

Average relative systematic uncertainties for $\Delta\phi_{\text{trk,Z}}$, $\xi_{\text{T}}^{\text{trk,Z}}$, and $p_{\text{T}}^{\text{trk}}$, in pp and 0–30%
PbPb collisions

Supplemental material

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- [2] W. Chen, S. Cao, T. Luo, L.-G. Pang, and X.-N. Wang, Medium modification of γ -jet fragmentation functions in PbPb collisions at LHC, *Phys. Lett. B* **810**, 135783 (2020).
- [3] Z. Yang, W. Chen, Y. He, W. Ke, L. Pang, and X.-N. Wang, Search for the elusive jet-induced diffusion wake in Z/γ -jets with 2D jet tomography in high-energy heavy-ion collisions, *Phys. Rev. Lett.* **127**, 082301 (2021).
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TABLE I. Relative systematic uncertainties for $\Delta\phi_{\text{trk},Z}$, $\xi_T^{\text{trk},Z}$, and p_T^{trk} , averaged over the whole distribution, for pp and PbPb collisions. The relative uncertainties were calculated separately for each $\Delta\phi_{\text{trk},Z}$, $\xi_T^{\text{trk},Z}$, and p_T^{trk} bin, and then the quoted average was calculated assuming each bin has the same weight within individual distributions.

Systematic uncertainty source	$\Delta\phi_{\text{trk},Z}$ [%]		$\xi_T^{\text{trk},Z}$ [%]		p_T^{trk} [%]	
	pp	PbPb	pp	PbPb	pp	PbPb
Tracking efficiency						
Data–MC difference	2.4	5.0	2.4	5.0	2.4	5.0
MC minbias–embedding samples difference	...	2.7	...	2.7	...	2.5
MC generator–reconstruction difference	0.7	8.1	2.3	5.0	1.7	3.8
Leptons						
Data–MC efficiency difference	0.4	0.7	0.4	0.7	0.4	0.7
Energy scale	0.1	1.7	0.4	2.6	0.2	1.7
Pileup pp						
Event mixing PbPb	...	3.0	...	1.8	...	0.8

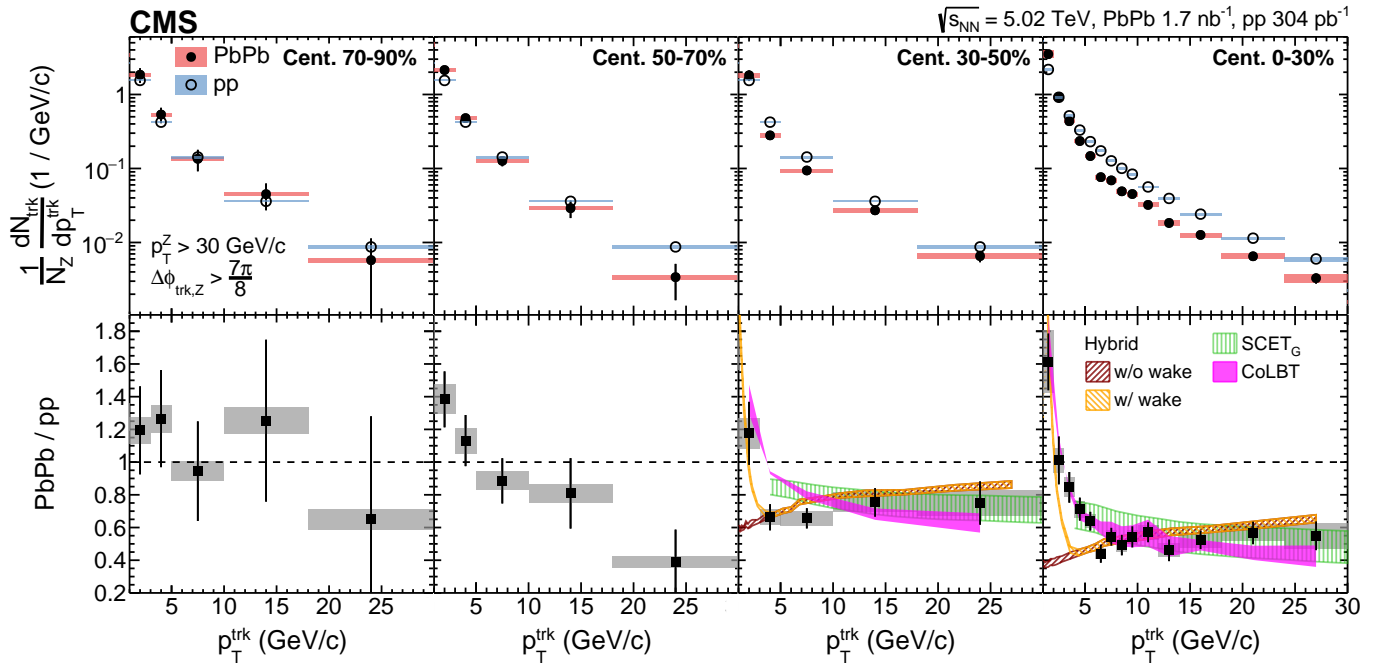


FIG. 1. Upper: Distributions of $1/N_Z dN_{\text{trk},Z}/dp_T^{\text{trk}}$ in pp collisions compared to PbPb collisions (left to right) in the 70–90 (left), 50–70, 30–50, and 0–30% (right) centrality intervals. Lower: ratios of the PbPb to pp distributions. The vertical bars and shaded boxes represent the statistical and systematic uncertainties, respectively. Several model calculations are added for comparison: Hybrid [1], CoLBT [2, 3], and [4].