Viscosity in strongly interacting systems: from string theory to trapped atoms

Dam Thanh Son
INT

We review recent development in string theory, in particular the gauge-gravity duality, that has allowed us to compute kinetic coefficients in a class of strongly interacting field theories. Our emphasis is on the universality of the ratio of shear viscosity and volume density of entropy, which takes the value of $\hbar/4\pi$ in all theories with dual gravitational description. We speculate that this value is a lower bound for a wide class of systems, and discuss implications for trapped atoms.