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Shear Transport Coefficients from Gauge/Gravity Correspondence[1] JOSEPH KAPUSTA, TODD SPRINGER, University of Minnesota — We study the shear mode in the gauge/gravity correspondence at finite temperature. First, we confirm the general formula for the shear viscosity in an arbitrary background metric which includes a black hole in the fifth dimension. We then derive a general formula for the shear mode relaxation time which appears in the theory of relativistic dissipative fluid dynamics; it agrees with known expressions in the limit of conformal fields. These results may be useful in relativistic viscous fluid descriptions of high energy nuclear collisions at RHIC and LHC.

Joseph Kapusta
University of Minnesota

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