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QGP viscosity from RHIC data – new perspective from viscous hydrodynamics +URQMD

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The successes of ideal hydrodynamics in describing RHIC data at lower p_T region led to the well known announcement that “RHIC Scientists Serve Up Perfect Liquid” (the Quark Gluon Plasma, QGP). In order to answer “How perfect is the QGP fluid?,” one needs to extract the QGP viscosity from experimental data. Viscous hydrodynamics is such a tool that could attack this problem and may work in regions where ideal hydrodynamics fails. In this talk, I will report recent progresses on viscous hydrodynamics and its hybrid approach (viscous hydrodynamics + hadron cascade). Then I will discuss extracting the QGP shear viscosity from RHIC data and show how the theoretical uncertainties are greatly reduced with the new hybrid approach coming out.