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# From Jets to Wakes: Hydrodynamic Response of the Quark–Gluon Plasma

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When strongly interacting matter is heated to extraordinarily high temperatures, it undergoes a transition to the quark–gluon plasma, a state of matter that behaves as an almost perfect fluid, characterized by a remarkably small shear viscosity to entropy density ratio. Understanding how this collective behavior emerges from the underlying microscopic dynamics is a central goal of heavy-ion physics. Such matter is routinely created in heavy-ion collisions at RHIC and the LHC, where energetic jets provide microscopic probes of the medium. While jets are strongly modified by their interaction with the plasma, they also deposit energy and momentum, inducing a medium response that manifests itself as modifications of the collective flow, analogous to the patterns generated by objects moving through an ordinary liquid. In this talk, I will discuss how these jet-induced flow effects appear in experimental measurements and how they can be used to gain new insight into the collective dynamics of deconfined QCD matter.

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