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Chemical equilibration of QGP in hadronic collisions

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We study chemical equilibration in out-of-equilibrium Quark-Gluon Plasma using the QCD effective kinetic theory in longitudinally expanding systems. We find that chemical equilibration takes place after hydrodynamization, but well before local thermalization. By relating the transport properties of QGP and the system size we estimate that hadronic collisions with final state multiplicities $dN_{ch}/d\ 10^2$ live long enough to reach approximate chemical equilibrium for all collision systems. Therefore we expect the saturation of strangeness enhancement to occur at the same multiplicity in proton-proton, proton-nucleus and nucleus-nucleus collisions.

References:
1. Aleksi Kurkela and Aleksas Mazeliauskas, Phys. Rev. Lett. 122, (2019) [arXiv:1811.03040],
2. Aleksi Kurkela and Aleksas Mazeliauskas, Phys. Rev. D99, (2019), [arXiv:1811.03068]

Collaboration (if applicable)

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