

Quark Matter 2019 - the XXVIIIth International Conference on Ultra-relativistic Nucleus-Nucleus Collisions



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Revealing QCD thermodynamics in ultra-relativistic nuclear collisions

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The ATLAS collaboration has recently shown that anisotropic flow exhibits a strong centrality dependence in ultracentral collisions [arXiv:1904.04808]. In particular, the 4-particle cumulant of elliptic flow changes sign, and the centrality at which this change of sign occurs depends on the observable which is used to determine the centrality. We show that these features are universal consequences of impact parameter fluctuations within a centrality bin. More precisely, they naturally follow from the fact that the relation between the impact parameter and the experimentally-determined centrality is not one to one.

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