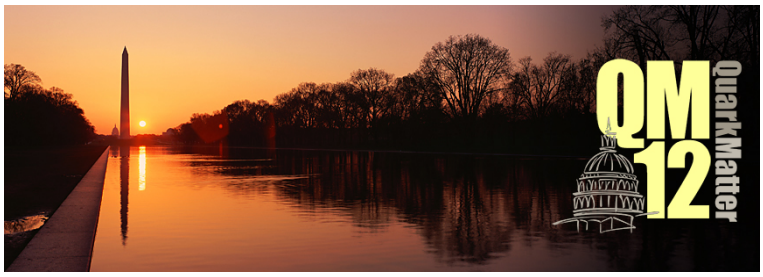


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# Effect of longitudinal fluctuation in event-by-event (3+1)D hydrodynamics

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Hadron spectra and elliptic flow in high-energy heavy-ion collisions are studied within a (3+1)D ideal hydrodynamic model with fluctuating initial conditions given by the AMPT Monte Carlo model and compared to experimental data. Fluctuation in the initial energy density comes from not only the coherent soft interaction of overlapping nucleons but also the number of mini-jets within each binary nucleon collision. Mini-jets produced via semi-hard parton scatterings are assumed to be locally thermalized through a Gaussian smearing and give rise to fluctuation in rapidity distribution along the longitudinal direction. The longitudinal fluctuation is found to lead to sizable reduction of elliptic flow at large transverse momentum.

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