

Contribution from hard partons to the bulk elliptic flow

Large number of semi-hard partons deposit their energy and momentum in nuclear collisions at the LHC. Hereby they can induce collectively moving streams within the hydrodynamically behaving bulk matter. Although the production of hard partons is isotropic, in non-central collisions we have an anisotropy of their spatial distribution. We argue that via the interaction of the produced streams the spatial anisotropy is translated into an anisotropy of the collective expansion of the bulk matter. This is demonstrated with the help of a simple toy model. The effect is estimated to be potentially responsible for about 25% of the observed elliptic flow at the LHC.

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