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Transport at Strong Coupling – a Field Theory Approach

Saturday 29 October 2022 11:30 (30 minutes)

Transport properties are hard to calculate from first principles for any value of the coupling. At strong coupling, it's generally considered impossible except for field theories with known gravity duals. In this talk I will review large N approaches to simple scalar and fermion field theories and show that they allow for the determination of exact transport coefficients at strong coupling, directly from the field theory. As an example, I calculate the (large N exact) infinite coupling value of η/s in the 3d $O(N)$ model.

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