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Abstract for an Invited Paper
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Viscosity and heavy ion collisions

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I will first review the essential ingredients of causal viscous hydrodynamics. The region of validity of the approach will be discussed based on comparison with nonequilibrium transport theory near the hydrodynamic regime. Then I will present calculations that show the influence of a small shear viscosity on heavy-ion observables at RHIC, mainly elliptic flow and spectra of light hadrons. These results will be used to estimate the shear viscosity of hot quark-gluon matter at RHIC. The effects of bulk viscosity will also be discussed.