3:30 pm • Friday November 15, 2013 • 2241 Chamberlin Hall • Coffee at 4:30 pm

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Viscosity, Quark Gluon Plasma, & String Theory

Department of Physics Colloquium

WISCONSIN

Viscosity is a very old concept which was introduced to physics by Navier in the 19th century. However, in strongly coupled systems, viscosity is difficult to compute from first principle. In this talk I will describe some recent surprising developments in string theory which allow one to compute the viscosity for a class of strongly interacting quantum fluids not too dissimilar to the quark gluon plasma. The approach has lead to a new understanding of the effects of quantum anomalies in relativistic fluid dynamics. I will describe efforts to measure the viscosity and other physical properties of the quark gluon plasma created in relativistic heavy ion collisions.

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