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Some application of holography to study strongly correlated system

We investigate the transport properties of strongly coupled condensed matter system using gauge/gravity duality (holography). In this work we study real physical examples and explore their dynamics using their gravity dual system. Numerical results of conductivity of 1+1 dimensional system has been studied using the bottom up approach. Further we study the transport properties of the system with momentum relaxation.

Summary

Investigations of strongly coupled systems is intriguing but difficult as traditional perturbative approach fails. Gauge/gravity duality has a wide range of application starting from QCD to high T_c superconductor and more recently to explore dark matter physics. We apply this duality for detailed study of 1+1 dimensional system. We present some numerical results and study the effect of model parameters on the transport coefficients of the system.

References:

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