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Measurement methods of radial flow in relativistic heavy-ion collisions

Radial flow can be directly extracted from the azimuthal distribution of mean transverse rapidity. We apply the event-plane method and the two-particle correlation method to estimate the anisotropic Fourier coefficient of the azimuthal distribution of mean transverse rapidity. Using the event sample generated by the AMPT model with string melting, we show that both methods are effective. For the two-particle correlation method to be reliable, the mean number of particles in an azimuthal bin must be above a certain threshold. Using these two methods, anisotropic radial flow can be estimated in a model-independent way in relativistic heavy-ion collisions.

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