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Correlations of conserved charges at finite density

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Correlations involving the seven conserved quantities, $\{E, \vec{p}, Q, S, B\}$, were modeled for heavy-ion collisions at finite baryon density. The evolution of correlations as a function of relative rapidity was treated as a linear response to local thermodynamic fluctuations on the Bjorken-model background. The entire 7×7 matrix of correlations was found to be significant, sensitive to the EoS, viscosity and diffusivity. Opportunities for experimental observation will be presented.

Category

Theory

Collaboration (if applicable)

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