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Universal properties of screening in strongly coupled plasmas

The talk deals with the analysis of universal properties of two physical observables in strongly coupled plasmas in heavy-ion collisions (for example at RHIC). By using the AdS/CFT correspondence expectation the free energy and the screening length of a heavy quark-antiquark pair and a baryon configuration will be computed. In order to study general properties of these quantities, which can be compared with experimental results or lattice QCD calculations, I analyse therefore the conformal N = 4 supersymmetric Yang-Mills theory, a deformed 1-parameter metric and a 2-parameter metric, which is a solution to the supergravity equations of motion. The main statement is that the screening value in conformal N = 4 supersymmetric Yang-Mills theory is a lower bound for a wide class of metric models.

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