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Event-by-event jet anisotropy and hard-soft tomography in heavy-ion collisions

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Jet anisotropy can provide insight into the path-length dependence of jet quenching and closely relate to the bulk anisotropy in high energy heavy-ion collisions. We show a weak dependence of colliding energy and jet p_T for inclusive jet anisotropy v_{jet}^2 at different centrality classes within the linear Boltzmann jet transport model coupled with the dynamic evolution of the QGP provided by the 3+1D CLVisc hydrodynamic model with fully fluctuating event-by-event initial conditions. By studying the hard-soft tomography, jet anisotropy follows a similar dependence on the system size as the bulk anisotropy does, and an approximately linear correlation between v_{jet}^2 and bulk v_2 is observed. In the meantime, jet triangle flow coefficient v_{jet}^3 shows a small but not vanishing value due to the initial fluctuation and jet quenching.

Collaboration (if applicable)

Track

Jets and High Momentum Hadrons

Contribution type

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