

Origin of the near-side peak broadening in MC generators

In heavy-ion collisions, the Quark-Gluon Plasma is formed. While jets, created in these collisions, traverse this hot and dense medium, they can interact with it. This interaction can be studied by direct jet reconstruction at high transverse momentum and by two-particle angular correlation measurements in the regime which is not accessible by the jet reconstruction algorithms. In angular-correlation studies, the contribution of jets appear as a peak around $(\Delta\varphi, \Delta\eta) = (0, 0)$. The ALICE and STAR collaborations have seen a broadening of this jet-peak at low transverse momentum in central collisions [1,2] which could be a consequence of the interaction of the jets with the medium. In this contribution, I will show results from several Monte Carlo generators to study whether the broadening of the jet-peak in Pb-Pb and Au-Au collisions is really a consequence of this interaction or can be explained by other physics mechanisms as well.

[1] ALICE Collaboration, Phys. Rev. Lett. 119, 102301 (2017)

[2] STAR Collaboration, Phys. Rev. C85 014903 (2012)

Summary

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