Observation of Centrality-Dependent Acoplanarity for Muon Pairs Produced via Two-Photon Scattering in Pb plus Pb Collisions at root √sNN =5.02 TeV with the ATLAS Detector

Aaboud, M.; The ATLAS Collaboration

DOI
10.1103/PhysRevLett.121.212301

Publication date
2018

Document Version
Other version

Published in
Physical Review Letters

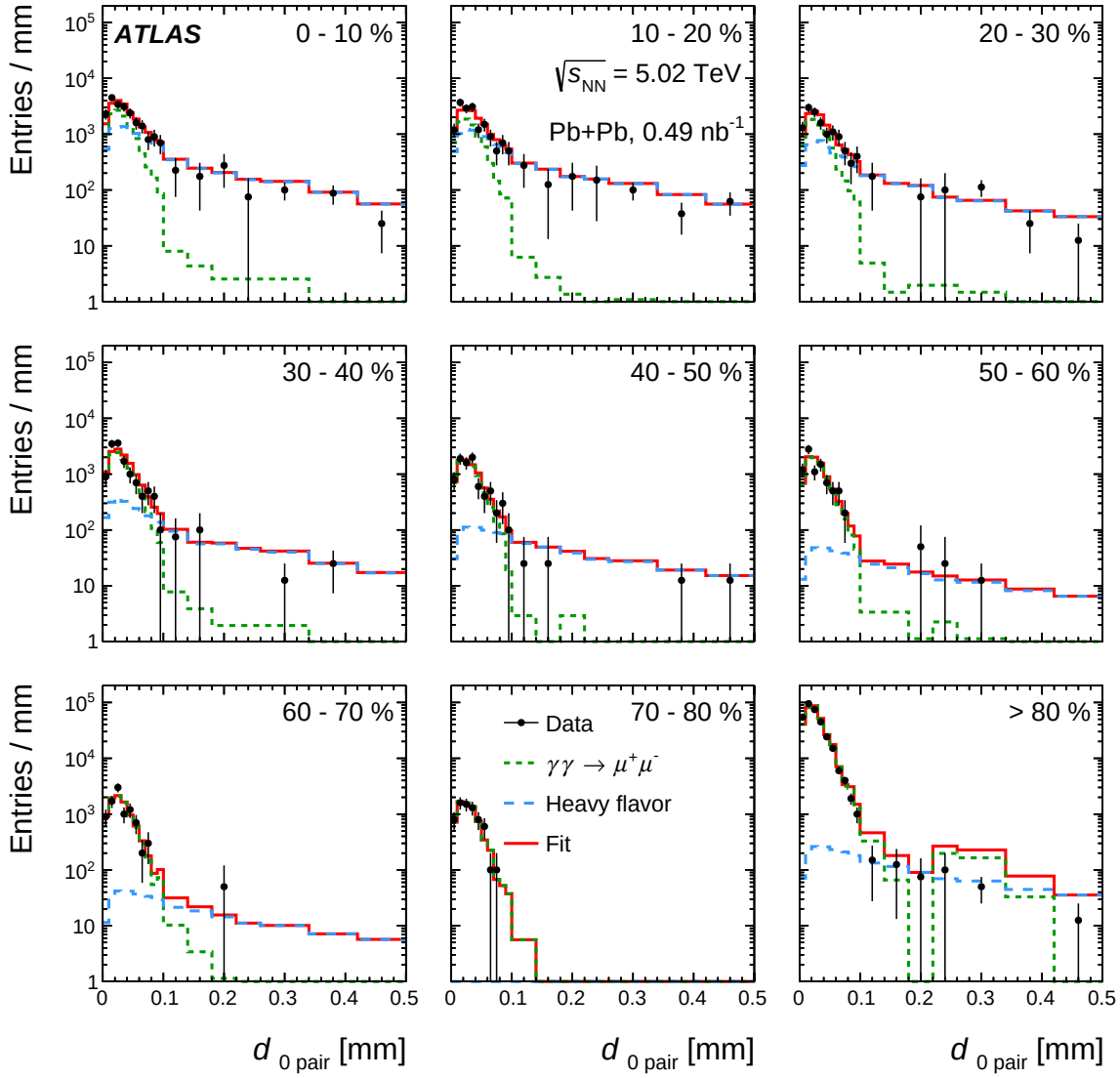

Figure 1: Template fits of the quadrature sum $d_{0\,\mathrm{pair}} \equiv d_0^+ \oplus d_0^-$ distributions in different collision centralities. In the 70–80% centrality bin the number of pairs was insufficient to perform the template fitting, and the background in this bin was taken to be zero.

