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A global analysis of Heavy Ion Collisions with transverse momentum dependence

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The understanding of heavy ion collisions and its quark-gluon plasma (QGP) formation requires a complicated interplay of rich physics in a wealth of experimental data. In this talk I will show how for identified particles as a function of transverse momentum both the spectra as well as the anisotropic flow coefficients for both PbPb and pPb collisions can be compared in a global analysis of QGP evolution. Part of our testing includes an elaborate closure test. Interestingly, we find that our large model containing 21 parameters and also utilising this wide range of experimental data leads to a bulk viscosity that is consistent with zero. We conclude with the most precise estimates for the temperature-dependent shear and bulk viscosity to-date.

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