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Study of the azimuthal asymmetry in heavy ion collisions combining initial state momentum orientation and final state collective effects

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In the present work we investigate the source of azimuthal asymmetry for nuclear collision using a model that contemplates particles produced in the initial hard collisions and the collective effects described by a Blast-Wave like expansion. The latter is described by the relaxation time approximation of the Boltzmann transport equation. The parameters regarding collective flow and asymmetry are fitted by the experimental data from p_T spectrum and v_2 for PbPb and XeXe collisions at different centrality classes. As a by-product the ratio of final elliptic flow with the initial anisotropy, v_2/ϵ_2 , and the average transverse momentum are predicted.

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