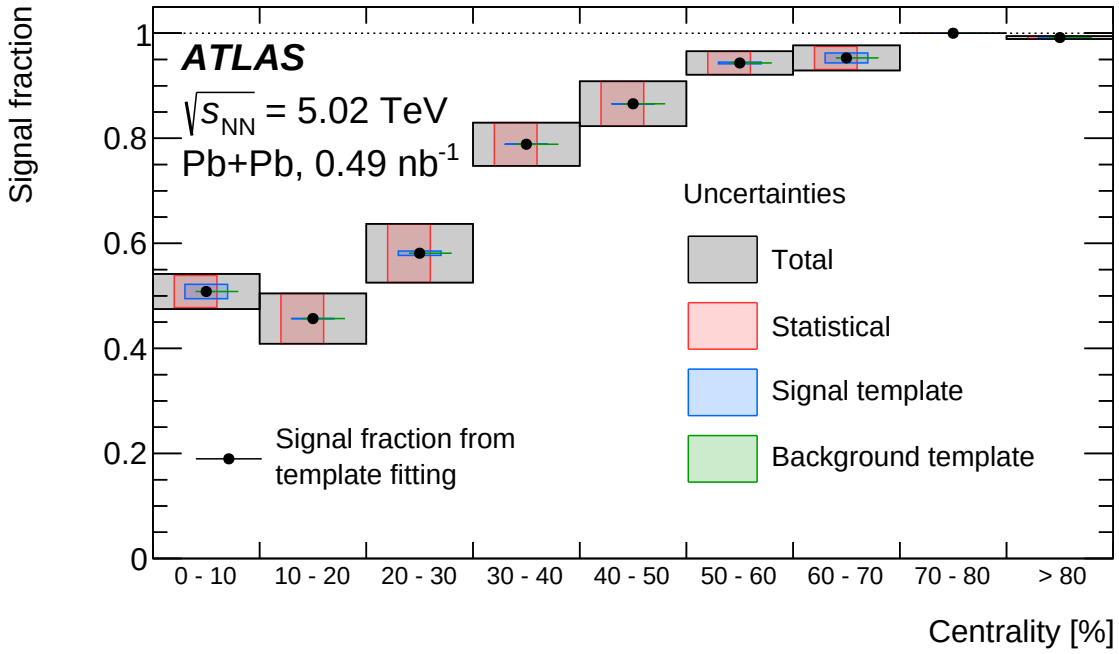

Figure 2: Signal fraction obtained from the template fitting procedure as a function of collision centrality. The grey shaded boxes indicate the total uncertainty. The different contributions to the uncertainty are also shown by different colored boxes. The widths and offsets of the boxes are arbitrary and are chosen only to facilitate visual comparison. In the 70–80% centrality bin the number of pairs was insufficient to perform the template fitting, and the background in this bin was taken to be zero.

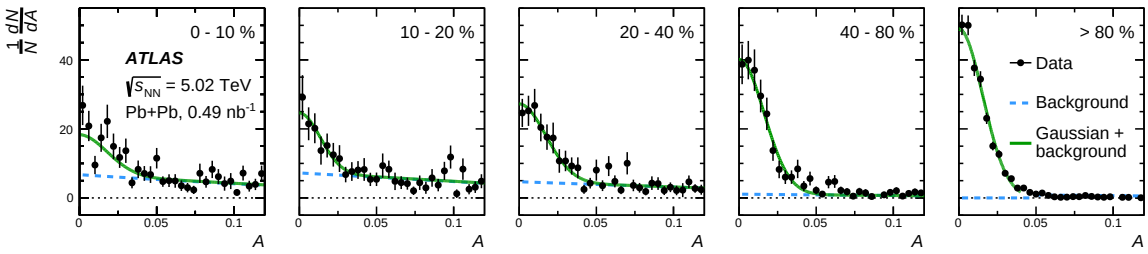

Figure 3: Results of fits to the muon pair A distributions using a sum of Gaussian and background functions. The sum is shown with a solid line. The background contribution is indicated by a dashed line.

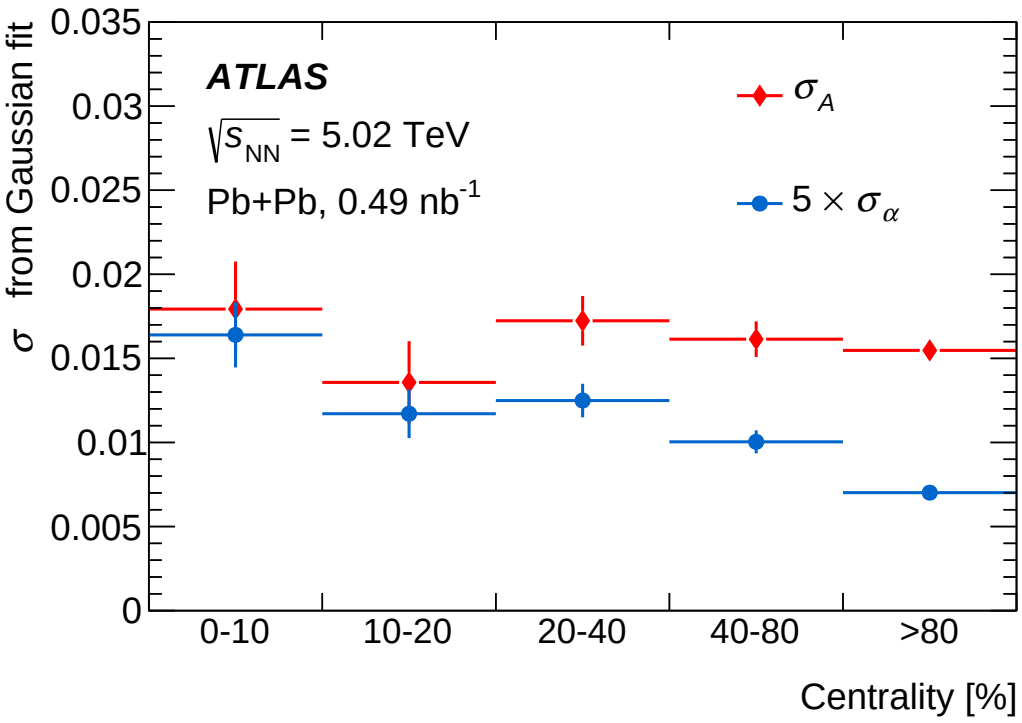

Figure 4: Comparison of σ values extracted from Gaussian plus background fits to the A (diamonds) and α (circles) distributions. The σ_α have been scaled by a factor of 5.