

Delta mass shift as a thermometer of kinetic decoupling in Au+Au reactions at 1.23 AGeV

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The HADES experiment at GSI will soon provide data on the production and properties of Δ baryons from Au+Au reactions at 1.23 AGeV. Using the UrQMD model, we predict the yield and spectra of Δ resonances. In addition we show that one expects to observe a mass shift of the Δ resonance on the order of 40 MeV in the reconstructable Δ mass distribution. This mass shift can be understood in terms of late stage Δ formation with limited kinetic energy. We show how the mass shift can be used to constrain the kinetic decoupling temperature of the system.

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