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Extraction of the Transport Coefficients of the Quark Gluon Plasma: an Experimentalists view¹

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A major focus of current research at the Relativistic Heavy Ion Collider (RHIC), is centered on the extraction of the transport properties of a new state of matter at extreme temperature and density (the quark gluon plasma (QGP)) discovered by the RHIC experiments. Experimental measurements in concert with relativistic viscous hydrodynamical calculations have played an essential role for these extractions. I will review several of these measurements, as well as the important insights that these hydrodynamical calculations have provided. I will also discuss new measurements which are required for more precise determinations of transport coefficients.

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