figure 2: Correlation functions,  $C(\Delta\phi)$ , in the POWHEG+PYTHIA8 MC sample used in Figure 1. The left, center and right panels correspond to same-sign, opposite-sign and all-pairs respectively. The relative contribution of  $b\bar{b}$  and  $c\bar{c}$  pairs are also shown. The measured  $C(\Delta\phi)$  in the  $pp$  data are also shown for comparison.

## References

- [1] P. Duwentäster et al., *Impact of inclusive hadron production data on nuclear gluon PDFs*, *Phys. Rev. D* **104** (9 2021) 094005,  
URL: <https://link.aps.org/doi/10.1103/PhysRevD.104.094005>.