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PHQMD Equation of state influence of cluster formation and flow for heavy ion collisions

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Parton-Hadron-Quantum-Molecular-Dynamics (PHQMD) is, a microscopic n-body transport model based on the QMD propagation of the baryonic degrees of freedom with density dependent 2-body potential interactions. All other ingredients of PHQMD, including the collision integral and the treatment of the quark-gluon plasma (QGP) phase, are adopted from the Parton-Hadron-String Dynamics (PHSD) approach. In PHQMD the cluster formation occurs dynamically, caused by the interactions.

Here we will presents results for the global cluster formation at the end of the collision as well as the directed and elliptical flow of proton and deuterons in 0.6-1.5 AGeV collisionsm observables that prove to be sensitive to the choice of the nuclear equation of state.

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